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The
MARITIME FARMER
AND CO-OPERATIVE DAIRYMAN

REGISTERED TRADEMARK

Published Twice-a-month in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., OCTOBER 14, 1919 No 1.

"Wabasso Cottons replaced with good advantage all imported lines during the war. Let Canadians buy Wabasso Cottons in preference to Imported Lines now that the war is over."

Our Principal Lines are :

Good as Gold White as Snow
WABASSO

Lawns—Nainsooks—Madapolams—
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The Wabasso Cotton Company Ltd.
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a man to represent in his home-territory and in his spare time, the world's largest cream separator manufacturer

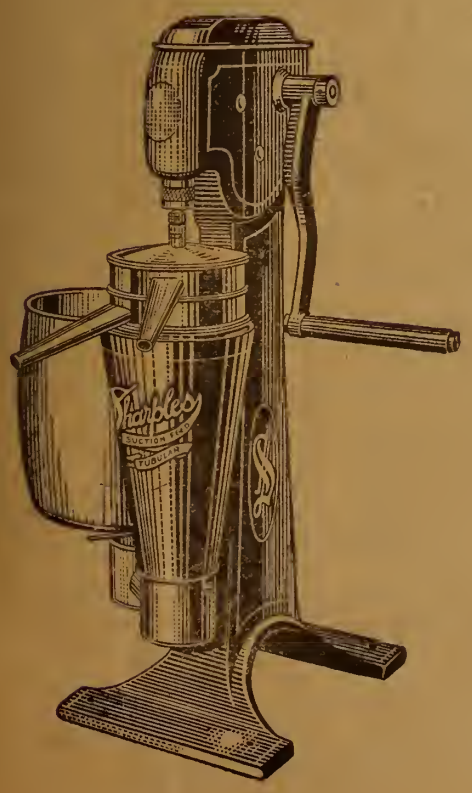
The Sharples Separator Company, the world's largest manufacturers of Cream Separators, Emulsifiers, Clarifiers, Whey Separators and Factory Separators, is about to enlarge its selling force.

The success of Sharples representatives in the territories that are now covered. insures an excellent opportunity in the new field for the right man.

The man we want is a capable successful farmer—who knows his neighbors and whose judgment is respected by them. If he is a Sharples owner so much the better.

He may devote to his work for us as much or as little of his time as he may elect. His territory will be his own.

He will find that the Sharples Suction-feed Separator has convincing and demonstrable selling points (skims clean at any speed, knee-low supply tank, no discs to wash, less than $2 a year guaranteed for oil repairs, etc.), that are not even **claimed** for any other separator.



He will find a host of Sharples users who will be glad to offer proof of Sharples' superiority in actual usage.

He will find that farmers already know of Sharples Separators through our extensive national advertising.

We want such a man in your territory. You can make this opportunity mean much to you if you will. Write today for exclusive contract and prices.

THE SHARPLES SEPARATOR COMPANY

TORONTO, Ontario

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CO-OPERATIVE SHIPPING OF LIVE STOCK

The system of marketing live stock is building up the live stock industry of the country more than any other factor.

The farmers through this system are getting interested in better sires, are putting a better finish on their animals and are rapidly increasing live stock production. Minnesota has nearly 500 co-operative shipping associations and Iowa has about 360. The first association was formed at Litchfield, Minnesota, in 1908. It has grown like a weed and in 1918 it did over $552,000 worth of business.

BUILDS AND BINDS A NATION

Truly national in character is the exhibit of the Canadian National Railways in the Railway Building at the Canadian National Exhibition, Toronto. The ensemble is most striking, and the electric lighting of the dome, combined with most artistic draperies, lends a spacious character to the whole exhibit, while the arrangement of the display in general permits of freedom of movement to view the various exhibits in detail.

The frieze decorations show typical landscape views of the nine Provinces with coat of arms of each, the connecting link bearing the highly significant reminder that this is an exhibit of "a line that builds a nation."

Three sides of the octognal building are occupied by a huge topographical map of the Dominion, on which are shown in briliant illumination the names of the principal points reached by the Canadian National Railways, "the great stell strand that threads the land" being indicated by a broad band of red.

No better or more comprehensive plan could have been adopted to demonstrate that 14,000 miles of railway are now under Canadian National management, and that the Canadian Northern, the Intercolonial and Transcontinental railways have been amalgamated into one vast system. To further demonstrate the fact that the system traverses every Province of the Dominion and reaches every Provincial capital, the observer by an ingenious arrangement of lights, is taken in fancy right across the continent from Hailfax to Vancouver and Victoria, stopping momentarily at the principal points enroute and then brou[illegible]ack again. The map should prove [illegible] much educational value in telling just what the Canadian National Railways are and the territory they reach.

Beautiful Transparencies

A rustic centrepiece and several rustic lanterns contain some really beautiful photographic transparencies which do not fail to call attention to Canada's innumerable scenic gems, while the hunter's log cabin with its sporting trophies is also utilized for the projection of dissolving views and moving pictures of scenic and sporting industrial life.

Forestry, pulp and paper, minerals, Indian trophies and agricultural features complete an exhibit on which there has evidently been much careful preparation and considerable forethought Nor has the royal visit been forgotten, for on top of the pyramid devoted to a beautiful display of British Columbian fruit stands the Prince of Wales' crest, the three feathers worked in grain with the motto, "Ich Dien." Altogether it is an exhibit which every visitor should see if he would learn of Canada's national system of transportation.

The true farmer is not the man who farms just because he thinks he can make more money than he can at other business, but the man whose heart is in his work, and has enough true feeling in that same heart to take care of and see that everything on the farm is getting its proper attention and is comfortable, well fed, and well sheltered.

"It wears longer"
"Stands Strenuous Wear"
STANFIELD'S
Unshrinkable
UNDERWEAR
STANFIELD'S Unshrinkable Underwear is an absolute necessity during the long winter. It is health protection—knitted by those who know the underwear needs of our Canadian climate — and made unshrinkable by Stanfield's exclusive process. All good dealers sell Stanfield's.
Made in Combinations and Two-Piece Suits, in full length, knee and elbow length, and sleeveless, for Men and Women.
Stanfield's Adjustable Combinations and Sleepers for growing Children. (Patented).
Sample Book, showing different weights and textures, mailed free—Write.
Stanfield's Limited,
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Overland

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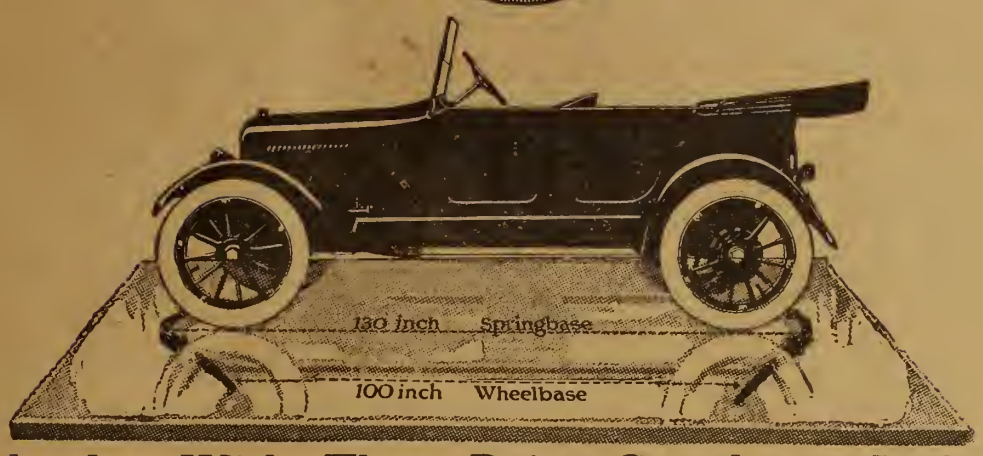

The New Overland 4 With Three-Point Cantilever Springs, the Greatest Improvement in Riding Comfort Since Pneumatic Tires

THIS new Overland 4 has a spring-base of 130 inches—yet its wheel-base is only 100 inches.

It is a brand new type of car with an entirely new standard of riding comfort.

The springs are Three-Point Cantilever Springs of Chrome Vanadium steel, a new type of spring exclusive with this new Overland.

They give the Overland 4, with its light weight and ease of driving, the riding-comfort and road-steadiness formerly confined to heavy, expensive cars of long wheelbase.

They end bouncing and vibrating over the bumps. They stop the usual swaying, twisting and jars that fatigue the passengers and rack the car!

The wheels and springs go up and down, following the bumps, but the passengers and car are shielded from the blows of the road. The Three-Point Springs protect the mechanism from road injuries and prolong the life of the car.

Light weight brings great economy of tires and gasoline.

High quality materials and workmanship are used in Overland 4 throughout. Its equipment is like that of expensive cars, complete from Auto-Lite Starting and Lighting to its Demountable Rims.

Ask the Overland dealer to show you this new motor car which has been tested more than 250,000 miles, let him explain to you its exclusive Three-Point Cantilever Springs, then—

Select rough roads that you formerly dreaded to ride over and see what it means to ride in Overland 4.

Overland 4 Touring, $1195; Roadster, $1195; Coupe, $1845; Sedan, $1995—f. o. b. Factory, Toronto, War Tax included

WILLYS-OVERLAND LIMITED

Sedans, Coupes, Touring Cars and Roadsters

Head Office and Works, Toronto, Canada

Branches: Montreal, Winnipeg and Regina

Every Young Farmer in the Maritime Provinces

SHOULD WRITE TO TRURO FOR A

FREE Copy of the Calendar of Agricultural College, Truro, N. S.

The College opens Nov. 4th next. Tuition is Free

A complete course is offered in all branches of Agriculture and the related sciences as well as English, Mathematics, etc.

An ordinary school education, plus farm experience qualifies for entrance. The age of former students varies from 16 to 35.

The course lasts two years at the conclusion of which students are awarded the Associate Diploma of the College. Graduates may complete their B.S.A. course at Guelph or MacDonald Colleges. Previous graduates have from year to year stood at the head of their classes at these institutions.

For further information write

M. CUMMING, Principal,

Truro, N. S.

What it Costs You to Do Without a Renfrew

SELLING butter-fat at now-a-day's prices is like selling gold out of a mine on your farm. Imagine the owner of rich gold quartz extracting the gold with a machine chosen for its cheapness! One man chose an ordinary cream separator for its low price. Pretty soon the bowl wobbled, gears rattled. The women complained about the high supply tank, the toilsome cleaning and the hard running. Inside of two or three years that man was convinced of the folly of "saving" money on a cheap separator.

Save yourself this costly experience by investigating the

Renfrew
CREAM SEPARATOR

First step is to find out what your present separator is really doing for you. Just send a sample of your skimmed milk to any government dairy school for a Babcock test. We gladly welcome this "skim-the-skim-milk" test.

When you get the result compare it with the Renfrew record; the Renfrew

Gets 99.99% of the Butter Fat
(Results Confirmed by Dairy Schools' Tests)

We know by experience that you will more than likely discover a costly leak in your butter fat profits with your old machine.

Take your pencil and figure the loss on your herd for a year. Won't it pay you to know what it *costs* you to do *without* a Renfrew?

And what does it cost you if you want to increase your herd considerably to replace an ordinary separator—or to stand the losses of an overtaxed machine? The Renfrew's exclusive interchangeable capacity feature gives you the full and complete advantage of a new machine by simply changing the bowl and fittings.

Write for our new folder, the "Big Five," and get full details of our exclusive wide open bowl, self oiling system, convincing endurance features, easy running, low supply tank, etc., etc. Send the postal card to-day.

The Renfrew Machinery Co.
Limited

Head Office and Works

Renfrew, Ontario

Eastern Branch -- Sussex, N.B.

Agencies almost everywhere in Canada

Other lines: Happy Farmer Tractor—Renfrew Kerosene Engine—Renfrew Truck-Scale.

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTESED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 25. SUSSEX, NEW BRUNSWICK, OCTOBER 14, 1919. Number 1.

The Charlottetown Exhibition

Encouraged by monetary grants from the Dominion Live Stock Division, the Government of Prince Edward Island, the Charlottetown City Council and several of the merchants of Charlottetown, the Prince Edward Island Agricultural and Industrial Exhibition was held under the auspices of The Charlottetown Driving Park and Provincial Exhibition Association on September 23rd to 26th, with competition open to all Canada.

Over $8000.00 was offered in prizes, yet the response in the way of exhibits was not as extensive as it might have been. The showing made by the stock breeders, agriculturists and cheese factories and creameries was not anywhere near the Island's possibilities in these lines. When the rank and file of the farmers of Prince Edward Island will show enough interest in their fair to bring of their best, they will put up a showing that not only the native Islander, but also the stranger within her gates, will be proud to extol. This years showing was not in keeping with the efforts put up by Secretary Smallwood and his efficient staff of assistants. Nor was it fair to the Island province were the visitor to judge the agricultural possibilities of the Garden of the Gulf by what he saw at the Exhbition.

The Island farmers are not, however, to be censured too heavily for this year's small showing. As we looked out of the railway cars windows and saw thousands of acres of grain in stook in the fields, we conceded before reaching Charlottetown that the showing would be on the light side. Excessively wet weather had interfered with the completion of the housing of a bountiful grain harvest and consequently only those who had completed this important task or who had an abundance of farm help were justified in contributing any time to exhibits..

Then several of the Island's best flocks of sheep and Horne Bros.' Aberdeen Angus show herds were at Chatham Exhibition completing their circuit of the Maritime mainland shows, where they very materially helped to draw attention to some of the good things produced by the Island Province.

The Judges

The judges were:—

Heavy horses—Adam Scarff; Light horses, D. J. Greig.

Dairy Cattle—Neil Sangster.

Beef Cattle and Sheep—J. M. Guardhouse.

Swine—P. J. McEwen.

Poultry—W. H. Reid.

Agricultural Products—S. J. Moore.

Dairy Produce—W. A. McKay.

Horticulture—Prof. P. J. Shaw.

In the Main Building

In the main building the agricultural products display was not up to the standard in point of quantity. In fact it was the smallest display of field and garden produce that we have seen at Charlottetown during the past decade.

The showing in horticultural lines was fairly extensive. The apples were clean, well grown and well colored. H. E. Bent of Tupperville, N. S., had entries in many sections and captured the first prize for best collection of apples, S. R. Lane, Southport and Jas. Essery, Union Road coming in for second and third monies.

There was a good display of butter in the various sections of its class, with quality well maintained in the nineties from the judge's score standpoint, as will be seen in the published list of prize winners.

The cheese exhibit occupied its customary section. Hamilton, Hillsboro, Park Corner, Summerside, Gowan Brae, Murray Harbor, Kinkora, Grand River, Stanley Bridge, Tignish, New Glasgow, Kensington, Alberton and Cornwall cheese factories had specimens of their June, July and August cheese, while conspicuous by their absence were Wiltshire, Emerald, Dundas, Red House, New Perth, Hazelbrook, Vernon River, Lot 16, Souris East, Tyne Valley ,Orville and Egmont Bay. New Glasgow factory captured first money with an average score of 95.53 points out of a possible 100 points.

The ladies fancy and domestic exhibits as usual reflected a lot of commendable credit on the good women of the Island province.

The booths of a number of the mercantile firms of Charlottetown were tastily arranged and decorated. The manual training, as well as the Domestic Science exhibits of work done in the schools of Charlottetown, showed excellent work on the part of both teachers and pupils.

The Canadian National Railways Exhibit showing maps of the system and some of the many scenic points of interest along its routes, was admired by throngs of visitors.

Another display that created considerable interest was the exhibit of Rock and Crushed salt from the salt mines recently—discovered at Malagash, Nova Scotia, which are being developed by Messrs. Chambers & McKay of New Glasgow, who also had asmples of ground limestone from their mill, a product that is destined to have a large sale in the Island province.

Automobiles, and farm machinery of various kinds, including tractors and electric lighting plants, filled machinery hall to the overflow point.

The Horses

The showing made in the horse classes was not at all extensive, although some exceptionally good individuals were paraded before the judges.

Standard Breds—Exposer, owned by H. C. Jewett, Fredericton, one of the speedy kind, carried off the first prize in the Aged Standard Bred stallion class, five up. There was only one entry in each of the three year old and two year old sections of this class the latter, the two-year-old Saxon Aubrey, by Cap Aubrey, shown by Geo. Callbeck of Summerside, carrying off the coveted diploma for best stallion under three years. Callbeck's Golden Aubrey by Cap Aubrey, performed a similar stunt in the female section of the Standard Bred class.

Percherons.—H. C. Jewett's four-year-old and three-year-old stallions led their respective sections, but the Percheron championship Diploma went to Alex. R. McKay's one-year-old stallion.

Clydesdales—The Clydesdale showing did not begin to compare with that of some previous years. The only section where there was any excitement was the Aged Stallion Class, where there were six up. Roper Bros.' Thorndale by High Honor, headed the list and won the championship diploma. H. C. Jewett's Dr. McCoy and W. H. Godfrey's Baron Rossiter came in for the blue and white ribbons respectively. Godfrey's horse was first with two of his get. W. W. Crosby had the champion female.

The heavy draft classes were keenly contested. The general purpose classes were poorly filled, excepting the section for mares or geldings, four-year-old, where eight good useful horses were presented for judgment.

The showing in the carriage and roadster classes was fairly strong, with not a few good individuals in the ring.

In the Beef Cattle classes J. M. Laird & Son's Shorthorns carried off the major portion of the most coveted prizes. Samuel Lane, Wallace Stead, S. L. Boswall, H. L. Boswall, Geo. Agney, Wellock and Clark and A. McRae & Sons were the other prize winning exhibitors in the pure bred Shorthorn classes.

G. T. Hayden's white faces had no competition. Only one Aberdeen Angus cow put in an appearance.

The grade classes were well filled and keenly contested.

Dairy Cattle

The big feature of the dairy classes was the Ayrshire showing, notwithstanding that several of the oldest established herds were not shown. There was no section of the show that received so much creditable comment and deservingly so as did the Ayrshire cattle class. This good showing is due to the efforts of the newly formed Prince Edward Island Ayrshire Breeders' Club. This progressive organization was formed last spring and has a membership of about fifteen Ayrshire breeders in the vicinity of Charlottetown with Bert R. Brown of York as their president and Major McRae of Royalty as Secretary. The members have pledged themselves to test regularly for the detection of tuberculosis, to keep official records of the performance of the females of their herds, to fit and make the best showing possible at the provincial exhibition and to sell no inferior animals for breeding purposes. They had the two barns in which their stock was housed thoroughly cleaned and whitewashed. A neat sign showed that this was the Club exhibit and it was pleasing to note how some of the old timers in trimming for the show ring, helped those who are new in the game. Ayrshire boost cards were prominently displayed and one breeder had the records of his females over each stall, as well as a productive extended pedigree of his herd from its foundation up to the present time. The gentleman we refer to is Mr. Bert R. Brown, the president of the Club, who is developing a splendid herd of cows with man-size teats and well developed udders. His Queen's Own by Howies Crusader, shown in the aged cow class was the champion female while the champion one-year-old heifer was Brightside Bessie, that captured the Bank of Commerce Silver Medal.

A. McRae & Sons are again back in the show ring with a small herd and will soon be going as strong as ever, production being now as heretofore their watchword. Their champion bull was Capt. Kidd.

Mr. Brown showed the best four animals, get of one sire, with the get of Fairview Milkman 2nd. The progeny of Mr. Brown's Princess led their class. Following is Queen's Owns record of production as shown on the placard over her stall:—

Calved	lbs. Milk	lbs. Fat	Test	Day
Jan. 6, 1918	12,523	543	4.32	390
Feb. 7, 1915	9,327	423	4.54	414
Jan. 17, 1916	12,521	584	4.62	471
April 23, 1919	8,260			152

Several other breeders whose names appear on the list of prize-winners elsewhere in this issue have some splendid young stock coming on and with the guidance of some of the older hands will be heard from later.

There was also a fairly good showing of Holsteins. Owing to stress of work along other lines, Hon. W. M. Lea, Prince Edward Island's new Minister for Agriculture, and one of Canada's most enthusiastic Holstein breeder's, he was unable to show his herd this year. There was keen competition between the herds of W. J. Gibson & Son, Godfrey & Son, H. J. Kennedy, C. E. McKenzie and several other breeders, all of whom are enthusiastic over the black and whites, and who have some excellent foundation stock.

Godfrey & Son's aged bull, Sir Rooker McDonald led his class and carried off the male championship. The female championship went to Elizabeth Kirk Abbekirk, a two-year-old heifer shown by H. J. Kennedy.

Gibson & Son had the best four calves get of one sire, Cobequid Helbon champion, and the best two progeny of their cow, Nellie Rooker Posch.

C. E. McKenzie's senior bull calf, Tortilla Korndyke Vale by Mercena Vale of Victoria, whose record stands at 16,000 pounds milk in one year, is a promising youngster that will make some of the good ones step lively

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some day.

Alex. R. McKay, Wallace Stead, Stephen Holroyd, Wedlock & Clark showed some useful looking Jerseys, while the Guernsey cow was as usual ably presented by Roper Bros.

There was a good showing of grade dairy cattle.

Swine

The veteran Berkshire swine, breeder, Peter Brodie, is open for congratulations on the acquisition of the letters M. L. A., which the electors of his county conferred on him at the last P. E. I. election. Peter is still in the ring with his splendid Berks and as usual carried off the lion's share of the prizes. Samuel C. Lane was also out with several good ones.

There was a fairly good showing of Yorkshires with Wallace Stead, Geo. Crockett, Stephen Holroyd, Jas. F. Roper and Robert Stewart out with their best and all getting a share of the awards.

There was also a nice little showing of Chesters, Wallace Stead, Farmers' Milling Co., Stephen Holroyd and A. H. Boswall participating in the winnings.

The competition in export bacon hogs was quite keen.

Sheep

The sheep classes missed the flocks absent at Charlottetown, but showing at Chatham, but there was enough competition to make matters interesting. The Boswall's, S. C. Stewart & Son, Samuel Lane, John Tweedy, Harry Tweedy, Farmers' Milling Company, Ernest Lund, Oliver and E. Saunders, J. M. Laird & Son, A. P. Horne, J. P. Horne, Cephas Nunn, Lorne Nunn, C. D. McLean, all in the winning with their respective breeds and flocks.

The Poultry

The poultry show, as will be seen by the published list of prize winners, was not up to the standard of other years in point of numbers, but the quality throughout was good.

The exhibits of the local and federal poultry divisions were closely inspected and the officials in charge were kept quite busy explaining matters dealing with poultry culture.

Th edisplay of the products of the Charlottetown Experiment Station was most creditable, and the trite morsels of advice re up-to-the-minute farm practices were jotted down in the memories of large numbers of visitors who loitered to get all the information they could get from the exhibit and its precepts.

Let every Island farmer plan now to make the 1920 Island Exhibition the biggest and best in the history of The Garden of the Gulf, and give the thousands of Islanders and visitors from the mainland something to talk about when they return to their homes. The Maritime Farmer feels that this is the earnest desire of the Island Department of Agriculture and of the men who are responsible for the Charlottetown Exhibition.

PRIZE WINNERS AT CHARLOTTETOWN

HORSES

Standard Bred Horses

Stallion, 4 yrs. and upwards in harness—1, H. C. Jewett, Fredericton, N. B.; 2, G. C. Redding, Sydney, N. S.; 3, J. H. G. Murphy, Charlottetown.

Stallion, 3 yrs. in harness—1, Joseph Power, Charlottetown.

Stallion, 2 yrs., in harness—1, Geo. Callbeck, Summerside.

Filly, 3 yrs. and upwards—1, W. S. McKee; 2, Geo. Callbeck; 3, D. W. White, York Point.

Filly, 2 yrs.—1, Wm. Bateman, Charlottetown; 2, Ernest Crabbe, North Wiltshire.

Filly, 1 yr., Prize offered by Canadian Standard Bred Horse Society—1, D. Robertson, North River.

Best Stallion, 3 yrs. or under—1, Geo. Callbeck.

Best Mare, 3 yrs. or under—1, Geo. Callbeck.

Saddle Horses

Gentleman's Saddle Horse, Gelding or Mare—1, G. Hughes, Charlottetown; 2, McDonald & Wood.

Lady's Saddle Horse, Gelding or Mare—J. E. O'Donnell, Charlottetown.

Percherons

Stallion, 4 yrs. and upwards—1, H. C. Jewett; 2, David Reid & Son, Montague.

Stallion, 3 yrs.—1, H. C. Jewett.

Stallion, 1 yr.—1, Alex. R. McKay, Charlottetown.

Filly, 3 yrs.—1, Alex. R. McKay.

Foal of 1919—1, Alex. R. McKay.

Mare with foal at foot—1, Alex. R. McKay.

Champion stallion, any age—1, Alex. R. McKay.

Draft Horses

Filly, 2 yrs.—1, John Cummings, North River; 2, John Connelly, Royalty; 3, D. W. White.

Foal of 1919—1, Stephen Ackland, Hampshire; 2, Samuel Auld, Clyde River; 3, John Cummings.

Mare with foal at foot—1, John Cummings; 2, Stephen Aikland; 3, Samuel Auld.

Pair Draft Horses, not less than 1400 lbs., shown in harness to a truck waggon—1, McDonald & Wood; 2, John Connelly.

Draft Mare or Gelding—1, Gordon Newson, North River; 2, McDonald & Wood.

Clydesdales, Registered

Stallion, 4 yrs., and upwards—1, Roper Bros., Charlottetown; 2, H. C. Jewett, Fredericton, N. B.; 3, W. H. Godfrey, Marshfield.

Stallion, 1 yr.—1, A. H. Boswall, Little York; 2, W. W. Crosby, Cornwall.

Filly, 3 yrs.—1, W. W. Crosby.

Filly, 2 yrs.—1, J. R. Munn, Marshfield.

Foal of 1919—1, B. Younker, North River; 2, W. H. Godfrey, Marshfield.

Mare with foal at foot—1, B. Younker; 2. W. H. Godfrey.

Champion stallion, any age—Roper Bros., Charlottetown.

Champion Mare, any age—W. W. Crosby, Cornwall.

Stallion and 2 of his get—W. H Godfrey, Marshfield.

Special Prizes given by Clydesdale Horse Association of Canada

Best Clydesdale Stallion, imported or Canadian Bred—1, Jas. Roper.

Best Clydesdale, female, imported or Canadian Bred—1, W. W. Crosby.

Best single grade Mare or Gelding in harness, sired by a registered Clydesdale stallion—1 and 2, John S. Connolly, Royalty.

Best pr. grade Mares in harness, sired by registered Clydesdale stallion—1, McDonald & Wood; 2, John S. Connelly.

Carriage Horses

Stallion, 4 yrs. old and upwards—1, David Reed & Son, Montague.

Filly, 3 yrs. old—John Rooney, Orwell Cove.

Filly, 2 yrs. old—1, Matthew Maher, Charlottetown; 2, Millan McDonald, St. Avards.

Filly, 1 yr.—1, Neil Shaw, De Sable; 2, John J. Crabbe, North Wiltshire; 3, F. Moreside, North Rustico.

Foal 1919—1, B. H. Newson, North River; 2, Byrne Bros., North River; 3, W. S. McKee, Charlottetown.

Carriage Mare or Gelding, shown in carriage—1, W. F. Robbins, Charlottetown; 2, Stephen Holroyd, Winsloe; 3, Geo. Agnew, Royalty.

Carriage Mare or Gelding, shown in carriage.—1, A. A. McBath, Marshfield; 2, W. S. McKee, Charlottetown; 3, Harry B. Clark, Victoria.

Champion Mare, any age—1, Matthew Maher, Charlottetown.

For Dealers Only

Pr. horses, Geldings or Mares, one each shown in carriage—1, Horne Bros.; 2, McDonald & Wood.

General Purpose

Mare or Gelding, 4 years old—1, Neil Shaw, DeSable; 2, McDonald & Wood, Charlottetown; 3, H. H. Roberts, Royalty.

Mare or Gelding, 3 years old—1, S. C. Stewart & Son.

Matched Team—1, McDonald & Wood; 2, Wallace Stead.

Walking Horses

Mare or Gelding—1, John Cumming, North River; 2, Stephen Ackland, Hampshire; 3, B. Yorker, North River.

Roadsters

Mare or Gelding, 4 years old—1, Geo. Nuthart, Summerside; 2, John Rooney, Orwell Cove; 3, A. A. McBeath, Marshfield.

Filly or Gelding, 3 years old—1, Clara McMillan; 2, S. H. Newson.

Brood mare with foal—1, Geo. Agnew; 2, Byrne Bros.; 3, B. H. Newsome.

Mare or Gelding shown in carriage—1, A. A. McBeath; 2, C. M. Dickson, Charlottetown; 3, Byrne Bros.

Walking Horses—1, Byrne Bros.; 2, G. Newsome; 3, McDonald & Wood.

Single Pony—1, Alex. R. McKay.

BEEF CATTLE

Shorthorns

Bull, 3 years old—1, J. M. Laird & Son, Kelvin Grove; 2, Samuel Lane, Mt. Mellick.

Bull, 1 year old—1, Wallace Stead, Highleld; 2, S. L. Boswall, Pownal; 3, J. M. Laird & Son; 4, H. L. Boswall, Little York.

Bull, senior calf—1, J. M. Laird & Son; 2, A. H. Boswall.

Bull, junior calf,—1, J. M. Laird & Son; 2, Geo. Agnew, Royalty.

Cow, 3 years old—1 and 2, J. M. Laird & Son; 3, Wedlock & Clark, Union Road.

Dual purpose cow, over 3 years—1 and 2, J. M. Laird & Son; 3, Wallace Stead.

Dual purpose cow, under 3 years—1, J. M. Laird & Son.

Cow, 2 years old—1 and 3, Wedlock & Clark; 2, J. M. Laird & Son.

Heifer, 1 year old—1 and 2, J. M. Laird & Son; 3, Wedlock & Clark.

Heifer, senior calf—1 and 3, J. M. Laird & Son; 2, S. L. Boswall.

Heifer, junior calf—1, J. M. Laird & Son; 2, S. L. Boswall; 3, A. McRae & Son.

Champion Bull—J. M. Laird & Son.

Champion Female—J. M. Laird & Son.

Herd, aged—1, J. M. Laird & Son.

Breeders' young herd—1 and 2, J. M. Laird & Son.

Bull and 3 of his get—1, Samuel Lane.

Cow and 2 of her offspring—1 and 2, J. M. Laird & Son.

Best 4 animals, offspring of one cow bred and owned by exhibitor—1 and 2, J. M. Laird & Son.

Two animals, progeny of one cow—1 and 2, J. M. Laird & Son.

Heresfords

All prizes awarded in this class went to G. T. Hayden, Cherry Valley, without competition.

Abereden Angus

Cow in milk or calf, 4 years old—1, Horne Bros., Winsloe, P. E. I.

Grade Beef Cattle

Cow, 4 years old—1, J. M. Laird & Son; 2, S. L. Boswall; 3, Joseph Praught; 4, Wallace Stead.

Cow, 3 years old—1, J. M. Laird & Son; 2, Joseph Praught.

Heifer, 2 years old—1, J. M. Laird & Son; 2, Joseph Praught.

Heifer, 1 year old—1, Joseph Praught; 2, J. M. Laird & Son; 3, H. L. Boswall.

Heifer, senior calf—1, Joseph Praught; 2, Steve Holroyd; 3, Wallace Stead.

Heifer, junior calf—1, G. L. Hayden; 2, Wallace Stead.

Steers

Fat animal, 2 years old—1, Joseph Praught.

Fat animal, 1 year old—1, Joseph Praught.

Best pair of steer calves—1, Samuel Lane.

DAIRY CATTLE

Ayrshire

Bull, 3 years old—1, A. McRae & Sons, Charlottetown; 2, Bert R. Brown, York; 3, Farmers' Milling Co., Mt. Hebron.

Bull, 2 years old—1, Edwin Reid, Rollo Bay.

Bull, 1 year old—1 and 3, C. F. Ferguson, York; 2, J. H. Love, Charlottetown.

Bull, senior calf—1, W. R. Yonker, Charlottetown; 2, A. McRae & Sons; 3, C. H. Robertson, Marshfield.

Bull, junior yearling—1, A. McRae & Sons; 2, Bert R. Brown.

Cow, 4 years old—1, Bert R. Brown; 2, C. H. Robertson; 3, W. R. Yonker.

Dry Cow, 4 years old—1, Bert R. Brown; 2, A. McRae & Sons; 3, Farmers' Milling Co.

Cow, two years old—1, A. McRae & Sons; 2, C. T. Ferguson; 3, Ambrose Rodd, Milton.

Heifer, 1 yr.—1 and 2, Bert R. Brown, York; 3, W. R. Yonker, Charlottetown.

Heifer calf, under 1 yr., over 6 mos.—1, Edwin Reid, Rollo; 2, A. McRae, Charlottetown; 3, Bert R. Brown.

Heifer, under 6 mos., over 3 mos.—1, Edwin Reid; 2, A. McRae & Sons; 3, Farmers Milling Co.

Aged Herd—1, A. McRae & Sons; 2, Bert R. Brown.

Breeders Young Herd—1, Bert R. Brown; 2, C. T. Ferguson, York; 3, Farmers' Milling Co.

Champion Bull—A. McRae & Sons.

Champion Female—Bert R. Brown.

Special Prizes offered by the Canadian Ayrshire Breeders' Association.

Best 4 animals, either sex, any age, get of 1 sire, bred and owned by exhibitor—1 and 3, Bert R. Brown; 2, C. T. Ferguson.

Best 2 animals, either sex, any age, the progeny of 1 cow to be bred and owned by exhibitor—1 and 2, Bert R. Brown; 3, Farmers' Milling Co.

Special prizes given by the Canadian Bank of Commerce.

Champion Ayrshire Heifer, 1 yr. old shown in class—Bert R. Brown, York.

Jerseys

Bull, 1 yr.—1, Alex. R. McKay, Charlottetown; 2, Stephen Holroyd.

Cow in milk or calf, 3 yrs. and upwards—1 and 2, Wallace Stead.

Cow in milk or calf, 2 yrs. old—1 and 2, Wallace Stead.

Heifer, 1 yr.—1, Wedlock & Clark, Union Road; 2, Wallace Stead.

Heifer calf under 1 yr., over 6 mos.—1 and 2, Wallace Stead.

Heifer calf, under 6 mos., over 3—1, Wallace Stead.

Champion Bull—Alex. R. McKay.

Champion Female—Wallace Stead.

Guernseys

All prizes in this class taken by Roper Bros. of Charlottetown, with the exception of 1st prize for 2 yr. old bull, which went to Edward Carr, Oyster Bay.

Holstein-Friesian

Bull, 3 yrs. old and upwards—1, Godfrey & Sons, North Wiltshire.

Bull, 2 yrs.—1, C. E. McKenzie, Milton.

Bull calf, under 1 yr., over 6 mos.—1, W. J. Gibson, Marshfield.

Bull calf, under 6 mos. and over 3 mos.—1, W. J. Gibson; 2, H. L. Boswall; 3, Godfrey & Sons.

Cow, 4 years old—1 and 2, W. J. Gibson & Son; 3, Godfrey & Son.

Cow, 2 years old—1 and 3, H. J. Kennedy, Southport; 2, J. H. Love.

Heifer, 1 year old—1, Godfrey & Son.

Heifer, senior calf—1 and 3, W. J. Gibson; 2, C. E. McKenzie, Milton.

Heifer, junior calf—1, W. J. Gibson; 2, J. H. Love; 3, Alex. Agnew.

Aged Herd—1, W. J. Gibson & Son.

Breeders' Young Herd—1, W. J. Gibson & Son.

Champion Bull—Godfrey & Son.

Champion Female—1, H. J. Kennedy, Southport.

Holsteis Assn. Prizes

Four calves bred by exhibitor—1, W. J. Gibson.

Four animals get of one sire—1, W. J. Gibson.

Two animals, progeny of cow—1, W. J. Gibson.

Breeders' foung herd—1, W. J. Gibson.

Ayrshire Grades

Cow, 4 years old—1, A. McRae &

Sons; 2, Wm. Gregory, St. Avards; 3, C. H. Robertson, Marshfield; 4, J. H. Love; 5, Edwin Reid.

Cow, 3 years old—1, Stephen Holroyd; 2, Farmers' Milling Co.

Heifer, 2 years old—1, A. McRae & Sons; 2, C. H. Robertson; Farmers' Milling Co.

Heifer, 1 year old—1, A. McRae & Son; 2 and 3, J. H. Love.

Heifer, senior calf—1, J. H. Love; 2, Farmers' Milling Co.

Heifer, junior calf—1, C. H. Robertson; 2, and 3, Farmers' Milling Co.

Jersey and Guernsey Grades

Cow, 4 years old—1 and 2, Jas. R. Roper; 3, Stephen Holroyd.

Cow, 3 years old—1 and 2, J. R. Roper; 3, Benj. Rodd.

Heifer, 2 years old—1 and 2, Wallace Stead; 3, J. R. Roper.

Heifer, 1 year old—1, Stephen Holroyd; 2 and 3, Jas. Roper.

Heifer, senior calf—1, Jas. Roper.

Heifer, junior calf—1 and 2, Jas. Roper.

Holstein Grades

Cow, 4 years old—1 and 3, Godfrey & Son; 2, John S. Connolly; 4 and 5, Calvin W. Wood.

Cow, 3 years old—1 and 2, Calvin W. Wood.

Heifer, 2 years old—1, 2 and 3, Godfrey & Son.

Heifer, 1 year old—1, Calvin W. Wood; 2, Godfrey & Son; 3, W. H. Gibson.

Heifer, senior calf—1, Calvin W. Wood.

Heifer, junior calf—1 and 2, Godfrey & Son.

SWINE

Berkshires

Boar, 1 yr. and under 2—Samuel Lane, Mt. Mellish; 2, Peter Brodie, York.

Boar, over 6 and under 12 mos.—1, Peter Brodie.

Boar, under 6 mos.—1 and 2, Peter Brodie.

Sow, 1 yr. and under 2, having reared a litter spring or summer, 1919—1, Peter Brodie.

Sow, 6 mos. and under 1 yr.—1, Peter Brodie.

Pr. Pigs, 3 mos. old and under 6 mos.—1, Peter Brodie.

Sweepstake Boar—1, Peter Brodie; 2, Samuel C. Lane, Mt. Mellick.

Sweepstake sow—1, Peter Brodie.

Pen, 1 boar, 3 females, any age—1, Peter Brodie.

Yorkshires

Boar, 2 yrs. old and upwards—1, Wallace Stead, Highfield.

Boar, over 6 mos., and under 12 mos.—1, Geo. Crockett.

Boar, under 6 mos.—1, Stephes Holroyd, Charlottetown; 2, Jas. R. Roper; 3, Geo. Crockett.

Sow, 1 yr. and under 2, having reared litter spring or summer, 1919—1, Geo. Crockett; 2, Robert Stewart, Winsloe.

Sow, 6 mos. and under 1 yr.—1, Geo. Crockett.

Sow, under 6 mos.—1, Robert Stewart; 2, Geo. Crockett; 3, Robert Stewart.

Pair Pigs, 3 mos. old and under 6 mos., barrows excluded—1, Robert Stewart; 2, Geo. Crockett; 3, H. C. Stewart & Son, Dunstaffnage.

Breeding Sow with litter—1, Geo. Crockett.

Sweepstake Boar—1, Wallace Stead, Highfield; 2, Geo. Crockett.

Sweepstake Sow—1, Wallace Stead; 2, Geo. Crockett.

Pen, any age—1, Geo. Crockett.

Chester Whites

Boar 2 yrs. and upwards—1, Farmers' Milling Co., Mt. Herbert.

Boar, 1 yr. and under 2—1, Farmers' Milling Co.

Boar, over 6 mos., under 12 mos.—1, Wallace Stead.

Boar, under 6 mos.—1, Stephen Holroyd; 2, Farmers' Milling Co.

Sow, two yrs. and over, having reared a litter, spring or summer, 1919—1, Wallace Stead; 2 asd 3, Farmers' Milling Co.

Sow, 1 yr., and under 2, having reared litter, spring or summer, 1919—1, Farmers' Milling Co.; 2, A. H. Boswall, Little York; 3, Stephen Holroyd; 4, Wallace Stead.

Sow, 6 mos. and under 1 yr.—1, Wallace Stead; 2, A. H. Boswall.

Sow, under 6 mos.—1 and 2, Stephen Holroyd; 3, A. H. Boswall.

Pair Pigs, 3 mos. old and under 6, barrows excluded—1, Stephen Holroyd; 2, Farmers' Milling Co.; 3, A. H. Boswall.

Breeding Sow with litter—1 and 3, Farmers' Milling Co.; 2, Wallace Stead.

Sweepstake Boar—1, Farmers' Milling Co.; 2, Wallace Stead.

Sweepstake Sow—1, Stephen Holroyd; 2, Wallace Stead.

Pen, any age—1, Wallace Stead; 2, Stephen Holroyd.

Special Prize given by Canadian Bank of Commerce.

Champion Chester White sow shown in class—tSephen Holroyd.

Export Bacon Hogs

Best pen 2 pure bred hogs, most suitable for export bason, bred and owned by exhibitor, weight not less than 160 lbs. met, more than 220 lbs.—1, Robert Stewart; 2, Geo. Crockett; 3, H. C. Stewart & Son; 4, Peter Brodie.

Best pen 2 hogs, any cross or grade for export bacon—1, H. C. Stewart & Son; 2, Geo. Crockett; 3, Joseph Praught, Cherry Valley; 4, S. C. Stewart & Son.

Messrs. Davies & Fraser, Halifax, special prize for 2 best finished hogs any breed, not weighing over 125 lbs. when dressed, property of one exhibitor—1, Joseph Praught; 2, Edison Reid, Robb Bay; 3, Robert Stewart; 4, H. C. Stewart & Son.

SHEEP

Leicesters

Ram, 2 shears and over (2)—1, S. L. Boswell, Pownal;2, S. C. Stewart & Son, Dunstaffnage.

Ram, shearling (4)—1, S .C. Stewart & Son; 2 and 3, Samuel Lane, Mt. Mellick.

Ram Lamb, (4)—1, 2 and 3, S. C. Stewart & Son.

Ewe, shearling (4)—1 and 3, S. P. Boswall; 2, S. C. Stewart & Son.

Ewe shearling (4)—1 and 3 S. C. Stewart & Son; 2, Samuel Lane.

Ewe Lamb (5)—1 and 2, S. C. Stewart & Son; 3, S. L. Boswall.

Flock (2)—1, S. L. Boswall; 2, S. C. Stewart& Son.

Cotswold

Ram, 2 shears and over (1)—1, John Tweedy, Erncliffe.

Ewes, shearling (3)—1, Almon Boswall, Dunstaffnage; 2, John Tweedy.

Ewe, lamb (4)—1 and 3, Harry Tweedy, Erncliffee; 2, John Tweedy.

Ewe, 2 shears and over (7)—1, Almon Boswell; 2, John Tweedy; 3, Harry Tweedy.

Ewe, shearling, (6)— 1, John Tweedy; 2 and 3, Almon Tweedy.

Ewe lamb (5)—1, Almon Boswall; 2, John Twwedie; 3, Harry Tweedie.

Flock—1, John Tweedie; 2, Almon Boswall; 3, Harry Tweedie.

Lincolns

Ram, 2 shears and over (1)—Farmers' Milling Co., Mt. Herbert.

Ram shearilng (2)—1, Ernest Lund, Mt. Herbert;2, Albert Boswall French Fort.

Ram Lamb (4)—1, Albert Boswall; 2, Ernest Lund; 3, Farmers' Milling Co.

Ewe, 2 shears and over (6)—1, Ernest Lund; 2, Albert Boswall; 3, Farmers' Milling Co.

Ewe, shearling (4)—1, Albert Boswall; 2, Ernest Lund; 3, Farmers' Milling Co.

Ewe Lamb (4)—1 and 2, Albert Boswell; 3, Ernest Lund.

Flock (3)—1, Albert Boswall; 2, Ernest Lund; 3, Farmers' Milling Co.

Southdowns

Ram, 2 shears (2)—1, E. Saunders, Winsloe; 2, Olive Saunders, Winsloe.

1, shearling (2)—1, Oliver Saunders; 2, E. Saunders.

Ram, lamb (4)—1 and 2, Oliver Saunders; 3, E. Saunders.

Ewe, 2 shears and over (4)—1 and 3, E. Saunders; 2, Oliver Saunders.

Ewe, shearling (4)—1 and 2, E. Saunders, 3, Oliver Saunders.

Ewe lamb, (4)—1 and 3, Oliver Saunders; 2, E. Saunders.

Flock (2)—1, E. Saunders; 2, Oliver Saunders.

Shropshire Downs

Ram, 2 shears and over (1)—1, McDonald & Wood, Charlottetown.

Ramb Lamb (3)—1 and 3 Geo. L. Boswall; 2, Almon Boswall.

Ewe, 2 shears and over (4)—1, Almon Boswell; 2 and 3, Geo. Bosfall.

Ewe, shearling (3)—1, Almon Boswell; 2 and 3, Geo. Boswell.

Ewe Lamb, (2)—1, Geo. Boswall; 2, Almon Boswall.

Flock—1, Almon Boswall; 2, Geo. Boswall.

Oxford Downs

Ram, 2 shears and over, (4)—1, H. L. Boswall; 2and 3, J. M. Laird & Son.

Ram, shearling (3)—1 and 2, J. M. Laird & Son; 3, A. H. Boswall.

Ram lamb (6)—1 and 2, J. M. Laird & Son; 3, Farmers' Milling Co.

Ewe, 2 shears and over (6)—1, J. M. Laird & Son; 2, Farmers' Milling Co.; 3, A. H .Boswall.

Ewe, shearling (5)—1 and 3, Farmers' Milling Co.; 2, A. H. Boswall.

Ewe Lamb, (6)—1 and 2, J. M. Laird & Son; 3, A. H. Boswell.

Flock (3)—1, J. M. Laird & Son; 2, A. H. Boswall; 3, Farmers' Milling Co.

Oxford Down Association Prizes

Best yearling rams—1 and 2, J. M. Laid & Son; 3, A. H. Boswall.

Best yearling ewe (4)—1, A. H. Boswall; 2 and 3, J. M. Laird & Son.

Best pen, 4 lambs.—1, J. M. Laird & Son; 2, A. H. Boswall.

Suffolks

Ram, shearling (3)—1, A. P. Horne, Winsloe; 2 and 3, J. R. Horne, Winsloe.

Ram lamb—1, A. P. Horne; 2 and 3, J. R. Horne.

Ewe, 2 shears and over—1 A. P. Horne; 2 and 3, J. R. Horne.

Ewe, shearling—1 and 3, J. R. Horne; 2, A. P. Horne.

Flock.—1, A. P. Horne; 2, J. R. Horne.

Hampshire Downs

Ram, shearling.—1, Cephas Nunn.

Ram lamb (2)—1, Cephas Nunn; 2, Lorne J. Nunn.

Ewe, 2 shears and over (4)—1 and 2, Lorne Nunn; 3, Cephas Nunn.

Ewe, shearling (2)—1, Lorne Nunn; 2, Cephas Nunn.

Ewe Lamb.—1, Cephas Nunn; 2, Lorne Nunn.

Flock—1, Cephas Nunn; 2, Lorne Nunn.

Dorset Horns

Ram, 2 shears and over.—1, John Tweeedy.

Ram, shearling.—1, John Tweedy.

Ram lamb, (2)—1, Geo. Boswall; 2, John Tweedy.

Ewe, 2 shears and over.—1 and 2 George Boswall; 3, John Tweedy.

Ewe, shearling.—1, George Boswall; 2, John Tweedy.

Ewe Lamb.—1 and 2, Geo. L. Boswall; 3, John Tweedy.

Flock.—1, Geo. Boswall; 2, John Tweedy.

Cheviots

Ram, 2 shears and over.—1, C. D. McLean, Clyde River.

Ram lamb.—1, C. D. McLean; 2, Albert Boswall.

Ewe, 2 shears and over.—1 and 2, C. D. McLean; 3, Albert Boswall.

Romney Marsh Sheep

All prizes in this clas awarded to John Eweedy, Ernscliffe.

Long Wool Grades

Ewe, 2 shears and over.—1, S. L. Boswall.

Ewe, shearling (3)—1, Farmers' Milling Co.; 2, S. L. Boswall; 3, Samuel Lane.

Ewe lamb.—1, Samuel Lane; 2, S. L. Boswell; 3, Farmers' Milling Co.

Wether shearling.—1, Samuel Lane.

Wether Lamb.—1, Ernest Lund, 2, Samuel Lane.

Best fat ewe or wether.—1, S. C. Boswall.

Short or Medium Wool Grades

Ewe, 2 shears and over.—1, Oliver Saunders; 2, A. P. Horne; 3, A. H. Boswall; 4, Geo .Boswall; 5, J. M. Laird & Son.

Ewe shearling.—1, Geo. Boswall; 2, McDonald & Son; 3, Oliver Saunders.

Ewe Lamb.—1, J. M. Laird & Son; 2, Oliver Saunders; 3, E. Saunders.

Wether shearling—1, Cephas Nunn; 2, Oliver Saunders; 3, J. M .Laird & Son.

Wether lamb.—1, Almon Boswall; 2, Cephas Nunn; 3, Almon Saunders.

Best fat ewe or wether.—1 and 3, Oliver Saunders; 2, E. S. Saunders:

Fleece Wool

Domestic, fine medium.—1, Mary McDonald, Winsloe; 2, Oliver Sanders, Winsloe; 3, Heath Foster, Marshfield; 4, Earl Foster, York.

Domestic, medium.—1, E. Saunders, Winslie; 2, Heath Foster; 3, Earl Foster; 4, Oliver Sanders.

Domestic, coarse.—1, Samuel C. Lane, Mt. Mellish; 2, Ernest Lund, Mt. Herbert; 3, Earl Foster; 4, Heath Foster.

POULTRY

Anconas.—W. H. D. Vessey, York, 2c, 1h, 1r, 2p; E. J. Veysey, York, 1c, 1h, 3r, 1p.

Andalusians.—Geo. Chilton, Charlottetown, 1p.

Bantam, Japanese.—A. F. Houston, Charlottetown, 1c, 1h; L. A. Hazard, Charlottetown, 2c, 2h, 2r, 2p.

Bantam, Cochin.—A .F. Houston, 1c, 1h.

Bantam, Rosecomb.—A. F. Houston, 1c, 1h.

Bantam, A.O.V.—A. F. Houston, 1c, 1h.

Hamburgs, Spangled—John Tweedy Ernscliffe, P.E.I., 1c. 1h, 1r, 1p.

Hamburgs, pencilled.—H. L. Boswall, Marshfiled, 1c, 3h, 1r, 1 p; A.H. Boswall, Marshfield, 2 and 3c, 1 and 2 h, 2and 3 r, 2 and 3 p.

Hondans.—G. L. Hayden, Cherry Valley, 1c, 1h, 1r, 1p.

Leghorns, S. C. White.—Sidney A. Ernan, Charlottetown, 1c, 1h, 1, 2, 3, and 4r, 2, 3 and 4p. La Hazard, 2c, 3h. Dawson Balderson, North Wiltshire, 3c. John A. Whitlock, Charlottetown, 2h. Gordon Bennett, Charlottetown, 2p.

Leghorns, Brown, S. C,——ohn Feltham, Halifax, 1 and 2 c. 1 and 2 h; Geo. Chilton, 3c, 3r, 1 and 2 p; W. W. Whitlock, Charlottetown, 3h, 2r; G. L. Hayden 1r, 3p .

Leghorns, Buff, S. C.—Fred C. Blanchard, Chalottetown, 1 and 2c, 1 and 2h, 1 and 2 r, 1 and 2 p; John Feltham, 3c.

Minorcas, Black, S. C.—Wm. J. Cudmore, Charlottetown, 1and 2c, 1, 2 and 3h, 1, 2, and 3r, 1, 2 and 3p; John Feltham 3c.

Orpingtons, Buff—Thos. Mills, Charlottetown, 1h, 1r, 1and 2p.

Plymouth Rocks, Barred.—George Crockett, York, 1 and 3 c; 1 and 2h, 2r, 1, 2 and 3p; John H. Whitlock, Fredericton, 2c, 3h; Freddie Pickard, Charlottetown, 1r; W. W. Crosby, Cornwall, 3r.

Plymouth Rocks, White.—Albert Boswell, 1 and 2c, 1 and 2h, 1r, 1p.

Rhode Island Red, any variety.—John H. Whitlock, 1c, 1h, 1, 2 and 3r; L.A. Hazard, 2h, 1 and 2p; Miss Helen Hazard, Charlottetown, 3p.

Wyandottes, Columbian.—D. P. Doherty, Halifax, 1 and 2c, 1 and 2h, 1r, 1p.

Wyandotte, Partridge.—John Feltham, 1 and 2c, 1and 2h; Sidney A. Enman, 3c; Joseph Costello, Charlottetown, 3h, 1 and 2r, 1 and 2p.

Wyandottes, white.—Fred C. Whitlock, 2c, 2h, 3p; Almon Boswall, 3c, 3h, 1r, 2 and 3p; E. J. Veysey, 2r.

Wyandotte A.O.V.—Wm. Beazley, Halifax, 1 and 2c, 1 and 2h, 1, 2 and 3r, 1, 2 and 3p.

Any other standard variety.—John McInnis, Charlottetown, 1c; D. P. Doherty. 2 and 3c, 1, 2 and 3 h, 1 and 2r, 1 and 2p; Edwin Reid, Rolls Bay, 3r, 3p.

Breeeding Pens

Leghorns.—1 and 2, Sidney A. Enman.

Minorcas.—1, W. J. Cosman; 2, S. W. Thorne, Charlottetown.

Plymuoth Rocks.—1, Albert Boswall.

Wyandotts.—1, Almon Boswall; 2, Fred C. Blanchard; 3, Joseph Costello.

Rhode Island Reds.—1, Edwin Reid.

Any other standard variety.—1, A. H. Boswall; 2, Edwin Reid.

Best Variety Pen.—Can. Bank of Commerce.

Special.—1, Wm. J. Cudmon.

Dressed Poultry

Best pair Chickens, yellow legs.—1, S. R. Lane, Southport.

Turkeys, Ducks and Geese

Turkeys, Bronze.—Sidney A. Enman, 1c; G. L. Hayden, 1 and 2h, 1r.

Goose, Tolouse, aged male and female.—1 and 2, Almon Boswall.

Goose, Tolouse, young male and female.—1 and 2, Almon Boswall.

3 young females.—Albert Boswall.

Goose, white Bremner or Emden, male, over one year and under one year.—1 and 2, Albert Boswell.

Geese, A.O.V., 1 aged pair.—John H. Whitlock.

Duck, Rouen, male over 1 year.—1, H. L. Boswall; 2, A. H .Boswall.

Duck, Rouen, female, over 1 year.—1, A. H. Boswell; 2, H. L. Boswell.

Duck, Rouen, female and male of 1919.—1, H. L. Boswell.

Pekin Ducks, all ages.—Albert Boswall.

Ducks, A.O.V.—1 and 2, Albert Boswall; 3, Sidney A. Enman.

BUTTER

Box of 56 lbs. suitable for export, made at any creamery.—1, H. G. Lang, North Tyron, 96.1; W. A. Wood, Dunstaffnage 94.8; 3, Brown Bros, O'Leary 92.8.

Butter, best box prints, not less than 50 lbs., in shipping box as used by creamery.—1, C. M. Johnson, Central Bedeque, 96;2, W. A. Wood; 3, Frank Muttart, Launching Place 93.4.

Butter, tub or crock, not less than 20 lbs., made at private dairy.—1, Mrs. A. H. Boswall, Little York, 91.8; 2, Mrs. Lee Essery, Union Rd., 91.3; 3, Mrs. George F. Weeeks, Fredericton, P.E.I., 1.1; 4, G .P. Rodd, Brackley Pt. Road, 90.5; 5, Louise Howard, Winsloe Station, 90.3.

Butter, box of Prints, 6 lbs., made at any public dairy.—1, Mrs. Geo. F. Weeks, 91.4; 2, Mrs. D. T Fraser, North River, 91.2; 3, G. P. Rodd, Mrs. Benj. Rodd, Brackley Place Road 9.05; 4, Louise Howard, 90.3.

Fancy display portable, made at private dairy.—1, Louise Howard; 2, Mrs. D. T. Fraser.

CHEESE

Exhibit of factory cheese.—1, Chas. A. Stevenson, New Glasgow, 95.53; 2, John Elsworth, Cornwall, 94.6; 3, Heber McQuarrie, Summerside, 94.44; 4, J .Wesley Keefe, Stanley Bridge, 94.20; 5, Leo. J. Hughes, Kensington, 94.03; 6, Leo J. Murphy, Tignish 93.60; 7, E. D. Larkin, Hamilton 93.36; 8, Ambrose Sinnott, East River, 92.83; 9, Frank Barber, Alberton, 92.66; 10, John Pibby, Hillsborough, 92.03.

HONEY

Display or Comb Honey in sections.—1, Harold Newson, Charlottetown.

HORTICULTURE

Collection best Comemrcial Apples, growin in all the Maritime Provinces.—1, H. E. Bent, Tuperville, N. S.; 2, S. R. Lane, Southport; 3, Jas. Essey, Union Rd.

Collection best five varieties Apples, grown on P.E.I. which the grower deems his most profitable.—1, S. R. Lane; 2, Jas. Essey.

Best exhibit Apples grown in 1918—1, Jas. Essey.

Collection of Pears.—1, H.E. Bent; 2. D. J. Stewart, Lofer Montague.

Collection of Plums.—1, D. J. Stewart; 2, H. E. Bent.

Best peck Cranberries, cultivated.—1, Mrs. John McAulay, Stanhope; 2, Mrs. Herb Thompson, Dunstaffnage; 3, W. G. Campbell, Grand Tracadie.

Best peck Cranberries, wild.—1, John Wheatley, North River; 2, Mrs. John C. MacAulay; 3, W. G. Campbell.

FIELD ROOTS AND VEGETABLES

Potatoes

Collection best early varieties.—1, Peter Brodie, York; 2, E. J. Veysey, York.

Collection best late varieties.—1, Peter Brodie; 2, E. J Veysey; 3, Jas. McLean, Mapleque Road.

Collection best white varieties.—1, Peter Brodie; 2, E. J .Veysey; 3, Jas. McLean.

Packed for export—1, Peter Brodie; 2, Geo. Howard, Winsloe; 3, E. J. Veysey.

Collection Field Roots, potatoes not included.—1, Arthur C. Wood, Alexander.

Garden Vegetables

Tomatoes, assorted collections, ripe—1, Robert McKinnon, Royalty.

Largest Squash grown seasoned 1919.—1, W. H. Johnson, Charlottetown.

Best collection table squash.—1, Ernest Burke, Southport; 2, A. C. Wood, Alexander.

Herbs, garden collection.—1, Geo. Chilton, Charlottetown; 2, A.C. Wood.

Best collection garden Vegetables.—1, Ai C. Wood.

Best sample 5 lbs. Beans in pod, grown season 1919.—1, A. C. Wood; 2, T. H. Moore, Charlottetown; 3, Seymour McLlennan, Alexander.

The Cape Breton Island Exhibition.

That the Island of Cape Breton is making rapid progress agriculturaly as well as industrially was again amply manifested at the splendid agricultural and live stock show held in Sydney, the industry hive of the island, on September 30th to October 3rd.

Cape Breton's industrial development, based on her wide coal fields, her richness in other minerals and her proximity to the ancient colony's extensive and easily accessible iron deposits has been nothing short of phenomenal. Industry attracted labor and consequently a large consuming public that furnish a market for farm products not excelled in any part of Canada. The farmers of Cape Breton, in their efforts to produce food for the thousands that must be fed, so near their doors, have been greatly encouraged in their work by their good markets and also by the friendly rivalry to excel that the Sydney exhibition has engendered among them.

One of the most progressive leaders by word and example among the farmers is D. R. Nicholson, the Secretary of the exhibition, who until about a year ago exhibited the largest herd of Holsteins in Cape Breton, which, unfortunately owing to a severe illness, he was reluctantly compelled to disperse. In the products of the garden and field he too made exceptionally good displays. We were pleased to note that Mr. Nicholson had sufficiently recovered from his illness to be again at the helm of exhibition affairs, although not as extensive an exhibition as formerly.

J. A. Young, president of the Exhibition Association, presided at the official opening exercises on the evening of Sept. 30th, when he recounted the progress made in exhibition matters since its inception in 1912. One of the contrasts between the 1912 show and that 1919 was the fact that ouly one pure bred animal in the cattle class was exhibited at the first show, whereas the present show boasted no fewer than 200 head. The total number of cattle entries had jumped from 75 head to over 500 head.

D. A. Cameron, M.LA., who is also prominently identified with Agriculture followed Mr. Young with an interesting account of how the exhibition executive had succeeded in interesting the mercantile and industrial elements of Sydney in exhibition matters to the extent that the business men of Sydney contributed $25,000 to make the Sydney exhibition a success without any hope of direct returns, a contribution the making of which they have had no reason to regret but rather express elation over the success of the show which they have so generously fostered.

Dr. Cumming, of the N. S. A. C., in the absence of Hon. Geo. H. Murray, Premier of the Province, who was unavoidably absent, delivered the official opening address. He referred in glowing terms to the agricultural possibilities of the County of Cape Breton which are many times greater than is conceded by men who have not made a careful study of them. The display at the Sydney Exhibition in the dairy cattle class was not excelled at any County show in the Province of Nova Scotia. The showing of grade sheep was also exceptionally good and as for agricultural products, especially the cabbage sections, had never been excelled at any Maritime show.

eW agree with Dr. Cumming. Lunenburg County must look well to her laurels in cabbage fame else the Cape Breton farmers will carry off the palm.

Dr. Cumming gave a most interesting account of the progress that is being made by the Creameries operated under government supervision at Baddeck and Margaree. The Baddeck Creamery for the four months ending August, 1918 had an output of 26,000 lbs. butter as compared with 39,000 pounds during the corresponding months of this year. The Margaree Cremery for the same months has increased from 22,000 pounds to 34,000 pounds.

Dr. Cummings in his closing remarks, made special reference to the advisability of using lime, either burnet or ground, wherever needed to correct soil acidity, improve the mechanical condition of the soil and help eradicate club root in turnips, which disease alone is responsible for a loss of at least $500,000 this year.

He also referred in terms of praise to the splendid exhibition made by the Boy Scouts of Sydney, an exhibition that gives ample proof of efficient leadership and strict attention to detail on the part of the members of the troop. The School exhibits also came in for special mention by Dr. Cumming, who is so much interested in and who has done so much for the farm boys of Nova Scotia.

As already referred to in reference to Dr. Cumming's address, the dairy cattle were the main feature of the exhibition with Ayrshires well in the lead. Nancy of Maple Forest, shown by J. B. Musgrave, of oNrth Sydney, carried off the sweepstakes diploma for best dairy cow, any age or breed. Bonnie Prince Peter, shown by J. R. Redmond, North Sydney, was first with three of his get. M. W. Ross & Sons' Jemima, of Spruce Grove, led the way with two of her progeny. M. W. Ross & Son also won the first place in the Ayrshire Breeders' Association specials for three calves bred by exhibitor and three animals, any age, get of one sire, bred by exhibitor, as well as winning Ayrshire hibitor. As well as winning Ayrshire male championship with their Jim McGregor and diploma for best herd. J. R. Redmond came in for second honors in these classes.

The Guernsey sowing was also very good, the honor for swepstakes diploma for best dairy bull any age or bred going to H. C. Corson's Conqueror's Image.

R. M. Jackson's Duchess of the Grove came in for lrst with two of her progeny. The best Guernsey female was Lets' Starry shown by H. C. Carson.

Holsteins were shown by W. Drysdale, Sydney; Munn Bros., A. J. Jackson & Son, R. M. Jackson and H. P. McKenzie, Blackett's Lake. The champion male was Rockdale Chief, shown by W. Drysdale. Munn Bros. Mercena Vale De Kol carried off the female championship. Munn Bros. carried off the choicest plums in the Holstein Association specials.

H. A. Moffat, J. J. Gillis, Geo. V. Oland, Allen Bros., and A. K. Jaskson & Son made a good showing with their Jerseys The male and female championships went to H. A. Moffats & Sons' Signor Bernice and Josie of Lake View. The Moffats also captured the choicest plums in many of the other sections of the Jersey class.

The grade cattle showing was exceptionally strong. The diploma for best female going to Albert Ferguson of Blockett's Lake.

The competition in the pure bred sheep classes was not keen as nearly every breeder had a walk over, although they had come prepared for conquest. There was a strong showing of grade sheep.

Yorkshires, Berkshires and Chester Whites with a good class of grades made up the swine class.

The poultry display was nothing to write home about.

M. W. Ross & Son carried off the special prize donated by McDonald Bros., to the exhibitor carrying off the greatest number of first prizes in pure bred cattle.

The judges were:

Horses—Jas. A. Fraser, New Glasgow.

Cattle—Prof. Trueman, N. S. A. C.

Sheep and Swine—Prof. Cumming, Truro.

Poultry—Joseph Landry, Truro.

Agriculture—F. L. Fuller, Truro.

Horticulture—W. N. Byers, Truro.

Dairy—W. A. McKay, Truro.

The prize winners in the various sections of the show will be found on succeeding pages.

PRIZE WINNERS AT THE CAPE BRETON EXHIBITION

HORSES

Draught Horses

Mare or Gelding, any breed or grade, 4 yrs. and over—1, W. Drysdale, Sydney; 2, Frank Miller, Gardiner Mines, C. B.; 3, Munn Bros., Leitches Creek Sta.

Mare or Gelding, any breed or grade, over 2, under 3 yrs.—1, D. R. Nicholson, Coxheath.

Mare or Gelding, any breed or grade, over 1 and under 2 yrs.—1, Frank Miller; 2, W. Drysdale.

Mare or Gelding, any breed or grade, under 1 yr.—1, Shaw & Mason, Sydney; 2, James Marnell, Whitney Pier, Sydney, C. B.

Brood Mare with foal by side—1, Shaw & Mason.

Best Mare or Gelding, any age—Diploma, Shaw & Mason.

Special prize offered by A. M. McLeod, Sydney for best Draft Mare or Gelding, any age, bred in Cape Breton County—1, Shaw & Mason, Sydney.

Carriage Horses

Stallion, any pure breed, 3 yrs. and over—1, J. J. Gillis, East Bay.

Mare or Gelding, any brede or grade, 4 yrs. and over—1, David Andrews, Coxheath; 2, William MacKinlay, MacKay's Corner; 3, D. R. Nicholson.

Mare or Gelding, any breed or grade, over 3 and under 4 yrs.—1, Patrick Carrol, MacKay's Corner.

Mare or Gelding, any breed or grade, over 2, under 3 yrs.—1, J. J. Gillis; 2, William MacKinlay.

Mare or Gelding, any breed ir grade, over 1 and under 2 yrs.—1, John Hill, Sydney, N. S.; 2, James Marnell, Whitney Pier, Sydney.

Mare or Gelding, any breed or grade, under 1 yr.—1, Allen Bros., North Sydney.

Brood Mare with foal by side—1, Allen Bros.

Best Mare or Gelding, any age,—Diploma, David Andrews, Coxheath, C. B.

Roadster Horses

Mare or Gelding, any breed, over 1 yr., under 2.—1, Charles Gardiner, North Sydney; 2, John W. MacKinnon, Sydney; 3, Mrs. Alex. J. Kennedy, Kenlock, C. B.

Mare or Gelding, any breed or grade, over 3, under 4 yrs.—1, Charles Gardine; 2, D. H. MacKay, Glace Bay.

Mare or Gelding, any breed or grade, over 2, under 3 yrs.—1, Albert Ferguson, Coxheath; 2, W. M. Hill, Point Edward; 3, Wm. McPherson, Sydney.

Mare or Gelding, any breed or grade, over 1yr., under 2 yrs.—1, J. J. Gillis, East Bay.

Mare or Gelding, any breed or grade, under 1 yr.—1, Shaw & Mason, Sydney; 2, Angus MacLeod, Whitney Pier, Sydney; 3, Jack McArthur, Sydney River.

Brood Mare with foal by side—1, Angus MacLeod; 2, Shaw & Mason; 3, Jack McArthur.

Mare or Gelding, any age—1, Charles Gardine.

Agricutlure Bona fide farm work horses

Mare or Gelding, 4 yrs. or upwards, over 1100 lbs.—1, Eugene Doncaster, Nuta Road, Sydney; 2, H. P. MacKenzie, Blackett's Lake; 3, Stanley Greene, North Sydney.

Mare or Gelding, over 2 yrs., under 3 yrs.—1, Albert C. Peters, Sydney; 2, Robert Meloney, Jacksonville.

Mare or Gelding, under 1 yr.—1, Allen Bros.

Brood Mare, with foal by side—1, Allen Bros.; 2, James Marnell.

Brood mare, and 2 of her progeny.—Diploma, Eugene Doncaster, Mira Road, Sydney.

Mare or Gelding, any age, not exceeding 1200 lbs.—1, M. W. Ross & Son; 2, Eugene Doncaster; 3, R. M. Jackson.

Ponies

Pony, any age, shown in harness or saddle—1, Wm. C. Nicholson, Coxheath.

Special Pulling Contest

Single team not over 1200—1, Walter Drysdale, Sydney; 2, Nelson Beaton; 3, Tie, H. B. MacKenzie, Blackett's Lake; and Stanley Greene, North Sydney.

Double Team, not over 2500 lbs.—1, Walter Drysdale; 2, R. V. Hall, Sydney; 3, H. P. MacKenzie.

Saddle Horses

Ladies Saddle Class—1 and 2, R. McGowan, Sydney; 2, Mr. Abass, Sydney.

CATTLE

Grade Beef Cattle

Fat Steer or Cow, 3 yrs. and over—1, R. M. Jackson, Jacksonville; 2, D. J. MacDonald, Sydney Forks; 3, J. J. Gillis, East Bay.

Fat Steer or Cow, over 2 under 3 yrs.—1, George V. Oland, Coxheath.

Fat Steer or Heifer, over 1, under 2 yrs.—1, George V. Oland; 2 and 3, James Marnell, Whitney Pier, Sydney.

Holsteins

Bull, over 2 yrs., under 3—1, Munn Bros., Leitches Creek.

Bull' over 1 yr., under 2 yrs.—1, W. Drysdale, Sydney; 2, Daniel Moreshead, Sydney River.

Bull, 6 mos. and under 1 yr.—1, A. J. Jackson & Son, Jacksonville.

Bull calf under 6 months—1, Munn Bros.

Cow in milk, 4 yrs. or over—1 and 2, Munn Bros.

Dry Cow, 4 yrs. and over—1, A. K. Jackson; 2, Munn Bros.

Cow, over 3 and under 4 yrs.—1, Munn Bros.

Cow, over 2 and under 3 yrs.—1, A. K. Jackson.

Heifer, over 2 and under 3 yrs.—1, H. P. MacKenzie, Blackett's Lake.

Heifer, over 18 mos., up to 24 mos.—1, W. Drysdale, Sydney; 2, R. M. Jackson; 3, A. K. Jackson.

Heifer Calf, over 6 mos., under 1 yr.—1, Munn Bros.; 2, W. Drysdale.

Heifer Calf, under 6 mos.—1, Munn Bros.; 2, A. K. Jackson; 3, Munn Bros.

Best Bull, any age—Diploma, W. Drysdale.

Herd (aged)—1, Munn Bros.

Best female—Diploma, Munn Bros.

Specials

Offered by the Holstein-Friesian Association of Canada. This competition only open to animals registered in C. H.-F. Herd Book.

Four calves, under 12 mos., bred by exhibitor—1, Munn Bros.

Three animals, any age, get of one sire, bred by exhibitor—1, Muns Bros.

Two animals, any age, progeny of one cow, bred by exhibitor—1, W. Drysdale; 2, Munn Bros.

Ayrshires, Pure Bred

Bull, 3 yrs. or over—1, South Bar Agricultural Society; 2, John R. Redmond, North Sydney.

Bull, over 2 and under 3 yrs.—1, M. W. Ross & Son, Sydney Mines.

Bull, iver 1 yr., under 2 yrs.—1, M. W. Ross & Son; 2, Beechmont Live Stock Association, Ball's Creek.

Bull, 6 months and under 1 yr.—1, John R. Redmond; 2, J. B. Musgrave, North Sydney.

Bull Calf, under 6 mos.—1, M. W. Ross & Son.

Cow in milk, 4 yrs. or over—1 and 2, M. W. Ross & Son; 3, John R. Redmond.

Dry Cow, 4 yrs. or over—1, J. B. Musgrave; 2, M. W. Ross & Son; 3, John R. Redmond.

Cow, over 3 and under 4 yrs.—1, M. W. Ross & Son.

Dry Cow, over 3, under 4 yrs.—1, J. B. Musgrave; 2, M. W. Ross & Son.

Cow, over 2 yrs., and under 3 yrs.—1, John R. Redmond; 2, M. W. Ross & Son; 3, A. B. MacPhee, Leitches Creek.

Heifer, over 2 yrs. and under 3 yrs.—1 and 2, M. W. Ross & Son.

Heifer, over 18 mos. up to 24 mos.—1, M. W. Ross & Son; 2, John R. Redmond.

Heifer, over 12 mos., up to 18 mos.—1, M. W. Ross & Son.

Heifer Calf, over 6 mos., under 1 yr.—1, D. J. McDonald, Sydney Forks; 2 and 3, M. W. Ross & Son.

Heifer Calf, under 6 mos.—1 and 3, M. W. Ross & Son; 2, John R. Redmond.

Best Bull, any age—1, M. W. Ross & Son.

Bull and 3 of his get—1, John R. Redmond.

Cow and 2 of her progeny—1, M. W. Ross & Son.

Herd—1, M. W. Ross & Son; 2, John R. Redmond.

Breeders' Young Herd—1, M. W. Ross & Son; 2, John R. Redmond.

Best Female—Diploma, J. B. Musgrave.

Special

Offered by the Ayrshire Breeders' Association.

3 calves, under 12 mos., bred by exhibitor—1, M. W. Ross & Son; 2, John R. Redmond;.

3 animals any age, get of one sire, bred by exhibitor—1, M. W. Ross & Son; 2, John R. Redmond.

Jersey Pure Bred

Bull, 3 yrs. or over—1, H. A. Moffat & Son, Groves Point; 2, J. J. Gillis; 3, George V. Oland.

Bull, over 1 yr. and under 2 yrs.—1, Allen Bros., North Sydney; 2, H. A. Moffatt.

Bull Calf, under 6 mos.—1, J. J. Gillis.

Cow in milk, 4 yrs. or over—1 and 2, J. J. Gillis; 3, Allen Bros.

Dry Cow, 4 yrs. or over—1, A. K. Jackson & Son; 2, Allen Bros.

Cow, over 3, under 4 yrs.—1, H. A. Moffatt & Son; 2, Allen Bros.

Cow, over 2 and under 3 yrs.—1 and 2, H. A. Moffatt & Son.

Heifer, over 2 and under 3 yrs.—1, Allen Bros.; 2, H. A. Moffatt & Son.

Heifer, over 18 mos. up to 24 mos.—1, A. K. Jackson & Son; 2 and 3, Allen Bros.

Heifer, over 12 mos., up to 18 mos.—1, H. A. Moffatt & Son; 2, Allen Bros.

Heifer Calf, over 6 mos., under 1 yr.—1 and 3, Allen Bros.; 2, A. K. Jackson.

Heifer Calf, under 6 mos.—1, Allen Bros.

Best Bull, any age—Diploma, H. A. Moffatt & Son.

Bull, and 3 of his get—Diploma, H. A. Moffatt & Son.

Cow, and 2 of her progeny—Diploma, H. A. Moffatt & Son.

Herd—1, H. A. Moffatt & Son; 2, Allen Bros.

Breeders' Young Herd—1, Allen Bros.

Best Female—Diploma, H. A. Moffatt & Son.

Guernsey—Pure Breed

Bull, 3 yrs. or over—1, H. C. Corson, South Ingonish; 2, W. J. Moffatt, Little Bras d'Or.

Bull, over 2 yrs., and under 3 yrs.—1, R. M. Jackson.

Bull, over 1 yr., under 2 yrs.—1, George's River Agricultural Society.

Bull, 6 mos., and under 1 yr.—1, H. C. Corson; 2, W. J. Moffatt.

Bull Calf, under 6 mos.—1, H. P. MacKenzie.

Cow in milk, 4 yrs. or over.—1, R. M. Jackson.

Dry Cow, 4 yrs. old or over—1, R. M. Jackson.

Cow, over 3 and under 4 yrs.—1, H. P. MacKenzie; 2, R. M. Jackson.

Cow, over 2 and under 3 yrs.—1, R. M. Jackson.

Heifer, over 2 and under 3 yrs.—1 and 2, R. M. Jackson.

Heifer, over 18 mos., up to 24 mos.—1 and 2, R. M. Jackson.

Heifer, over 12 mos., up to 18 mos.—1, H. C. Corson.

Heifer Calf, over 6 mos., under 1 yr.—1, H. C. Corson.

Best Bull, any age—Diploma, H. C. Corson.

Cow, and 2 of her progeny—Diploma, R. M. Jackson.

Herd—1, R. M. Jackson.

Best Female—Diploma, H. C. Corson.

Grade Jerseys

Sire to be pure bred and registered

Cow, 4 yrs. and upwards—1, Albert Ferguson, Coxheath; 2, J. B. Musgrave; 3, Bairncroft Orphanage, Sydney River.

Dry Cow, 4 yrs. and upwards—1, Patrick Carroe, McKay's Corner; 2, Allen Bros.; 3, Albert Ferguson.

Cow, 3 yrs.—1, Albert Ferguson; 2, J. B. Musgrave.

Cow, 2 yrs. old—1, George V. Oland; 2, John McMullin.

Heifer, over 18 mos., up to 24 mos.—1, J. B. Musgrave; 2, John McMullin; 3, James Marnell.

Heifer, over 12 mos., up to 18 mos.—1, George V. Oland; 2, J. B. M usgrave.

Heifer, 6 mos., under 1 yr.—1, Wallace Landry, Sydney; 2, J. B. Musgrave; 3, George V. Oland.

Heifer, under 6 mos.—H. A. Moffatt & Son; 2, Murdock MacKeigan, Coxheath; 3, George V. Oland.

Best female—Diploma, Albert Ferguson.

Grade Guernseys

Cow, 4 yrs. and upwards—1, H. P. MacKenzie; 2, Albert Ferguson; 3, Munn Bros.

Dry Cow, 4 yrs. and upwards—1, J. B. Musgrave; 2, H. A. Moffatt & Son; 3, H. B. MacKenzie.

Cow, 2 yrs.—1, George V. Oland.

Heifer, over 18 mos., up to 24 mos.—1, J. B. Musgrave.

Heifer, over 12 mos., up to 18 mos.—1, H. P. MacKenzie; 2, James Marnell; 3, Munn Bros.

Heifer, under 6 mos.—1, George V. Oland.

Best Female—Diploma, H. P. MacKenzie.

Grade Ayrshires

Cow, 4 yrs. and upwards—1, Albert Ferguson; 2, Allen Bros.; 3, J. B. Musgrave.

Dry Cow, 4 yrs. and up—1, John R. Redmond; 2 and 3, Arthur R. Richardson, South Bar.

Cow, 3 yrs.—1, Albert Ferguson; 2, Arthur R. Richardson.

Dry Cow, 3 yrs.—1, John MacMullin.

Cow, 2 yrs.—1, John R. Redmond; 2, George V. Oland; 3, Munn Bros.

Heifer, 2 yrs.—1, George V. Oland; Wallace Landry.

Heifer, over 18 mos., up to 24 mos.—1 and 3, Arthur R. Robinson; 2, W. Drysdale.

Heifer, over 12 mos., up to 18 mos.—1, John R. Redmond; 2, Stanley Greene, North Sydney; 3, Wilson Crow, Coxheath.

Heifer, 6 mos., under 1 yr.—1, John MacMullin.

Best Female—Diploma, Albert Ferguson.

Grade Holsteins

Cow, 4 yrs., and upwards—1, Munn Bros.; 2, Allen Bros.; 3, John R. Redmond.

Dry Cow, 4 yrs. and up—1, H. P. MacKenzie; 2 and 3, Munn Bros.

Cow, 2 yrs.—1, A. K. Jackson; 2, Munn rBos.; 3, George V. Oland.

Heifer, 2 yrs.—1, H. P. MacKenzie; 2, Wallace Landry.

Heifer, over 18 mos., up to 24—1, Wallace Landry.

Heifer, over 12 mos., up to 18 mos.—1, Henry H. Carson, Sydney; 2, David W. Jackson, Jacksonville; 3, George V. Oland.

Heifer, 6 mos. and under 1 yr.—1, A. K. Jackson & Son; 2, W. Drysdale.

Heifer, under 6 mos.—1, A. K. Jackson & Son; 2, Munn Bros.; 3, Murdock MacKeigan.

Best Female—Diploma, Munn Bros.

Grade Herds

Best herd, over 2 yrs., (5 cows),—1, Albert Ferguson; 2, Munn Bros.; 3, J. B. Musgrave.

Best herd, 4 cows, under 3 yrs.—1, George V. Oland; 2, J. B. Musgrave; 3, John MacMullin.

SHEEP

Leicesters, Pure Bred

All prizes in this class were taken by Elbridge Hill, Point Edward, C. B.

Cheviots

All prizes in this class went to Wilson Gillis, George River, C. B.

Southdown

All prizes in this class went to W. M. Hill, Point Edward, C. B.

Shropshire

Ram, 2 yrs. or over—1, Beechmont Live Stock Association, Ball's Creek; 2, Angus J. MacDonald; 3, Nelson Beaton, Coxheath, C. B.

Any Other Pure Breed

Ram, 2 yrs. or over—1, D. J. McKenzie, Ball's Creek.

Ram, over 1 yr., under 2 yrs.—1, John McMullin, George's River.

Ram Lamb—1, John McMullin.

Eewe, 2 yrs. or over—1 and 2, John McMullin.

Long Wool

Grades and Crosses, including Cotswilds, Leicesters.

Ewe, 2 yrs or over—1, Murdock MacKeigan, Coxheath; 2 and 3, Nelson Beaton.

Ewe, over 1 yr.—1, Wilson Gillis; 2, Nelson Beaton.

Ewe, Lamb—1 and 3, Nelson Beaton; 2, Murdock MacKeigan.

Pen, 2 Ewes, 2 Lambs—1, Nelson Beaton.

Medium Wool

Including Southdowns, Shropshires, Oxfords, Etc.

Ewe, 2 yrs. and over—1, D. J. McKenzie; 2, John McMullin; 3, W. M. Hill.

Ewe, over 1 yr.—1, Elbridge Hill; 2, D. J. McKenzie; 3, Angus J. McDonald, Beechmont North.

Ewe Lamb—1, Murdock MacKeigan, Coxheath; 2, D. J. MacKenzie; 3, Angus J. McDonald.

Pen, 2 Ewes, 2 Lambs—1, D. J. McKenzie; 2, Elbridge Hill; 3, Angus J. McDonald.

Fat Sheep

Fat Ewe—1, W. J. Moffatt, North

Sydney; 2, Murdock MacKeigan; 3, Elbridge Hill.

Fat Ewe Lamb—1, W. J. Moffatt; 2, Angus J. McDonald; 3, Murdock MacKeigan.

Special prize for Best Pen Pure Bred Sheep, given by D. A. Cameron, M. P. P., Sydney, C. B.—Elbridge Hill, Point Edward.

SWINE

Berkshire

Boar, 1 yr. or over—1, George V. Oland, Coxheath.

Sow, 1 yr. or over—1 and 3, George V. Oland; 2, D. J. MacKeigan.

Sow, under 6 mos.—1, Murdock MacKeigan, Coxheath.

Best Herd, Boar, 3 Females, 2 of which must be over 6 mos.—1, George V. Oland.

Yorkshire

Boar, 1 yr. or over—1, eGorge V. Oland.

Boar, under 1 yr.—1, George V. Oland.

Sow, 1 yr. or over—1, H. A. Moffatt & Son; 2, George V. Oland.

Sow, under 6 mos.—1 and 2, Munn Bros., Leitches Creek; 3, George V. Oland.

Sow and Litter—1, George V. Oland.

Best Herd Boar and 3 Females—1, George V. Oland.

Chester White

All prizes in this class won by George V. Oland.

Any Other Pure Breed

Boar, 1 yr. or over—1, J. J. Gillis, East Bay.

Sow, 1 year or over—1 and 2, George V. Oland.

Grades and Crosses

Sow, 1 yr. or over—1, Lorne Boutilier, Sydney River; 2, George V. Oland; 3, P. McMahon, Sydney River.

Sow, under 6 mos.—1, W. Drysdale, Sydney; 2, Wallace Landry, Sydney; 3, Munn Bros.

Sow and Litter—1, George V. Oland.

Fat Hog, Sow or Barrow, 1 yr. and over—1 and 2, George V. Oland.

Fat Hog, Sow or Barrow, under 6 mos.—1, W. Drysdale; 2, George V. Oland; 3, Murdock MacKeigan.

POULTRY

Brahmas, Light or Dark Cockerel—2, J. E. McNally, Sydney, C. B.

Pullet—2, J. E. McNally.

Barred Plymouth Rocks, Cock—1, M. W. Ross & Son, Sydney Mines

Hen—1 and 2, M. W. Ross; 3, James D. Hartigan, Whitney Pier, Sydney.

Cockerel—1 and 2, Robert McDonald, Sydney; 3, James McNally.

Pullet—1, 2 and 3, Robert McDonald.

White Plymouth Rocks, Cock—1 and 2, J. Douglas Lawly, Glace Bay.

Hen—1 and 2, R. M. Jackson, Jacksonville, C. B.; 3, J. Douglas Lawly.

Cockerel—1 and 2, R. M. Jackson; 3, J. Douglas Lawly.

Pullet—1 and 2, R. M. Jackson; 3, J. Douglas Lawly .

White Wyandottes, Cock—1, M. W. Ross & Son; 2, Wm. C. Nicholson, Coxheath.

Hen—1 and 2, M. W. Ross & Son; 3, Wm. C. Nicholson.

Cockerel—1 and 2, Alex. C. Morrison, Sydney.

Single Comb Rhode Island Reds, Cock—1, Arthur R. Richardson, South Bar, Sydney, C. B.

Hen—1, Arthur R. Richardson.

Cockerel—1, Arthur R. Richardson; 2, Lorne Boutilier, Sydney River.

Pullet—1, Arthur R. Richardson; 2 and 3, Lorne Boutilier.

Single Comb White Leghorns, Cock—1, Georgina MacLennan, Sydney River; 2, Roger M. Lewis, Coxheath.

Hen—1, 2 and 3, M. W. Ross & Son.

Cockerel—1, Charlie Green, Westmount; 2, Wm. C. Nicholson, Coxheath; 3, M. W. Ross & Son.

Pullet—1, Charlie Green; 2, Lorne Boutilier; 3, M. W. Ross & Son.

Single Comb Brown Leghorn, Cockerel—1 and 2, J. Douglas Lawly.

Rose Comb Brown Leghorns, Cock—1, M. W. Ross & Son.

Hen—1, 2 and 3, M. W. Ross & Son.

Cockerel—1 and 2, J. Douglas Lawly.

Jullet—1, J. Douglas Lawly.

Black Minorcas, Hen—1 and 2, M. W. Ross & Son.

Cockerel—1, J. E. McNally; 2, B. A. Lewis, Sydney River.

Pullet—1, B. A. Lewis; 2, J. E. McNally.

White Minorcas, Cock—1, M. W. Ross & Son.

Hen—1, 2 and 3, M. W. Ross & Son.

Hamburgs, all varieties, Cock and Hen—2, M. W. Ross & Son.

Polands, Hen—1, J. Douglas Lawly.

Single Comb Mottled Anconas, Hen—1 and 2, M. W. Ross & Son.

Games, Cockerel—1, J. E. McNally.

Pullet—1, J. E. McNally; 2, B. A. Lewis, Sydney River.

Any other variety, Cock—1, J. Douglas Lawly.

Hen—1, J. Douglas Lawly.

Cockerel—1, J. Douglas Lawly.

Pullet—1 and 2, J. Douglas Lawly.

Game Bantams, Cock—1, J. Douglas Lawly.

Hen—1, J. Douglas Lawly; 2 and 3, M. W. Ross & Son.

Cockerel—1, M. W. Ross & Son.

Pullet—1, 2 and 3, M. W. Ross & Son.

Black Cochin Bantams, Cock—1, J. Douglas Lawly.

Hen—1, 2, J. Douglas Lawly.

Breeding Pens

Adult Birds, Rhode Island Reds—1, Lorne Boutilier.

Any Other Variety—1, J. E. McNally; 2, Roger M. Lewis; 3, Lorne Boutilier.

GEESE

Toulouse, male, senior—1, H. A. Moffatt & Son, Grove Point.

Toulouse, male, junior—1, H. A. Moffatt; 2, Mrs. John J. Neville, Whitney Pier, Sydney.

Toulouse, Female, senior—1, H. A. Moffatt.

Toulouse, Female, junior—1, H. A. Moffatt; 2, Mrs. John J. Neville.

Male, any other variety, senior—1, Mrs. John J. Neville.

Male, A. O. V., junior—1, Mrs. John J. Neville.

Female, A. O. V., senior—1, Mrs. John J. Neville.

Female, A. O. V., junior—1, Mrs. John J. Neville.

DUCKS

Pekin Male, senior—1, Harry F. Lewis, Sydney River; 2, H. A. Moffatt & Son; 3, Georgina MacLennan.

Pekin Male, junior—1, Harry F. Lewis.

Pekin, Female, senior—1, Harry F. Lewis; 2, Georgina MacLennan; 3, H. A. Moffatt & Son.

Pekin, Female, junior—1, Harry F. Lewis.

Pet and Fancy Stock

Pair Rabbits—1, Mrs. S. A. Ritchie, Sydney; 2, Roland McDonald, Sydney; 3, David Crawford, Sydney.

DRESSED POULTRY

Pair Fat Fowls—1, Mrs. E. J. Johnson, George's River; 2, Mrs. H. A. Moffatt, Groves Point.

Pair Fat Chickens—1, Mrs. E. J. Johnson.

Pair Fat Ducks—1, Mrs. H. A. Moffatt.

Fat Goose—1, Mrs. H. A. Moffatt.

EGGS

Heaviest and best doz. White Eyys—1, Mrs. Mary Beaton, Coxheath; 2, Murdock MacKeigan, Coxheath.

Heaviest and best doz. Brown Eygs—1, R. M. Jackson, Jacksonville; 2, Munn Bros., Leitches Creek; 3, Murdock MacKeigan.

BUTTER

Best Crock of Tub Butter, 15 lbs.—1, Mrs. D. MacLennan, Upper Middle River, 94; 2, Mrs. E. J. Johnston, George River, 93.5; 3, Mrs. R. W. Munroe, Salem Road, 91.5.

Best Butter in print—1, Mrs. E. J. Johnston, 93; 2, H. P. MacKenzie, Blackett's Lake, 92.5.

Butter, granular, made in private dairy—1, H. P. MacKenzie; 2, Mrs. E. J. Johnston.

Butter, fancy display—1, Mrs. D. J. MacDonald, Howie Centre, Sydney Forks, C. B.

GRAIN AND SEED

Best ½ bush. Wheat, White Spring—1, Charles Andrew, Coxheath.

Best ½ bush. Wheat, Red Spring—1, John McMullin, George River.

Best ½ bush. Barley, 2 row—1, John McMullin.

Best ½ bush. Oats, White—1, Charles Andrew; 2, David Andrews; 3, John McMullin.

½ bush. Oats, Black—1, Nelson Beaton.

½ bush. Buckwheat, Silverhull—1, John McMullin.

Hops—1, Mrs. Everett McLean, Sydney; 2, R. M. Jackson, Jacksonville, C. B.; 3, Mrs. Harriet Clarke, Coxheath.

Best Sheaf Wheat, white—1, Charles Andrews; 2, H. A. Moffatt & Son, Groves Point; 3, David Andrews.

Best Sheaf Wheat, Red—1, D. H. MacKay, Glace Bay; 2, John McMullin; 3, Wilson Gillis.

Sheaf White Oats, 7 in. in diam.—1, Charles Andrews! 2, Mrs. W. J. Moffatt; 3, John McMullin.

Sheaf Black Oats, 7 in. in diam.—1, Nelson Beaton; 2, Mrs. W. J. Moffatt.

Sheaf Barley—1, Mrs. W. J. Moffatt; 2, M. S. Currie, Grand Mira South; 3, Jihn McMullin.

Sheaf Timothy—1, Charles Andrews; 2, Mrs. W. J. Moffatt; 3, Wilson Gillis.

Pole Beans, 1 pole as grown—1, Malcolm McLean; 2, John McMullin.

Timothy—1, Charles Andrews; 2, David Andrews.

FIELD ROOTS

Potatoes

Round whilte type such as Irish Cobbler.—1, Wilson Gillis, Georges River; 2, H. P. McKenzie, Blackett's Lake; 3, David Andrews, Coxheath; 5, Nelson Beaton, Cox Heath.

Oval white top, such as Green Mt., Carmen, etc.—1, Wilson Gillis; 2, David Andrews; 3, Charles Andrews;

Long white type, such as Burbank, etc.—1, David Andrews; 2, Nelson Beaton; 3, John McMullin.

Rose type, such as Early Rose, etc.—1, Wilson Gillis; 2, John McMullin; 3, Malcolm McLean, Sydney; 4, M. W. Ross & Son, Sydney Mines.

Red Skinned variety.—1, David Andrews; 2, Nelson Beaton; 3, M. D. Curry, Mira.

Dark Skinned variety.—1, M. W. Ross & Son; 2, John McMullin; 3, W. M. Hill, Point Edward; 4, H. P. McKenzie.

Turnips

Swede Type, table use.—1, M. W. Ross & Son; 2, John McMullin; 3, H. A. Moffatt & Son; 4, Munn Bros.; 5, Mrs. E. J. Johnson, Georges River.

Swede type, Purple Top, for feeding.—1, John McMullin.

Swede Turnips, Bronze Top.—1, John McMullin.

Aberdeen Yellow Turnips.—1, John McuMllin.

Greyston or White Globe Turnips.—1, H. A. Moffatt & Son.

Mangolds, Long Red.—1, Harry F. Lewis; 2, John McMullin.

Mangolds Yellow Globe.—1, John McMullin.

Mangolds, Long Yellow.—1, John McMullin.

Mangolds, A.O.V.—1, John McMullin.

Sugar Beets for Feeding.—1, Harry F. Lewis; 2, John McMullin; 3, Chas. Andrews.

GARDEN VEGETABLES

Heaviest Head Cabbage.—1, Murdock MacKeigan, Coxheath; 2, Chas. Andrews, Coxheath; 3, David Andrews, Coxheath.

Collection Tomatoes.—1, C. W. Moffatt, North Sydney.

Largest Collection Herbs.—1, C. W. Moffat; 2, Mrs. Harriet Clarke, Coxheath; 3, H. A. Moffat & Son, Groves Pt.

Largest Squash, any variety.—1, Harry F. Lewis, Sydney River.

Collection from any one farm.—1, John McMullin, Georges River.

Carrots, Long Red.—1, Mrs. Everett McLean, Sydney; 2, C. W. Moffatt; 3, Frank McNeil, Sydney.

Carrots, Half Long Red.—1, Malcolm McLean, Sydney; 2, Alex. McLean, Sydney; 3, Mrs. Eeverett McLean.

Carrots, Short Red.—1, H. A. Moffat & Son; 2, Harry F. Lewis; 3, Chas. Andrews.

Carrots, White.—1, C. W. Moffatt, 2, John McMullin; 3, M. S. Currie, Grand Mira.

Beets, Long Red.—1, C. W. Moffatt; 2, Charles Andrews.

Beets, Turnip Blood.—1, Harry F. Lewis; 2, Charles Andrews; 3, David Andrews.

Beets, Egyptian—1, John McMullin; 2, David Andrews; 3, Charles Andrews.

Parsnips, any variety.—1, A. Southby, Sydney; 2, Malcolm McLean; 3, C. W. Moffatt.

Onions, Yellow.—Harry F. Lewis; 2, Charles Andrews; 3, C. W. Moffatt.

Onions, white.—1, Mrs. Everett McLean; 2,C. W. Moffatt.

Onions, red.—1, C. W. Moffatt; 2, John McMullin.

Onions, pickling.—1, C. W. Moffatt; 2, Charles Andrews; 3, M. W. Ross & Son.

Celery, white or yellow.—1, J. E. Burchill, Sydney; 2, Malcolm McLean; 3, John McMullin.

Celery, red or pink.—1, C. W. Moffatt.

Cauliflower.—1, Mrs. W. J. Moffatt, North Sydney; 2, Harry F. Lewis; 3, Charles E. Lewis, Coxhead.

Cabbage, flat shaped.—1, Murdock MacKeigan; 2, Harry F. Lewis; 3, Challes Andrews.

Cabbage, conical.—1, Charles Andrews; 2, David Andrews.

Cabbage, round.—1, Charles Andrews; 2, Murdock MacKeigan; 3, Harry F. Lewis.

Cabbage, Red.—1, David Andrews; 2, Charles Andrews.

Cabbage, Savoy—1, Charles Andrews; 2, David Andrews.

Tomato, Red.—1, Harry F. Lewis.

Cluster Tomatoes.—1, C. W. Moffatt 2, John McMullin; 3, Harry F. Lewis.

Melons for preserving.—1, Wilson Gillis.

Cucumbers, white spine.—1, M. W. Ross & Son; 2, H. T. Moffatt & Son; 3, David Andrews.

Cucumbers, long table variety.—1, David Andrews; 2, Harry F. Lewis,

Cucumbers, pickling.—1, John McMullin; 2, Wilson Gillis; 3, M. W. Ross & Son.

Cucumbers for seeding.—1, David Andrews; 2, Harry F. Lewis; 3, M. W. Ross & Son.

Ears Corn, yellow.—1, C. W. Moffatt

Lettuce.—1, Miss Sadie McLean, Sydney; 2, C. W. Moffatt; 3, Mrs. D. E. Read, Sydney.

Lettuce, cabbage or heading.—1, Harry F. Lewis; 2, C. W. Moffatt; 3, Frank McNeil, Sydney.

Radish, round shaped.— C. W. Moffatt; 2, Harry F. Lewis; 3, John McMullin.

Radish, long.—1, John McMullin; 2, C. W. Moffatt; 3, Harry F. Lewis.

Radish, olive shaped.—1, C. W. Moffatt; 2, Harry F. Lewis.

Peas ,in pod and shell.—1, John McMullin; H .A. Moffatt & Son; 3, Jas. Marnell, Whitney Pier, Sydney.

Beans, white, half in pod, half shelled.—1, Frank E. Jackson, North Sydney; 2, Mrs. Everett McLean; 3, N. S. Currie.

Leeks.—1, C. W. Moffatt.

Squash, Boston Marrow.—1, C. W. Moffatt; 2, Alex, McLean.

Squash, Hubbard.—1, Wilson Gillis; 2, Mrs. Charles M. Hill, Sydney; 3, Alex. McLean.

Squash, Brook Neck.—1, John Mcl

Mullin; 2, George V. Oland; 3, Chas. E. Lewis.

Squash, any variety.—1, Harry F. Lewis.

Vegetable Marrow.—1, Mrs. Charles M. Hill; 2, A. Southby; 3, David Andrews.

Pumpkins for table use.—1, Charles Andrews; 2, P. McMahon, Sydney River; 3, Harry F. Lewis.

Pumpkins, largest for feeding.—1, P. McMahon.

String Beans.—1, Mrs. W. F. MacCurdy, Baddeck; 2, James Marnell.

HORTICULTURE

Best collection 6 varieties—1, Munn Bros., Yeithes Creek; 2, M. D. Currie, Grand Mira South; 3, H. P. MacKenzie, Blackett's Lake.

Best collection fruit from one farm artistically arranged.—1, Munn Bros.

Best box Apples, packed for market.—1, Mrs. E. J. Johston, Georges River.

Collection Plums.—1, Mrs. M. J. Johnston; 2, M W. Ross & Son, Sydney Mines; 3, John McMullin, Georges River; 4, Roger M. Lewis, Coxheath.

SPECIAL PRIZES

Offered by Cross Fertilizer Co., Sydney for 4 Counties of Cape Breton

Best collection Sheaf Wheat, Barley, Oats and Timothy.—Mrs. M. J. Moffatt, Little Bras d'Or.

Best collection field oats and garden vegetables.—John McMullin, Georges River.

Best herd pure bred cattle, any breed.—M.W. Ross & Son (Ayrishies.)

For sweepstakes pure bred cow in dairy class.—J. B. Musgrave, North Sydney.

Offered by J. E. Burchell, Sydney

Best five heads Celery.—J.E. Burchell, Sydney.

Best two heads Cauliflower.—Mrs. W. J. Moffatt, Little Bras d'Or.

Offered by J. C .Douglas, M.P., Glace Bay

Best crock Dairy Butter.—Mrs. D. McLean, Upper Middle River.

Offered by J. F. Merchant & Son Sydney

Best collection field roots and garden vegetables from any one farm in C. B. Island.—John McMullin.

Offered by J. Fisher Grant

Best Carriage Horse in Harness.—David Andrews, Coxhead.

Offered by H. A. Cameron

Best Pen Pure Bred Sheep.—Elbride Hill, Point Edward.

Best collection Seed grown on one farm.—John McMullin.

Offered by Thompson & Sutherland Sydney

To pupil taking largest number of prizes in the Rural School Garden.—Earl Moffatt, Little Bras d'Or.

Offered by F. J. Morley, Sydney

To pupil from the city scools having best display of vegetables.—Manverly Hill, Sydney.

Offered by Oak Hall, Sydney

For sweepstakes cow in pure bred class.—J. B. Musgrave, North Sydney.

Offered by Harrington's Chine Store, Sydney

To exhibitor winning largest number of prizes in dressed poultry.—Mrs. H. A. Moffatt, Groves Point.

Offered by Crowells, Ltd, Sydney

To the boy or girl from city School sowing best spring pig any breed or grade.—Mauverly Hill.

To the boy or girl from Rural School showing best spring pig, any breed or grade.—1, Janie McKenzie, Ball's Creek; 2, Earl Moffatt, Little Bras d'Or.

Offered by Neil Ferguson

For best grade Ayrshire heifer over 12 months, up to 18 months.—1, John Redmond, North Sydney.

Offred by A. M. McLeod, Sydney

Best high grade Mare or Gelding, any age, bred in Cape Breton County. —Shaw & Mason, Sydney.

Offered by Eastern Jewellery Co. Sydney

Mare or Gelding, 4 years old or upwards, Agricultural class, over 1100 lbs.—Silver Cub, Eugene Doncaster, Sydney.

Offered by McDonald Bros.

To exhibitor winning the most first prizes in Pure Bred Cattle.—M. W. Ross & Son.

Offered by T. Eeaton & Co., Toronto

Best 10 lbs. Butter by a maker who has not won an Eaton prize.—Mrs. McLennan, Upper Middle River.

The Chatham Exhibition

The eighth Agricultural and Industrial Fair and Live Stock Show of the Miramichi Agricultural Exhibition Association, was held on their spacious well appointed grounds, at Chatham, on September 22nd to 26th, with the contests open to all Canada. This made the fourth fair, of this nature, held in the Province of New Brunswick this year.

Mr. Geo. E. Fisher, the genial, efficient manager of the former Chatham shows, was again in charge of affairs, and that fact alone was sufficient guarantee to exhibitors, and the general public that no stone would be left unturned that would tend towards the success of the fair. Mr. Fisher is a thorough agriculturist, who practices what he preaches, and as such he has the unbounded confidence of the good farmers of Northumberland County. His example, like that of such men as R. A. Snowball, Henry Gordon, Jas. Bremner, the Traers, the Dickson's, the White's, the Johnson's and others is a steady impetus to the development of agriculture on the banks of the majestic Miramichi, a county rich in possibilities—the combined resources of the farm, the forest and the sea.

The fair was well attended and despite the fact that late harvests mitigated against the show, which was not up to the standard of the Miramichi exhibition of 1915, yet there was at Chatham one of the two best displays of agricultural products seen at any Maritime Exhibition this year. The Traer and Fisher collections of garden produce could not be passed by the visitors withiut evoking expressions if admiration. The garden vegetables display made by the pupils of the Chatham schools, as well as their handiwork in Manual Training and Domestic Science, easily outclassed similar displays at all the other shows this year.

There was also a good display of agricultural products. The showing in grains and potatoes was particularly commendable.

Dairy produce and household arts made a splendid showing. A frosted cake, a miniature model of the Miramichi Fair Buildings made and exhibited by Mrs. Pallen, of Chatham, displayed exceptional ingenuity and excellent workmanship. This toothsome cake was sold at the close of the fair for the benefit of Hotel Dieu Hospital.

The domestic and fancy work departments showed that the good ladies of Miramichi county are experts in the arts that tend to comfortable home making.

The various booths in the main building were tastily decorated. Among the various features displayed therein were teh Apiarian exhibits of the New Brunswick Department in charge of Mr. L. T. Floyd, the provincial apiarist, who is ever ready to spread the gospel of the honey bee and whose activities among the bee keepers of the province is responsible for a great increase in the output of the apiaries of the province this year, which will add hundreds of dollars to the income from the farms. Mr. J. W. Vanderbeck of Millerton also made an interesting exhibit of bees and bee products.

Mr. A. G. Turney, the provincial horticulturist, staged the splendid exhibit of apples which was shown at Fredericton during the previous week. The Dominion Experimental Farms and the Dominion Live Stock and Poultry Divisions had their instructive exhibits in position with competent men in charge, who were kept busy giving the inquiring public a lot of valuable information in their respective departments.

The live stock show so far as it went had quality to burn, but there were too many empty stalls.

In the beef classes, R. A. Snowball's Shorthorns and the Prince Edward Island herd of Aberdeen Angus cattle owned by Horne Bros., were out in good condition, despite the fact that they were getting exhibition weary, after their tour of the other fairs.

McIntyre Bros. and John Retson were on hand with their Ayrshire herds. Messrs. Libby and Jolly from the Province of Quebec showed their Brown Swiss cattle. J. R. Semple & Son, Truro, showed Jersey's, and Dickie Bros. showed their Holsteins. Jas. Bremner of Chatham showed a splendid aged Holstein bull.

There was a nice showing of sheep, including the upper Province, Prince Edward Island and Nova Scotia uocks, showed at Fredericton during the previous week.

The Swine Classes were not very extensively filled. Semple & Son made a good showing wtih their Berkshires.

The showing in utility poultry was fair.

The judges were:—

Horses—Alex. Ness.

Beef Cattle and Sheep—John Guardhouse.

Poultry—Mr. Clark.

Dairy Cattle—W. W. Ballantyne.

Agricultural Products—O. C. Hicks.

Dairy Products—H. B. Coleman.

Honey—L. T. Floyd.

Prizes in Egg Laying Contest at Charlottetown

When the Laying Contest commenced last November, there was a considerable list of valuable prizes donated for the winners. Some of these prizes have been awarded throughout the contest, but the bulk of them, and the most valuable, cannot be donated until the contest closed, September 30th.

Among the prizes won during the contest were "Ribbons" donated by the Gold Stamping Co., Montreal, given to the pen in each class showing the highest revenue each month during the contest. The ribbons were won by:

Heavy Class: November, James Speirs, Tracadie, P. E. I.; December, January and July, Thomas Adamson, Laurel, P. Q.; February and April, H. H. Dowton, 195 Cowan Ave., Toronto; March, P. E. Aird, Montreal; May and August, A. T. Reed, Rolling Dam, N. B.; June, Miss Molly Neales, Hartland, N. B.

Light Class: November, December, February and March, C. B. Chapman, Amherst, N. S.; January, William J. McKinnon, Truro, N. S.; April, May and June, F. W. E. Haslam, Bradalbane, P. E. I.; July, Mrs. Gordon McMillan, North River, P. E. I.; August, Rev. J. J. McDonald, Kinkora, P. E. I.

Four bags Purina Chick Chowder were donated by the Chisholm Milling Co., Toronto, to the pen giving the highest record for each of the four months, November, December, January and February. This prize was awarded as follows: November, James Speirs; December and January, T. J. Adamson; February, William J. McKinnon.

"Morgan's Roup Cure" donated by A. J. Morgan, London, Ont., to the hen each month that lays the greatest weight of eggs, won as follows: November, L. H. Warren, St. Lambert, P. Q.; December and July, T. J. Adamson; January, William J. McKinnon; April and May, H. H. Dowton; March, C. B. Chapman; June, F. W. E. Haslam; August, A. T. Reed.

Cash prize, $10.00 donated by A. P. Hillhouse, Foster, Que., to the pen giving the highest aggregate for the four winter months, won by T. J. Adamson.

The prizes to be donated at the close of the contest, and for some of which there is going to be a keen competition, are the following:

One $50.00 silver cup, one Candee Colony Brooder, valued at $60.00, one Root Cutter, $10.00, Bronze Medal, $5.00, one Cycle Hatcher, $10.00, one pen Barred Rocks, 8 pullets and one cockerel, $30.00, one pen of White Leghorns, 8 pullets and 1 cockerel, $25.00, one Feed Hopper, and cash prizes amounting to $35.00.

The new contest opens November 1, for which entries are rapidly filling. Further particulars regarding this contest may be had from J. A. Clark, Superintendent Experimental Station.

CALL FOR MORE HOGS

H. S. Arkell, Live Stock Commissioner, who has recently returned from a trip to Europe where he has reviewed the live stock market situation, has expressed his views, regarding Canada's position, in the October number of The Agricultural Gazette. He states that the London agents of our Canadian packers reviewed in disappointment the orders for Canadian goods—bacon, eggs, etc.—for which they could obtain but a tenth of the product they required. The unwarranted high price of hogs in Canada during the past month is but a reflection on the reputation of Canadian bacon, as compared with American, and demonstrates the effort of our packers to maintain their connection with old established clients in the face of short supplies. Since Denmark, within a year, will again be a factor on the bacon market our only security for the future is full production and such a substantial export supply as must command recognition by its volume and quality. Short hog production is unquestionably the most dangerous policy Canada can adopt. This is true of eggs as well as bacon.

ANOTHER 50 POUND COW

The Holstein-Friesian cow, Creampot Pontiac Korndyke, owned by Cole & Hicks, Granville, N. Y., has just completed a seven day record of 51.31 pounds butter and 861.00 pounds milk. This is the largest record ever made in the United States, and stands second in the world only that of the Canadian cow, Rolo Mercena DeKol, 51.93 pounds.

While the cows are on pasture is a good time to plan for lightening up their winter homes. Get rid of the dark places and the narrow corners, broken floors and ramshackle doors.

HORTICULTURE.

THE VITALITY OF "SEED" POTATOES.—NOW IS THE TIME TO PRESERVE IT

It is not customary in the fall for the average farmer to make any provision regarding seed potatoes for spring planting. That duty is generally left over till spring time arrives, and the potatoes chosen for planting are taken from what is left over from winter use. This practice, though common with farmers, is not conducive to best results in growing profitable potato crops. While a large share of the success in potato growing is due to the soil, manuring and climate in which they are grown, the quality of the seed has about as much influence on crop bearing as any other possible condition. One thing at least is true, that no good condition of soil or climate will suffice if the seed planted lacks vitality.

Difference Between "Seed" and Seed

Ia is the preservation of vitality in seed potatoes that is the first duty of the potato grower and fall time is the correct time to acomplish it. It is well known that seed potatoes taken from a northern or later climate are more productive than seed taken and planted in the district where grown. This is why seed are taken from northern Ontario in order to get better results when grown in the earlier distriits in the south.

The term "seed" when applied to the potato to be used for planting, is a misnomer, and in no way conveys the true idea of the strange reproduction that takes place in the plant. Seeds proper, are the fertliized ovule in all flowering plants, and when ripe fall out, and many species remain dormant in the soil for years till favorable condition arise, when they will burst with an activity that shows they have not in any way lost their vitality by ripening. But potato "seed" or tuber is more akin to the "cutting" or budding part of a plant which all horticulturists know requires different treatment from the seed of the same plant. Old and ripened wood does not make the best cutting for propagation, neither will ripened potatoes give the best results when planted. Irregularity in growing and many failures of sprouting in the field are the result of over ripened tubers set apart for crop growing.

The Time to Dig Seed Potatoes

In order, therefore, to get the best results in growing a full crop of potatoes farmers should dig up their seed potatoes, before they get over-ripened or into that condition which is commonly known as "dead eyed." where the ability to sprout is materially affected. This only refers to seed potatoes; the cooking qualities are not spoiled by leaving the rest of the crop till some time later. Taking up the seed before they are fully ripe will have the same effect as taking seed from a later to an earlier climate, as is now advocated for Canadian farmers.

Side by side with dairying in Ayrshire Scotland there is undertaken potato growing, and the way farmers there preserve the vitality of the seed for spring use is in conformity with this idea. Most of their early crops of potatoes are grown from boxed seed—that is potatoes sprouted in boxes before planting. The crop they produce is taken up early in the season, and a portion of the ground is again planted to grow seed potatoes. These never have time to mature before winter, but they are in the best state for sed purposes, and are preserved for that purpose alone. These immature tubers are in great demand in England and the more earlier districts, a demand has arisen with the pronounced benefit buyers get from this change of seed.

Storing Them in Winter

The securing of seed potatoes early from the field is not all that is required in conserving seed vitalily, as a proper place for storing them throughout the winter is necessary. The very worst plan for seed potatoes is to take them from a bin or cellar in the springtime where they have been kept in the dark without air circulation all winter. This treatment, though it does not spoil the tuber for culinary purposes, completely spoils it for seed purposes. So long as potatoes are kept free from frost and are fit for culinary use, the average farmer does not worry over its crop bearing qualities ,and this has perhaps more to do with the failures in potato growing that causes much surprise, as coming from an unknown source, after all due care has ben taken in soil cultivation and manuring. For the proper keeping of seed potatoes, they must have plenty of light and air. This is essential to their vitality when planted. Free from frost is not enough, but plenty of air and light must be added and without them the sprouting qualities of seed potatoes will be very much lessened. The part of the cellar that has most light in it should be reserved for seed potatoes as the final storing place in winter. It is a good plan when taking up the seed to leave them for a few hours to dry on the field before removing them to the pit or heap where they are pepared for cellar storage. Some straw or similar covering should be given them till they are ready to be taken to the cellar.

These precautions are of the utmost importance to crop production of the fololwing season. Each variety of potato has some trait in its character peculiar to itself which is a leading factor in securing the best results from the variety, but all varieties have the distinctive tendency to deteriorate if left to ripen till the advent of winter.

FEEDS THAT KILL BEES IN WINTER

In wintering bees it has always been recognized that the nature of the winter stores is an important factor in successful wintering, and the experiments have confirmed this. Experiments at the Central Experimental Farm indicate that clover honey (alsike and white clover) makes reliable stores for wintering, but poor results have followed the use of stores that granulate hard during the winter. A colony wintered on dandelion honey came out in the spring very weak; the honey had granulated hard and the bees had uncapped it but could use very little of it. In some years a mixed honey that comes largely from clover, sweet clover and other plants, granulates hard with the same result and causes heavy loss. Buckwheat honey has been found wholesome but some of the other honeys gathered in the fall have been found unwholesome, especially in marshy places in Nova Scotia, and have caused dysentery and death. In one season in Northern Ontario, the fall honey was not capped over and failed to ripen and soured, causing dysentery and heavy loss . Honey containing juices collected by the bees from over-ripe fruit killed a colony before spring, so also did cane syrup used as an exclusive food for wintering. Syrup made from refined sugar, two parts of sugar to one of water, fed to the bees in the early fall, has given fairly good results as an exclusive winter food, and has been found to be the best practical corrective ofr stores that are slightly unwholesome. Year after year at the Central Farm, colonies on natural stores that have been fed liberally with this syrup come out stronger in the spring than those that have wintered on the natural stores alone. Syrup made from raw cane sugar has given les satisfactory results than that made from refined sugar.—F. W. Sladen.

A SAVINGS ACCOUNT

It is always well to have a Savings Account upon which interest is regularly paid and from which you are free to draw at any time should you have a good opportunity to buy stock or feed. A Savings Account is Ready Money. 78A

THE CANADIAN BANK OF COMMERCE

PAID-UP CAPITAL - - $15,000,000
RESERVE FUND - - $15,000,000

Fruit Packages

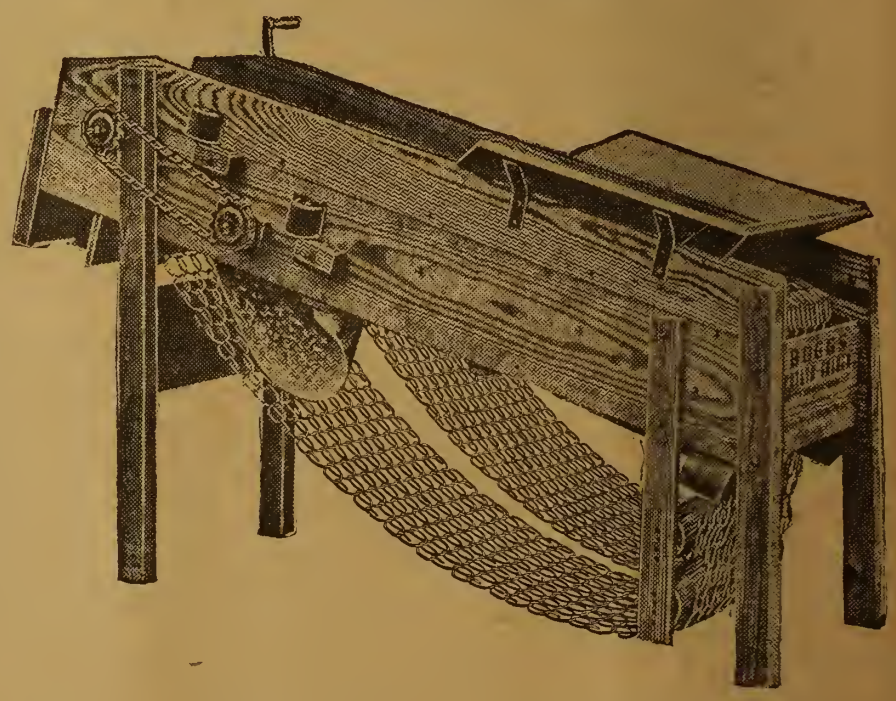
We Manufacture Strawberry Boxes and Crates for same, 6 qt. Baskets, Apple Boxes, Box Shooks, Apple Graders, Wheelbarrows. Now is the time to lay In a supply of Frult Packages for the coming season. We have a good stock on hand, order early and ensure prompt shlpment. Price on applicatlon to

Hantsport Fruit Basket Co., Ltd.

HANTSPORT, N. S.

BOGGS NO. 3 HAND GRADER

(Note self releasing bagholder)



"ASK THE MAN WHO OWNS ONE"

THE STANDARD GRADER

Make U. S. Government grades Nos. 1 and 2, besides eliminating culls and dirt.

Why sort by hand when you can do it so much easier, cheaper and better with BOGGS GRADERS?

LABOR IS HARD TO GET: SO IS MONEY.
'BOGGS' SAVES LABOR. YOU SAVE MONEY.
WIRE OR WRITE FOR DETAILS AND PRICES.

BOGGS POTATO GRADER CO., INC.
ATLANTA, N. Y., U. S. A.

STANDARDS FOR SHOW VEGETABLES

The following standards for show vegtables have ben adopted by the Manitoba Horticultural and Forestry Association:

Quality and uniformity, with size suitable for table use, govern all the awards.

Asparagus

Shoots should be thick, of medium length and uniform in thicknes, tender and fre from blemish.

Beans

Broad Beans—Straight, broad, well-formed pods, filled with large, tender beans. Free from disease. Size of bean and length of pod to be determining factors .

String Beans.—Pods should be long, straight, moderately broad, tender and free from disease. Pods should be uniform. Color according to the variety.

Beets

Long—Should be medium in size, smooth and free from side roots, gradually tapering from crown to tip, and firm in texture. Cross section cuttings should show fine dark red, tender flesh, free mrom white lines. Top small and compact. Roots should be uniform.

Round—Medium in size, firm flat, or round in shape, smooth, with a fine tap root. Flesh should be tender, firm. fine and of a dark red color. Roots should be uniform.

Cabbage

Early—Generally round or heart-shaped. The heads should have fair size, be heavy, firm, hard, free from insect injury or disease.

Late—Heads round or slightly flattened in shape, with a dense formation of dark green outer leaves, and inside leaves of a creamy color. Specimens should be heavy and have firm texture.

Red—Good shape (round or flat.) Dark red in color. Texture lrm and solid, with good weight. Specimens to be uniform.

Savoy—Good shape (round or flat.) Leaves close and compact, of a dark green color with a fine curl. Good weight.

Carrots

Red, long.—Roots should be long, straight and smooth, without any green at the crown; have a small compact top, be free from side roots, and gradually taper from crown to tip. Texture tender and crisp. Heart small with a large outer ring. Roots should be uniform.

Half long.—Half long, straight, free from side roots and gradually tapering, with or without blunt tip. Skin smooth . Cross-sections should show a small core and a large outer ring. Flesh should be tender and have a rich flavor. Roots should be uniform.

Short—Short, straight, of true ox-heart type. Smoothness and texture same as above.

Cauliflower

Head, large in size with a dense formation of flower, pure white in color and without small leaves in the head. Shape, round horizontally, with a nice, even, curving crown. Cauliflower should be exhibited trimmed.

FIT OUR FIGHTERS TO FARM

They Served You Well "Over There," You Help Train Them for Their Life Work Here.

The Soldier Settlement Board of Canada offers every eligible returned man who has ample farming experience an opportunity of becoming a farm owner. It is also ready to assist certain inexperienced men to learn the farming business.

Of the many thousands of applications that will be received by the Board during the next twelve months a considerable number will be from inexperienced men.

How You Can Assist Method of Training

Training centres have been established to give a limited number of totally inexperienced prospective soldier settlers preliminary practical experience. It is essential, however, that all inexperienced men complete their training by working with successful farmers who will share their experience with them.

Success Farmer: Your Opportunity

You only can assist our fighters to acquire the experience necessary to ensure their success as farmers| There is a duty devolving upon you to take as many as possible on your farm. By giving them the benefit of your experience and advice you will fit them successfully to operate farms of their own in the shortest possible time.

The Soldier Settlement Board needs and must have the co-operation of successful farmers in every Province of Canada in carrying on this work. Training allowances granted by the Board to assist in the maintenance of dependents . Will you afford the men an opportunity to gain experience? Men are waiting now. Take at least one of them for the winter.—The Soldier Settlement Board, Union Bank Building, Otawa, Ont. W. J. Black, Chairman.

A Correct Lubricant for every Farm Machine
For Gasoline Engines, Tractor, Auto or Stationary
POLARINE OIL
STANDARD GAS ENGINE OIL
For Kerosene Engines Tractor or Stationary
POLARINE OIL HEAVY
POLARINE OIL A
IMPERIAL KEROSENE TRACTOR OIL
IMPERIAL KEROSENE TRACTOR OIL EXTRA HEAVY
(Recommended by many tractor manufacturers)
For Open Bearings of Farm Machinery
PRAIRIE HARVESTER OIL
—very heavy body, resists cold, won't thin out with moisture
ELDORADO CASTOR OIL
—a thick oil for worn and loose bearings
For Steam Cylinder Lubrication, whether Tractor or Stationary Type.
CAPITOL CYLINDER OIL
—the standard product for steam cylinder lubrication
THRESHER HARD OIL
For Grease Cup Lubrication of Bearings, a clean solidified oil high melting point.
Successful Farmers are Well Posted on Lubrication
The fellows who are making the most money are usually the ones who have studied the question of lubrication, as well as other farm problems. A thorough knowledge of lubrication is worth hundreds of dollars per year on every Canadian farm.
You cannot expect service from your automobile, if it is poorly lubricated. Your tractor is poor property without proper lubrication. The two machines are unlike in structure and duties, and one kind of oil will not do for both. Be sure that you are using the oils and greases best suited for each machine and each moving part of your farm machinery.
From Imperial Farm Lubricants you can select the right oil for every purpose. All are high grade reliable products. All are correctly refined, from carefully selected crudes. All Imperial Farm Lubricants are made in Canada.
Imperial Farm Lubricants are put up in convenient sizes; one-half, one and four-gallon sealed cans, half barrels and barrels.
IMPERIAL OIL SERVICE
Our service is far more than the mere selling of our products. It follows our products to their work and insures as far as we can insure it, that each Imperial Product does the work for which it is bought. Ask the Imperial Oil man. There is one near you. His service is free and should be valuable.
IMPERIAL OIL LIMITED
Power · Heat · Light · Lubrication
Branches in all Cities

FALL PLOWING IN THE ORCHARD

(Experimental Farms Note.)

After the apples are harvested there is generally a slack time when orchard plowing can be done to advantage. Experience has indicated that shallow plowing is advisable in orchard practice and that it is unwise to go deeper than five to six inches and that the area close to the base of the tree should not be plowed deeper than three to four inches. There is as a rule little cultivation after the first of July, and from that time on even if cover crops are not grown, a natural growth of some sort will have been made. This growth when turned under affords practically as good mulch as if left on the surface, and the fact that the ground has been loosened up tends to prevent as deep freezing as if left compact, for the more compact the soil the deeper will frost penetrate it. Where root killing of trees is liable to occur, it may be wise to leave the cover crop mulch undisturbed as it assists materially in holding snow and as a result will give a better cover than if plowed in in the fall. Other than this there does not appear to be any disadvantages in fall plowing as to possible winter injury from root killing. The great advantage is that a certain amount of work is out of the way for next spring and should the spring be unfavorable for working land, the discing may be delayed much longer than it would be wise to delay plowing. Early orchard cultivation is of prime importance, and as it is usually necessary to plow once to work under accumulated vegetation, this should as far as possible be done in the fall, thus facilitating early spring work and hastening bacterial activty the next sprng —W. T. Blar, Supt, Expermental Staton, Kentville, N. S.

Minard's Liniment Co., Limited.

Gents,—A customer of ours cured a very bad case of distemper in a valuable horse by the use of MINARD'S LINIMENT.

Yours truly,
VILANDIE FRERES.

DAIRYING

COURTING THE COW'S MILK FLOW

Never hurry a cow or strike her or speak loudly or harshly. A gentle voice and a caressing touch are quite as potent as is digestible protein. If you so handle the cows that they are fond of you, you have learned one of the most important lessons that lead to profitable dairying. The most successful milk-producers are always in close touch with every cow in the herd. The mik-producer has to do with motherhood, in which affection always plays an important part. A cow's affection for the calf prompts the desire to give it milk if you gain her affection she will desire to give you milk. If you have not been in the habit of caressing the cows, the time to inaugurate the practice is when they approach the time of calving, as it is at that particular time when they take kindly to grooming and to gentle rubbing of the udder.

CARING FOR MILK AND CREAM

When milk or cream is allowed to cool naturally the process takes considerable time, and the material retains a great deal more animal odor, and so develops acid more quickly than when artificially cooled. Setting the cream can in a tub of water is too slow in effect; every dairyman should have a water cooler. Creamed cooled by water cooler as it leaves the separator has shown only 0.2 per cent, of acid in two days, while uncooled cream of the same origin has shown as high as 0.7 per cent. Cooled milk delivered in the cities is often 36 to 40 hours old before being consumed. Suppliers of milk to our cheese and butter factories often experience difficulty in keeping the evening's milk when it is uncooled until next morning, a period of about 16 hours.

Engine and separator in the same room.—This condition should not be allowed. Moreover a single partition between the two parts of the plant is not sufficient. A double partition is required, with openings to outer walls, so that fresh air can blow between the engine room and the separator room. Where a kerosene blow lamp is used in the same room as the separator it is found to almost invariably cause second grade cream. The milking machine releaser should be in the separator room. Milk should not run through the engine room in an open chute.

Failure to clean vacuum tank and vacuum pipes of milking machines.—In a number of machines the air required for pulsation is discharged into milk, also the action of the vacuum pump is intermittent; therefore any foul smell in the tank or pipes is carried into milk. Essential attention is required to be given to the pipe between the releaser bucket and the vacuum tank. The vapor from the milk is carried into this pipe and condenses, and if the pipe is not cleaned daily it soon gets very foul. All right angle piping should be coupled with cross sockets so that a brush can be run through the pipes in both directions. Leave the vacuum tank open between milkings.

Lack of ventilation in separator room.—To remedy this condition air should be brought in at the bottom and let out at the top, bird netting being put over the openings. Just as is the smell in the dairy, so is the smell of the cream when delivered. If there is no ventilation in the dairy the cream cannot fail to take up any smell. A window at one side with a door on the other side is not sufficient as a certain amount of dampness is always found below the level of the window. Pollard, calf meal. harness, milking overalls, etc., impart their smell to cream; nothing but dairy utensils should be kept in the dairy. If cream is removed after separating in an impure atmosphere the effect is not so bad as when it is left to stand under such conditions, but the same damage is really done when the cream is leaving the separator.

Muddy surroundings.—Cows should not be allowed to come near the separator room. More or less smell always arises from muddy surroundings. It is well nigh impossible to milk cows without ever making mud, but it is possible and only a matter of arrangement to have no mud around the separator room.

If a dairy farmer neglects to carry out any one of the foregoing five factors it is not possible for him to deliver milk or cream as good as the cow gives it to him. I have met with dozens of cases where individual farmers were carrying out all but one factor and yet had second grade cream. By attending strictly to these five essentials, it will be only an accident if the farmer gets second grade product.

BEST QUANTITIES OF CONCENTRATES FOR DAIRY CATTLE

Experiment at Cap Rouge.—Twenty seven cows were used, and the experiment was run for five seasons, during an average of 143 days per year, starting at the beginning of November. Animals were chosen of nearly the same weights and production, and they were all given the same quantities of roughage. One lot received as much meal as would be eaten clean, which came to one pound per 2.18 pounds of milk, another one got one pound of meal per 4 pounds of milk, and the last bunch one pound of meal per 8 punds of milk. No attempt was made to adjust the quantity of meal for each cow in a certain lot, as there was not enough difference in the percentage of fat to warrant doing so.

More Meal ment more Milk.—One result was very clear; that the more meal was fed, the more milk was given. If the quantity produced by the lot getting one pound of meal per 8 pounds of milk is taken as 100, that produced by the lot getting one pound of meal per pounds of milk would be 111, and that produced by the lot getting one pound of meal per 2.18 pounds of milk would be 128.

Act according to local conditions.—The valuations were as follows: Hay $14.00 per ton, roots and silage $4.00 per ton, meal 2½ cents per pound, butter 60 cents per pound, skim milk 50 cents per 100 pounds. The results showed that if the profit from the cows getting one pound of meal per 8 pounds of milk is taken as $1.00, it was 1.01 for the ones getting one pound of meal per 4 pounds of milk, and $1.07 from the ones getting one pound of meal per 2.18 pounds of milk. However, each farmer must see for himself, acocrding to prices in his locality, if it will pay him, or not, to feed meal heavily to his dairy cattle.—GUS. LANGELIER, Supt. Experimental Station, Cap Rouge, Que.

ENGINES IN DAIRY

A great many dairymen would save much time and labor and make more money on their farms if they would employ more up-to-date machinery. This is especially true as far as power is concerned. On farms where the cream separator, churn, etc., are operated by hand the value of the gasoline or oil engine is surely unknown. The engine has advantage over practically all machinery since it will run a number of different machines at smal expense and do the work of from one to a dozen men. It is ready for work at any time, day or night, and never gets tired. It adds much more efficiency to the machine or machines to be operated than hand or animal power and does its work evenly and steadily. It is easily operated. The women folks can run it as well as the man.

An engine will run the separator and other machinery much better than can be done by hand and do the work so cheaply that the cost of operation can hardly be considered.

One may think he hasn't enough use for an engine to warrant his buying one but after a man buys an engine the more he uses it the more tasks he finds that it is capable of doing. The first cost of an engine is small, considering its value, and with good care it will last and give good service for years. There are many different makes on the market. Any reliable manufacturer puts out a good engine but before buying get the business literature from the different manufacturers, as such literature is very helpful to a prospective purchaser in making a suitable selection.

Cletrac

TANK-TYPE TRACTOR

Does the Belt Work on the Farm

THE Cletrac not only does all the "pulling" on the farm better and faster and cheaper than horses, but it will take the place of a gas engine as well.

20 h p. on the belt pulley to fill the silo, saw wood, chop feed, mix cement. Steady, economical power which adds greatly to the usefulness of your tractor.

The Cletrac works more days in the year. It does the plowing—does it well and quickly. But it follows up. It does the discing, harrowing, seeding, harvesting.

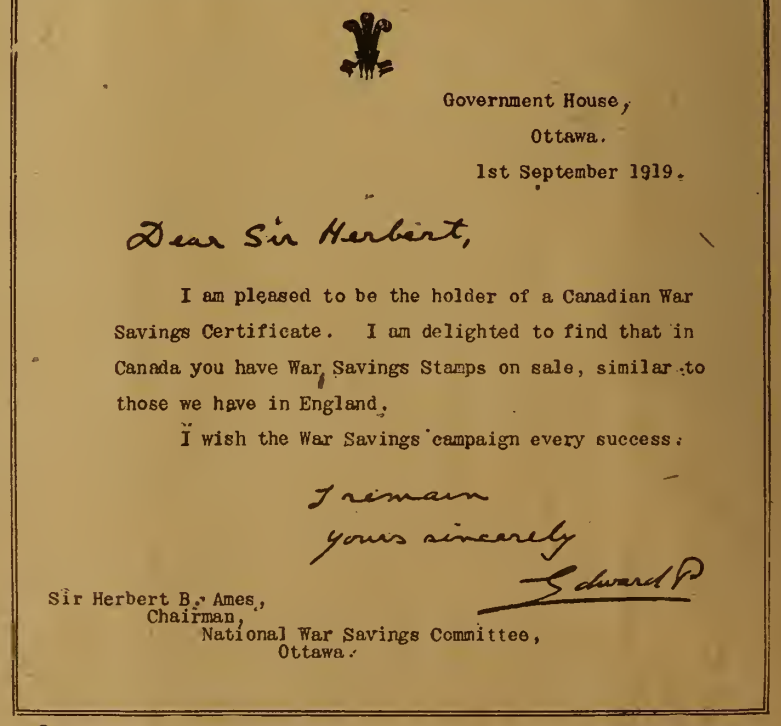
Laying its own track, the Cletrac travels over all kinds of ground, going in all kinds of weather.

It eats up your work at 3 to 3½ miles an hour.

There are a lot of things that you want to know about tractor farming which you will find answered in our 32-page illustrated book "Selecting Your Tractor." Write for it to-day. It's free.

Gentlemen:
After seeing the Cletrac Tractor pulling 3 ten-inch plows on my farm upon which a horse could not work on account of the wet condition of the soil, I came to the conclusion that beyond a doubt the Cletrac was the best all-year-round Tractor on the market. I have absolutely no trouble whatever.
Wishing you success, I am,
Very truly yours.
Norman Counsell.

The Cleveland Tractor Co. of Canada, Ltd.
Windsor, Ont.



Government House,
Ottawa.
1st September 1919.

Dear Sir Herbert,

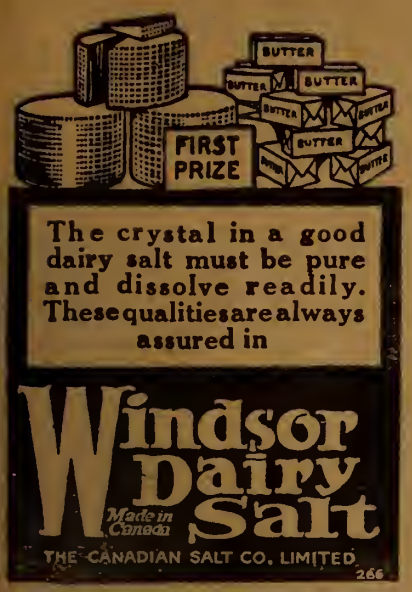
I am pleased to be the holder of a Canadian War Savings Certificate. I am delighted to find that in Canada you have War Savings Stamps on sale, similar to those we have in England.

I wish the War Savings campaign every success.

I remain
yours sincerely
Edward P

Sir Herbert B. Ames,
Chairman,
National War Savings Committee,
Ottawa.

Facsimile of the letter sent to the Chairman of the National War Savings Committee by His Royal Highness the Prince of Wales, at the time he purchased in Ottawa a Canadian War Savings Certificate containing the full number of ten War Savings Stamps.



HOW MILKING SHOULD BE DONE TO GET THE LARGEST MILK FLOW

Do not go near the barn at milking time if your temper is anyway ruffled . Wait till you cool down a bit and it will pay you. Remember that the first act towards the process of milking takes place when the milker takes his pails and heads for the cow stable. When doing this he should at the same time throw off any grouch that he may have in mind, forget any anger he may have stored up, put on a bright, round face, and not think how hot the air is, or this current of heat in him may ignite with some fault of the cow he approaches and set the dogs of war loose.

Calmness and kindness is a good help for the person who milks. No one should dare or take chances of walking up to a cow and touch her before sounding a warning of his approach. The cow has light feet and even though her hoofs are split she can spot a man fairly well just as the horse, if not warned of his nearness at which she suddenly frightens. It is easy to say a word or two when going near a beast of any kind thereby letting it know of one's presence so that a touch wil not scare it. Especially should this be done in the task of milking. Of course, if a cow sees a person coming and is used to being milked, she may understand what is to happen, but she understands kind words. Why not speak her name or such like saying, "All right Tulip, you'll get milked now." "Here Pinkie, you're next." Then touch her on the body before sitting down and touching the udder. If there is any dirt that might get into the bucket it should be brushed or washed off, carefully and clean.

Fast and Slow Milking

Contrary to the opinion of many, nothing is gained by fast milking. Of course a slow milker gives a cow the itch and she doesn't care to stand all day for him. So we strike a happy medium, neither too slow nor too fast. When one first begins pressing out the fluid, he should go easy, having first slipped the thumb and forefinger lightly over all four teats to see whether any cuts or scratches may be present. If so go easy, press lightly and keep coming a little harder. A cut should be placed to the palm of the hand if possible so as not to irritate and crack it open. The quarters of the udder are best emptied alternately, that is, one of the side in front and across from the other. By doing this the milker's hands do not interfere with one another, nor does it jerk the halves of the udder as it would by milking on one-half with both hands.

If a person milks at a moderate speed the cow will not be liable to move about. A nervous cow should always be freed of her udder full slower and easier than a gentler one. The milker who sits down, grabs the teats, goes to tearing away like he had to get done before he puts all his weight on the stool, chances to sit watching his victim walk away from him. On the other hand, no one should sit under a cow long enough to go to sleep. The milker must bear in mind that a cow has feeling especially for on the udder. She may not stand well if her bow of milk is heavy and the udder is shaken too fiercely. After it has been emptied a little there is not much difference in the speed. The medium fast milker takes the prize. All the cows lick his sleeve.

The correct procedure to milk is to have the cows fastened at milking time the year through. Then no walking off or backing away can be done. In all, time is saved instead of lost, by fastening them as they become accustomed to their stall and know what to do . A box of salve should occupy a handy place in the cow stable, so that it can be applied to scratches or sores that may be detected. There is always a reason to cause an animal to kick.

Whether a heifer will make a good cow depends to a great degree upon how she is handled when first milked. She must be treated kindly, yet with firmness. Speak calmly, press the teats lightly, pet her some on the back. A club should be as scarce as sun after dark around the cow stable. Many cows are made nervously hopeless for life by some irate idiot who can't hold his temper long enough to learn what may be the cause of the beasts not wishing to stand. A cow always makes one think of the sign posts, "Go slow, danger."—D. W.

Bright Prospects

It looks as though the demand for beef will be strong for some years to come, and the man who is in line for greatest profits is the Shorthorn Breeder.

We haven't room to give our reasons here, but write the Secretary for our free publications, which furnish facts.

DOMINION SHORTHORN BREEDERS' ASSOCIATION

W. A. DRYDEN, *President*
Brooklin, Ont.

C. E. DAY, *Secretary*
Box 285, Guelph
Ont. 21

Shorthorns

REMOVING THE IMPURITIES OF MILK

Although emphasizing that clean milk depends primarily on sanitary methods of production, dairy specialists of the United States Department of Agriculture report that milk strainers as commonly used also have a direct bearing on the quality of commercial milk . Certain kinds of strainers cause milk to appear clean, but fail to remove all impurities. Of all the milk filters in common use, only two—absorbent cotton and filter cloth—are seasonably efficient, according to the department, in actually improving the commercial quality of milk. Even these filters must be kept clean and changed frequently to insure satisfactory results.

The officials further state that wire-gauze strainers are in most general use than any other kind, but their studies with the microscope show plainly that the meshes are much too large to hold back any but the very coarse impurities. One thickness of cheese cloth or other cotton cloth is only sightly more effective than a wire-gauze strainer, but when the cloth is folded to about eight thicknesses its ability to remove dirt in milk increases somewhat, but is still inefficient as compared to absorbent cotton or filter cloth.

Filter cloth, a specially made cotton cloth, smooth one one side and "fuzzy" on the other, was found reasonably effective. This cloth can be obtained from leading dairy supply houses. The milk should be poured on the fuzzy side, the fibers of which stand up like the nap of a carpet and remove all but a small percentage of the solid impurities. The most effective strainer of all, however, according to the experiments, was a lay r of absorbent cotton placed between two layers of cheesecloth.

At best, straining milk is a practice that makes milk appear clean, and therefore, more easily salable, but no strainer removes either the bacteria and objectionable flavors or the very fine dirt. As a consequence, straining milk fails to improve its wholesomeness to any noticeable degre. Clean milk is best obtained by sanitary methods which prevent, so far as possible, the entrance of dirt into the milk. This can be done best by having clean cows in a clean stable and milking with clean hands into sterilized small-top pails.

Service

THE ALPHA Gas Engine is built for service. It does its work, without coaxing or tinkering.

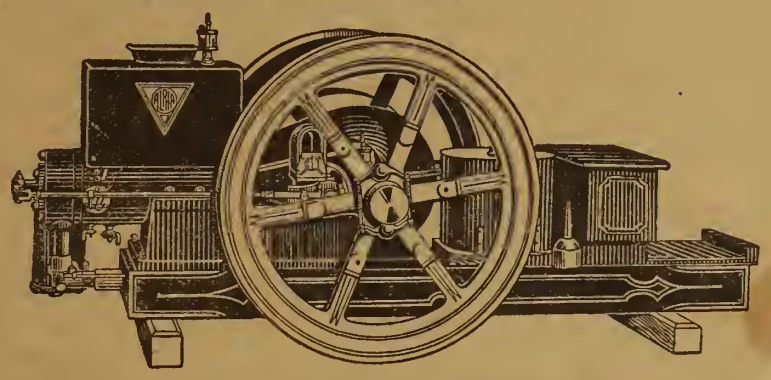
Trade Mark

The construction and workmanship employed in building it are so excellent that it will continue to render good service for many years.

The ALPHA is sold by local agents, especially selected for their ability to render service, and the De Laval Company is well known throughout Canada for its many years of unfailing service to its customers.

Branch offices are so located that every part of the country is covered by De Laval service.

If you don't know who handles the ALPHA in your vicinity, write nearest sales headquarters for his name.



THE DE LAVAL COMPANY, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA.

Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns. Catalogues of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER

50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

MARVEN'S

WHITE LILY BISCUITS

Are popular because they are pleasing to the palate

They are the standard by which other biscuits are judged

SOLD IN BULK—IN PACKAGES—IN TIN PAILS

J. A. MARVEN, LTD.

BISCUIT MANUFACTURERS

MONCTON HALIFAX ST. JOHN

Encouraging the Sheep Industry

INDUCEMENT TO USE A PURE BRED RAM AT THE HEAD OF YOUR FLOCK OF SHEEP

The New Brunswick Department of Agriculture are Co-operating with the Dominion Live Stock Branch in Encouraging the Use of Pure Bred Rams

Persons Eligible

Any sheep raiser who purchases a pure bred registered ram and who has not before at any time used a pure bred ram in his own flock shall be entitled to a premium of ten dollars the first year; Five of which will be paid by the New Brunswick Department of Agriculture and five by the Dominion Live Stock Branch, and an additional premium of Five Dollars the second year, payable by the Live Stock Branch. Applications for premiums to be sent in to Live Stock Division, Department of Agriculture, Fredericton, not later than Dec. 1st.

Co-operative Purchasing of Pure-Bred Stock

The Dominion Live Stock Branch will pay the travelling expenses to any point east of Fort William, Ontario, of any accredited man appointed by a Society, group of Societies or group of farmers who have orders to purchase at least twenty-five pure bred rams for farmers never having used a pure bred before . This same person has the privilege of making purchases of other live stock or rams for any farmer while on the trip, so long as the minimum of twenty-five rams are purchased as outlined above.

Grading of Pure Bred Rams in New Brunswick

The services of Professor Sackville of Ontario Agricultural College, have been secured to visit each pure bred breeder in the province and classify the rams offered for sale into three grades, superior, average and common. By purchasing your rams in the province, farmers can write any breeder of pure bred sheep and be sure of getting the class of ram he applies for. New Brunswick is the first province to adopt this classification system. Breeders and Purchasers stand to gain by it. The number of rams for sale together with the price and grade will be listed with the Local Live Stock Division.

Boys' and Girls' Sheep Clubs

In order to create a deeper interest among our farm boys and girls in the business of sheep raising, arrangements have been completed to organize Sheep Clubs in the province. Members must be between the ages of ten to eighteen years. Ten members will constitute a Club. Two grade Shearling ewes will be the number alloted to each. Members can get credit from any bank for purchase price of sheep for one year at 6% interest. The Department will arrange a fair at which prizes will be given. The Department will loan a pure-bred ram to any Club with twenty ewes.

For information on any of the above policies write

Hon J. F. Tweeddale,
Minister,
FREDERICTON, N. B.
Live Stock Division,
Department of Agriculture,
FREDERICTON, N. B.

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SCRUB BULL CAMPAIGN IN ONTARIO

For some months past the Ontario Department of Agriculture has been giving considerable attention to the study of live stock improvement in Ontario. In this connection the agricultural representatives of the Department were instructed to make a survey of the number of scrub bulls in their respective counties and have confirmed our former opinion as regards the use of grade or scrub bulls. While some counties are almost free from the use of scrub bulls a great many of them range anywhere from 15 to 30 per cent. and in quite a number of cases the percentage runs as high as 75 per cent. or 80 per cent.

In view of the conditions as above stated the Department has decided to make a special effort to interest the owners of grade sires in the breeding of better stock and assist them in securing bulls of good breeding and quality at reasonable prices. The first step in connection with this campaign will be to have the agriculutral representatives make a complete census of all the bulls in their respective counties in order that we may have accurate information of the used together with their breding, etc. They will also be instructed to make a census of all the pure bred breeders of live stock similar to the one conducted in 1914. Lists will include the names of all the breders of pure bred stock together with the number of breeding animals and the name of the sire used. We feel that it is very important to have the name of the sire as it is usually a fair indication of the class of stock the farmers breed. The publicity in connection with this campaign will be in the hands of Professor Wade Toole of the Ontario Agricultural College.

R. W. Wade, Director of the Live Stock Branch of the Department will have charge of the purchase and distribution of bulls. The agricultural representatives are to organize pure bred bull clubs and through this organization an effort will be made to interest the members of the clubs in community breeding and have as possible purchase bulls the same breed. Each member will submit the breed of bull he wishes to secure, together with age and maximum price he is willing to pay. This order will be forwarded to the Live Stock Branch and bulls purchased within the county if possible and if not in adjoining counties and shipped to a central point and distributed to the members of the club.

During the winter months an effort will be made to interest the club in live stock breeding, feeding, etc., through the use of motion pictures, lecturers, circular letters, bulletins, etc. It is also hoped that the club will serve as amedium for exchange of bulls later on.

The Department is working in close co-operation with the Ontario Cattle Breedrs Asosciation and will have their assistance in locating bulls, encouraging the organization of clubs and also in interesting the pure bred hope that they may be prepared to offer animals at reasonable prices, having in mind future business.

The Department fully realizes that this problem is not an easy one and not likely to meet with immediate results. However, the more general use of pure bred sires is of great importance to the live stock industry of the Province and for that reason every effort will be made tao make the campaign as effective as possible.

WORMS IN PIGS

Recent investigations have shown the importance of taking special precautions with newly farrowed pigs to prevent their becoming infested with intestinal worms. Intestinal worms are very common parasites among pigs, and cause a great deal of damage to the young animals. It appears that as they become older, pigs become less susceptible to infection. Accordingly, if pigs can be protected from infection during the first few weeks of life, they are less likely afterwards to be seriously injured by intestinal worms of the common variety.

How Pigs Become Infested

The worms are spread by means of eggs of miscroscopic size which are deposited by the adult worms in the intestines of infested pigs, and which pass out of the body in the feces. After a period of incubation, which varies according to temperature and other conditions, the egg contains a tiny embryonic worm, and is ready for further develoment when swallowed by a pig. The egs are highly resistant and may retain their vitality for years. It is, therefore, evident that in course of time the ground in yards where pigs are kept may be-

Correct Proportions

KEEP your stock active, keep them working, tone up their system, purify their blood—keep them in trim with Canadian Pioneer stock food.

Stock in Winter quarters lose out on the natural food elements—green feed—green stuffs—they require a stock food that contains the correct proportions of protein, fat and carbohydrates to keep them from running down or getting off their feed. Quantity of food is not the big question, it is the food value of the amount given them that counts the most.

Canadian Pioneer Stock foods are scientifically balanced to give the proper results.

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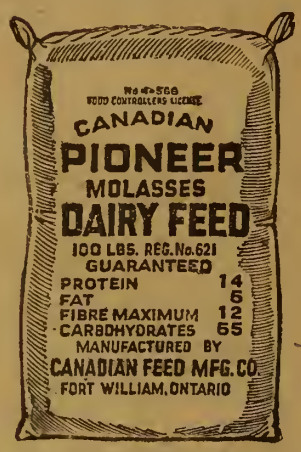

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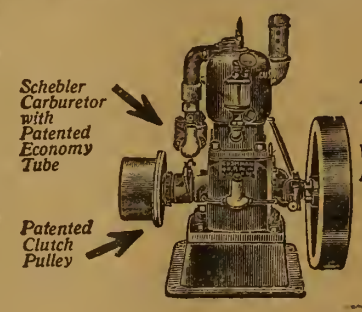

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come very heavily laden with the eggs of the worms.

When the eggs are swallowed, the young worms hatch out, but do not immediately settle down in the intestine. They get into the circulation and are caried to various organs of the body, including the lungs. Meanwhile, they increase somewhat in size and undergo certain changes of structure. In a week or 10 days they can be found in infected pigs examined post-mortem crawling up the windpipe into the mouth and down the esophagus into the stomach. In the normal course of events they finally reach the intestine again, where they develop slowly to maturity. The worms as they are found in the lungs and windpipe are still very small, microscopic in size, and are not to be confused with the larger lung worms, which are easily seen with the naked eye. Small pigs, if their lungs are invaded by large numbers of the young intestinal worms are liable to develop pneumonia, which may prove fatal. It is not improbable that many cases of lung trouble among young pigs are caused by these worms.

Important to Protect New Litters

In view of the discoveries concerning the mode of infection with the common intestinal round worm, the damage caused by the young worms as they migrate through the lungs, and the great susceptibilty of very young pigs to infection, the special importanve of protecting newly farrowed pigs from these parasites is evident. It would seem that the chief source of infection in the case of young pigs is the dirt-soiled skin of the sow. Small particles of dirt from the pig pen adhering to the skin of the sow may contain thousands of worm eggs . Little pigs, while suckling, may thus swallow not only their mother's milk, but also the worm eggs present in the dirt adhering to the teats of the sow.

The question of preventing losses among young pigs by worms, judging from the results of the investigations carried on in the Zoological Division of the Bureau of Animal Industry, largely resolves itself into a question of providing good sanitary conditions for the pigs, particularly during the suckling period. The sows before farrowing should be kept in clean dry places away from mud wallows, and until the pigs are several weeks old they should be kept preferably in buildings with floors which can be easily cleaned and which are kept clean.

HIGH POLISH FOR BRED CATTLE

Breeders must realize the importance of proper feeding and grooming, as well as keeping the animals free from insects and vermin. Cattle that are fed roots and silage along with their dry roughage and grain feeds will develop plenty of oil in their coats to give them a healthy, sappy appearance, if given proper grooming with a coarse brush. If one lacks these succulent feeds a little oil meal added to the ration will work wonders in stimulating a healthy condition of the skin and promoting a fine growth of hair. An occasional grooming will keep the pores of the skin open and give the animals that fine bloom of condition so difficult to define, yet highly prized among good judges of live stock.

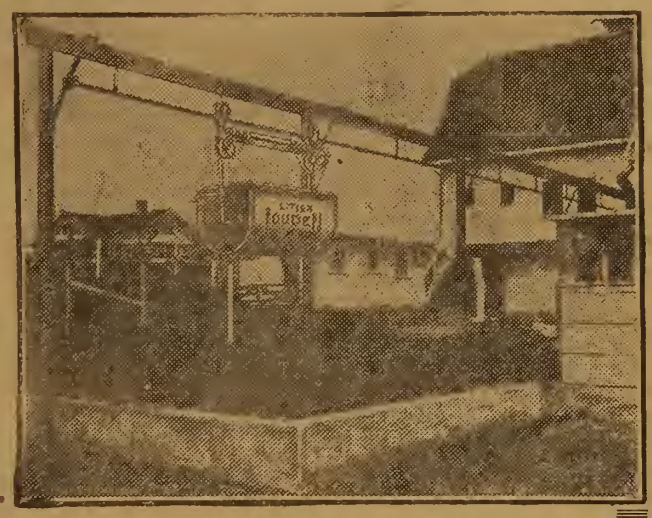
Insects and vermin are not difficult to hold in check where proper attention is given to bedding and sanitation. Hogs require more attention than cattle, but will keep practically free from these pests if provided with clean nests and patent oiling apparatus, or posts covered with old sacks saturated with comercial dips or the home made remedies. A pure bred boar put in a filthy, lousy pen and allowed to run down in flesh condition is harder on sore eyes than the scrubbiest kind of scrub. The latter is habituated to living under such conditions and taking care of himself, while the pure bred is entirely dependent upon thoughtful care . Failing to receive it, his skin becomes a fine feeding place for insects and vermin, and "he goes to pieces."

LOUDEN

LITTER CARRIERS DO THE CHORES IN HALF THE TIME

Life is too short nowadays to clean the stables with the old out-of-date, labor-wasting, back-aching wheelbarrow.

Louden's roller bearing litter carrier will help you—keep your stables and yards sanitary—produce sanitary milk—do the chores in half the time—keep the boys and hired man satisfied **—every day in the year for years to come.**



Louden's double beaded rail steel track —carries two tons — hangs from centre — no side strain or warping—easy to erect.

Roller bearing track wheels—easiest to push under heaviest loads—no brakes—ratchets—clutches—to get out of order—absolutely safe—one pound pull lifts forty pounds in bucket—heavy galvanized steel end all steel bucket—water tight—acids cannot rot or corrode—carries three or four barrow loads, and a ten-year-old boy can handle it.

Discard your wheelbarrow—Best investment you will ever make.

MADE IN CANADA BY US FOR A GENERATION
THOUSANDS IN USE

Mail us rough sketch of layout of your stable, giving—length and width—number of beams, with width and thickness below ceiling—show where you want track to run.

We will return complete list of fittings required to equip with Louden outfit complete.

You will be surprised how little a really high grade outfit costs.

If you are going to build or remodel, write for our large 112-page barn plan book—not a catalogue—its free—also our large illustrated catalogues.

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My stables are.....ft. long by.....wide. There are.....beams below ceiling.....inches wide by.....inches thick. Sketch attached shows where track is to run.
I expect to equip my stables in month of.....with.....
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I keep .....cows .....horses .....calves.....
My local dealer is ..... at.....
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WAR ON THE SCRUB BULL

At the recent session of the Nova Scotia Legislature an act for the encouragement of the improvement of live stock was passed. This Act makes provisions under which a penalty may be imposed upon anyone owning or harboring a scrub bull and offering the same for public service within an Agricultural Society District.

In the generad amendments to the statutes provision is made for defining Agricultural Society Districts which, briefly, may be done at any meeting of the agricultural society regularly called, at which a by-law to be subsequently approved by the Governor-in-Council, may be passed in respect to these boundaries.

SILAGE TEN YEARS OLD

The fololwing was taken from the National Wool Grower of July 1919:

"A silo was recently opened up in Austria, that had been filled with corn in April, 1909, just ten years ago. It is reported that the silage was in excellent condition and was eaten by the stock with great relish." Silage is an insurance against feed shortage.

Silage is necessary in the ration of the dairy cow. It takes the lace of grass.

Business lies always come home to roost.

The Tonic for Farm Animals

OMAZON

CANADIAN MEDICINAL FOOD

Strengthens and tonifies. Causes the prompt disappearance of Indigestion, Constipation, Worms, Colic, Diarrhœa, etc.

(It has saved hundreds of valuable animals)

On Sale Everywhere. DR. ED. MORIN & CO., Limited, Quebec, Canada.
1

The Why ? of Ano

WHEN, on the morning of November 11th, 1918, the guns were hushed and glad tidings flashed across the world, there followed with the Nation's Prayer of Thanksgiving, one yearning query, which found echo in the faster-beating hearts of wives, mothers, fathers, brothers, sisters and sweethearts.

THAT query was, "How soon will our boy be home ?"

AND, from France and Flanders, from Italy and Egypt, from Palestine and from far-off Siberia, there came an answering echo, "How soon, how soon, may we go home ?"

CANADA caught the spirit of these longings, and at once resolved to satisfy them.

IT was an appalling task. Shipping was tragically scarce. The composition of the Army of Occupation had not then been settled. And other parts of the Empire

Need Divides Itself in Two Parts

The answer to the question "Why does Canada need another Victory Loan?" divides itself into two parts.

(a) To finish paying the expenses of demobilization, and the obligations we still owe to our soldiers.

(b) To provide national working capital.

* * * *

Obligations to Soldiers

The obligations to soldiers include:

That already incurred cost of bringing home troops from overseas.

The payment of all soldiers still undemobilized. This includes more than 20,000 sick and wounded who are still in hospital, and who of course remain on the Army payroll till discharged.

The upkeep of hospitals, and their medical and nursing staffs, until the need for them is ended.

These three items alone will use up at least $200,000,000 of the Victory Loan 1919.

Gratuities

There is also the gratuity which has been authorized, and has been and is being paid to assist soldiers to tide over the period between discharge and their re-adjustment to civil life. For this purpose alone, $61,000,000 must be provided out of the Victory Loan 1919, in addition to the $59,000,000 already paid out of the proceeds of the Victory Loan 1918.

Land Settlement

Furthern may, und ed money by Canada with which to pur so advanced will be paid back; meantim Up to August 15th, 29,495 soldiers had and 22,281 applications had been inve cant approved. For this purpose Canad

Vocational Training

For this work whic Service Departmen partment of Soldie of $57,000,000 is n These national expenditures are war e every citizen who gives thought to the tice, and to the success with which she

*

National Working Capital

Canad may b Allies mines You may ask "Why sell to them if they The answer is, "Their orders are abs agricultural and industrial prosperity. The magnitude of these orders and th depend upon the success of the Victor

Those who give thought to our outstandin national working capital, cannot fail to be i

VICTORY L

"Every Dollar

Issued by Canada's Victory Loa Minister of Finance o

ther Victory Loan

as well as Canada were looking for the speedy return of their men.

THE problem was this. The half-million men that Canada had overseas had taken more than four years to transport to the field of battle.

TO bring them home in a few months was a gigantic undertaking—one to tax all Canada's ingenuity and resources.

CANADA solved the problem, but it meant crowding into a few short months, an expense for demobilization which it was impossible to foresee.

THEN, too, besides the sentimental aspect of the necessity for bringing the men home quickly, the economic side could not be overlooked.

THAT was, to transform efficiently and speedily the nation's army of fighters into a national army of workers.

soldiers who desire to become farmers
ne Soldiers' Land Settlement Act, be loan-
e land, stock and implements. The money
ch loan is secured by a first mortgage.
lied for land under the terms of this Act;
ted, and the qualifications of the appli-
is year requires $24,000,000.

ith the Vocational Training and Soldiers'
nbraces the major activities of the De-
Civil Re-establishment, an appropriation
sary.
ses. They will be accepted readily by
which Canada faced following the Armis-
met it.

* *

ds national working capital, so that she
e to sell on credit to Great Britain and our
roducts of our farms, forests, fisheries,
factories.
't pay cash?"
ly essential to the continuance of our

nount of employment thus created, will
an 1919.

The "Why" of Credit Loans

Farmers and manufacturers (and that includes the workers on these orders) must be paid cash for their products. Therefore, Canada must borrow money from her citizens to give credit, temporarily, to Great Britain and our Allies. Actually, no money will pass out of Canada.

If Canada does not give credit, other countries will; and they will get the trade, and have the employment that should be ours, to distribute amongst their workers. And remember, we absolutely need these orders to maintain employment. If we don't finance them business will feel the depression, employment will not be as plentiful, and conditions everywhere will be adversely affected.

For Transportation

Money must also be available to carry on the nation's shipbuilding programme, and other transportation development work.

For loans to Provincial Housing Commissions who are building moderate priced houses.

These, then, are some of the things for which Canada needs national working capital. She is in the position of a great trading company, and her citizens who buy Victory Bonds are the shareholders.

obligations to soldiers, and to our need for
pressed with the absolute necessity for the

OAN 1919

ent in Canada"

mittee in co-operation with the
Dominion of Canada.

GOMBAULT'S
CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price $ **1.75** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Toronto, Ont.

THE HORSE

HORSE DISEASE FOLLOWS FULL CHANGE FROM PASTURE TO CONFINEMENT IN BARN

The season has again come round when the farm work horse has to leave the open life in the pasture for the confinement of the stable. The change is always a fertile cause of sickness among horses. Providing the conditions in which a horse thrives best will prevent many of the ills that the average farm horse is heir to, and will kep him in the fittest form to give cheap and efficient motive power. The horse in his best and highest form is the native of a dry, warm, sunny country. He loves both warmth and dryness. In damp stables he loses all life and spirit and debility followed by disease soon takes place.

Bad Effect of Sudden Changes

A fact, not generally observed by the average horse owner, is that horses rarely suffer in health from a change even suddenly from warm to cold stables, provided they are dry; but a change from cold to warm stables generally produces coughs and colds.

In like manner horses turned out to grass from warm stables seldom catch cold, whilst those brought into warm stables from the open, almost invariably suffer. When horses, which have been lying out at grass or in the open yards, are brought into stables, every door and window should for many days be left wide open, and the temperature should only be slowly and gradualy increased, and during this transitional period any symptom sof disease should be carefully watched for.

The horse thrives best and puts on flesh in warmth his food will go further and his coat will look better in a warm than in a cold stable. But in making the stable comfortably warm care must be taken that it is not close and offensive. Warmth is good for horses but purity of air is more essential. Good air must never be sacrificed to warmth. Foul air is the ready partner of disease.

Stable Temperature

In a well drained, well paved, well ventilated and cleanly kept stable the temperature may generally be maintained at from fifty to sixty degrees. Ill dained, ill paved, badly ventilated or dirty stables cannot with safety be kept as warm as those of which the sanitary condition is more favorable. It is quite possible also to have a stable both cold and close. Such stables are generally also damp. They are most objectionable and are a constant source of disease.

The best test of the purity of air in a stable is the sensation felt on first ging into it from the external air. The best time for testing the sufficiency or otherwise of ventilation is the early morning, before the stable has been cleaned and aired.

In the spring and fall the temperature or heat of most stables is several degrees higher than that of the open air; in winter it is frequently more than thirty degrees The effect of this is to weaken and exhaust the energies of parts most exposed to the influence of these changes, and they are the lungs. Few things can be more injurious to the delicate membrane that lines the cells of the lungs, than the sudden change from cold to heat, to which, under the usual stable management, the horse is subject. It is, however, not only heated, but empoisoned air that the horse breathes; composed of his own contaminated breath, and of vapors from his manure, particularly from his urine, strongly impregnated with ammonia, painful to the eyes and irritating to the chest . He that would have his horses free from disease, and especially free from lung disease, should have his stables dry, cool and clean.

Causes Lung Disease

There is also an intimate connection between the lungs and the function of the skin. The perspiration, whether sensible or insensible, is suddenl ystopped by taking a horse suddenly from a heated conditioon to that of biting cold air. Colds and coughs are the first consequences. The discharge from the skin is at once arrested, and the effect of the sudden stoppage of a natural evacuation falls on the lungs, too much weakened, and disposed to inflammation by heated air and poisonus fumes. Simple observations like these are pregnant with interest and instruction, and no horse owner or caretaker is capable of looking after horses if he remains blind to the effects of these changes. No matter how careful he imagines he is in regard to all other details, such as feeding or breeding, disregard of the general conditions which the changes of seasons bring, will fetch him loss and disaster. There is no animal among all those that man has subdued that, previous to his breaking in, is so free from disease as the horse(and there is no animal which, after he has been broken to service, is so liable to disease, and especially that of the lungs. This result is largely due to the stable management, and the fall season is the one which the greatest care has to be exercised. Influenza is one of the diseases that fol-

HORSE AILMENTS
of many kinds
quickly remedied with
DOUGLAS'
EGYPTIAN
LINIMENT

The best all-round liniment for the stable as well as for household use. Cures thrush, sprains, bruises. STOPS BLEEDING INSTANTLY AND PREVENTS BLOOD POISONING. Keep it handy.

Price 35c.
At all Dealers and Druggists.

Manufactured only by
DOUGLAS & CO., NAPANEE, Ont.

Day in and day out, the hard work of cleaning the stable has to be done. Stable cleaning with a wheelbarrow is a monotonous, hard, disagreeable chore. It is hard to wheel a heavy wheelbarrow load through a muddy yard and up a slippery plank. And the worst of it is, this hard, disagreeable chore has to be done every day.

It is practically an impossibility to get the manure far enough away from the stable. The conditions in the yard make it impossible. Manure piles right up close to the stable give off ammonia fumes that spoil paint and woodwork, rot harness and at the first opportunity breed flies.

A wheelbarrow does not hold much at a load, which means many trips before the work is done. The BT Carrier holds three times as much as a wheelbarrow. It will tackle 800 lbs. in one load.

The hard work of cleaning the stable is cut in two with a manure carrier. It runs on overhead track so it does not matter about the state of the yard. No planks to lay; no snow to shovel; no more pushing to the top of the pile with a wheelbarrow.

If you want to dump the manure sixty feet away from the barn you can do it easily. No more manure piles at the stable door. The BT Manure Carrier is loaded, run out and dumped in a jiffy. A boy can do the work.

With a BT Carrier there is no muss in the passage ways. The big steel bottom bucket holds every bit of the manure including the valuable liquid. With a wheelbarrow, the manure slops over and the passages beccme filthy.

Help is scarce and you have much to do. Another hour to yourself and relief from the drudgery of the hardest chore on the farm would be much appreciated, would it not? Let us send you our free book on Manure Carriers so that you can judge for yourself.

FREE COUPON

BEATTY BROS. LIMITED
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FERGUS, ONT.

Please send me a copy of your illustrated catalogue on Manure Carriers. I have answered your questions below.

Are you thinking of putting in a Manure Carrier.....

If so, when .....

How many cows have you?.....

Your name .....

P. O. .....

R. R. No. ..... Province.....

low bad ventilation in buildings. It is caused by the introduction into the system of a poison that has its origin in the atmosphere .

Barns that are Hotbeds of Disease

All anlimal life reqires oxygen in the system to enable them to resist disease. In close and badly ventilated buildings this natural operation is restricted and the inmates are a prey to disease. The disease is infectious and contagious, passing from one to another.

Where disease begins to appear among the inhabitants of these ill-ventilated places, it is not at all wonderful to find it spreading rapidly. These barns become plague spots. When distemper appears in the fall and early winter, it is in very many cases to be traced first of all to such a pest house. It is peculiarly fatal there. Nothing is more certain, than that the majority of the maladies of the horse, and those of the worst and most fatal character, are directly or indirectly attribuited to the unnatural heat of the stable, and the sudden change of the animal from a high to a low, or from a low to a migh temperature. Horse ills and veterinary bills will be avoided if the pure air conditions that give the animals health in summer, were strictly attended to in their domesticated life at the barns in winter.

CURATIVE TREATMENT OF HORSE MANGE

Before the war horse mange attracted the attention of practicians in a limited measure only, on account of easy treatment and the facility of prophylactic measures, but, during the war, it assumed such proportions in all armies, that it alons gave more work to the veterinary surgeons than all the other diseases put together.

As the author had the opportunity of treating a group of 300 horses, he proposed to find the experimental answer to the following questionns: (1) Does a remedy exist that can prevail absolutely over the others? (2) Which treatment is preferable from the standpoint of economy and rapid action. (3) Can horse mange be cured by an exclusively mechanico-detersive treatment, without the intervention of any medicament?

The treatment consists in:—dipping followed by washing twice all over with 5% sodium carbonate solution; carefully cleaning the epidermis; curative treatment (5 applications at successive intervals of 4, 5, 8, 13 days) with the mange remedy tested (which, for the different groups of animals was one of the following:—creoline; phenolised extract of tobacco; sodium hyposulphite and hydochloric acid; soap solution of formol; sulpho-acaline soap; Helmerich pomade; mericurial ointment); currying; douches; cleansing and disinfecting of stables, etc.

Six weeks after beginning of treatment (i. e., after 5 applications), 20% of the animals were cured; this percentage belonged mostly to the groups treated with pomade; the rest of the animals received 2 or 3 applications of Helmerich's pomade or mericurial ointment, or simply melted horse fat and were then washed all over with the phenic extract of tobacco. After 20 days, 50% of the anima's, that were still affected were cured and, after two and a half months the malady had entirely disappeared.

Conclusion.—(1.) Of all the mange remedise tested by the author there is no one that is absolutely superior as regards its therapeutic efficiency.

(2.) In the case of severe mange of long standing, the best treatment is the mixed one, consisting in the use of a watery solution and a fat, while in less severe and recent cases, a simple watery solution suffices, e. g., phenic extract of tobacco manual care should be considered as an integral part of the treatment.

(3.) A simple mechanico-detersive teratment (very diilgent manual attention, washing with water, and, in the graver cases where this treatment does not suffice to detach the epidermal crusts, annointing with horse fat) suffices to cure mange, no matter how serious or of long duration it may be. —Torti, E., in Il Nuovo Ercolani, Year XXIII., No. 19, pp. 241-250. Turin, 1918.

MISCELLANEOUS

Vetreinary Editor: (a) Could you tell me what to do for a mare that sprained the cord on the back of her hind leg? I have blistered her some, but the cord is very large yet. Will it hurt her for work if she does get better?

(b) I have a three year old mare that a boy hit in the eye with a hard piece of dirt about two months ago and now there is a white scum on about one-quarter of her eye. Is there any danger of her going blind, and what would be good to do for her? She is a purebred mare.

(c) I have a mare with the mud itch or clyd eitch. She kicks in her stall. Is there any cure for her,

(a) enlarged tendons are vry hard to reduce. If she be still lame, blister again. If not, get a liniment made of 4 drams each of iodine and iodide of potassium and 4 oz. each of alcohol and glycerene, and rub some well in once daily. Have patience and continue treatment, as results will not be quickly noticed. Working will not injure her after lameness disappears.

(b) This is caused by a deposit of lymph between the layers of the cornea. Get a lotion made of 10 grains nitrate of silver in 2 oz. distilled water and put a few drops into the eye twice daily. This should gradually cause absorption of the exudate and clear the eye, but in some cases it cannot all be removed.

(c) Get a solution of corrosive sublimate, 30 grains to a quart of water. Heat a little of this to about 110 degrees Fahr. an drub well into the skin of the legs twice daily until itchiness ceases.

All animals require plenty of good, pure water. This is especially true of the milking cow, as water constitutes more than three-fourths of the volume of milk. Stale or impure water is distasteful and she will not drink enough for maximum milk production.

Horsemen Attention !

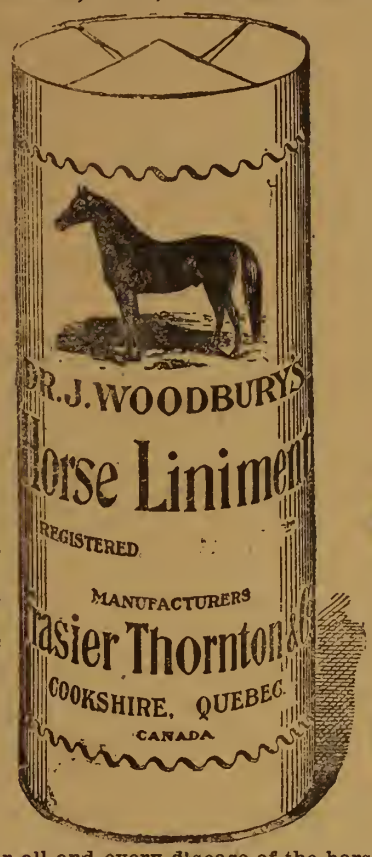
Dr. J. Woodbury's Horse Liniment and Dr. J. Woodbury's Condition Powders will save and preserve the life of your horses. Their use will cure and prevent the disease common to horses, such as Cough, Colds, Distemper, Spavins, Pinkeye, Splints, Curbs, Enlargements, Cracked Hoof, Kidney Trouble, Fevers, Cuts, Sores and will remove bunches of all kinds.

BEFORE USING

Why have a sick or lame horse, when you can get a reliable and warranted remedy? The leading horsement of the Dominion endorse Dr. J. Woodbury's Horse Liniment.

FOR SALE ALL DEALERS

PRICE 35 CENTS



Do you know that "Dr. J. Woodbury's Horse Liniment" is endorsed by all the leading horsemen of the Dominion. Save and preserve the life of your horses by its use. It will cure and prevent disease common among horses.

DEMAND
DR. J. WOODBURY'S
HORSE LINIMENT

AFTER USING

Use this preparation thoroughly for all and every disease of the horse for which it is recommended. Criticise it closely. Carefully watch, mark and notice, its effects, and, honestly judging it on its merits, you will be compelled to endorse it.

DON'T CUT OUT
A Shoe Boil, Capped Hock or Bursitis
FOR
ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

will reduce them and leave no blemishes. Stops lameness promptly. **Does not blister** or remove the hair, and horse can be worked. $2.50 a bottle delivered. Book 6 R free.

ABSORBINE, JR., for mankind, the antiseptic liniment for Boils, Bruises, Sores, Swellings, Varicose Veins. Allays Pain and Inflammation. Price $1.25 a bottle at druggists or delivered. Will tell you more if you write.

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Every Griffith Halter that bears a guarantee tag is sold under a hard and fast guarantee. This means that if your animals break a Griffith Guaranteed Halter within a year from the day you buy it we will positively replace it.

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GIANT HALTER

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are the strongest made, so absolutely reliable that they defy the most confirmed halter-breaker.

There is a Griffith Guaranteed Halter to meet your particular needs. The Classic Colt has great strength and is ideal for halter-breaking young colts. At your dealer's $1.00 (in the West $1.25).

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We have large resources and the vast experience of 87 years to draw upon to serve you; but we have something even more important — we have the earnest desire to do so.

We cash your produce and personal cheques, collect your drafts—all by mail if required—and gladly give you impartial advice on any financial or business matter.

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38A

Mites reproduce very rapidly and are a great source of annoyance to the hens when present in large numbers. A severe attack of mites will cause the hens to lose flesh and stop laying, and will oftentimes produce death. To get rid of mites the houses must be carefully painted or sprayed with repellent material. A heavy spraying of coal oil followed in two or three days by giving the roosts and surrounding boards a thorough ipanting with crude oil will clean up the miter anr keep the house free for several months. This treatment should be applied twice yearly to all poultry houses as a precautionary measure against them .

TRAPPERS

The name SUMMERFIELD assures you of A SQUARE DEAL

47 years of square dealing has earned us the confidence of trappers all over America, Canada and Alaska.

WE CHARGE NO COMMISSION

If fair, honest grading, prompt returns, and top market price are what you want, then you will make no mistake in shipping to the old reliable house of Summerfield.

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POULTRY.

TO KEEP POULTRY FREE FROM VERMIN

No matter how new your coop is, or how much care you give it, or how much you believe it fre from vermin it is safe to say that no coop is entirely free from those little fellows that make such inroads into your income. They are bound to appear.

There is a variety of spraying liquids upon the market such as are used for cattle, etc., all suitable to spray nests, roosts and interior of coops. Give the interior of the coop, also the nests, boxes, but not roosts, a good going over with whitewash, not too thick, but light enough to spread well with the spray. Better not put it on too thick as it will easily peel.

All coops should be sprayed, even the little colony coops, giving them a thorough disinfectant liquid, and then spray with whitewash.

Your grounds should be looked into if your coops stand upon the same ground year in and year out. Spade around them, and turn the ground over. It is preferable to taking chances on disease through neglect.

If your little chicks' coops are on old ground, remove them, and spade the ground. Sow it to grass or clover seed, and let them get the benefit of the green feed.

Get your drinking vessels cleaned, also your hoppers. Scald them out and clean thoroughly. You don't know how those little pesky mites hide in the cracks of the metal containers. Look them over, and you will see them.

No matter how careful you are, mites and lice are bound to make their appearance sooner or later. It's the law of birds in more respects than one. For instance, the little sparrows bring more vermin into your poultry yard in one year than you ever dreamed of, to become infested when one least expects it.

WHAT TO DO WHEN HENS EAT THE EGGS

Egg eating sometimes becomes a serious vice, fowls becoming very fond of eggs when they have learned to eat them, and it often spreads from fowl to fowl. It usually begins through accident by eggs being broken or frozen . Be careful to see that this does not happen. See that the nests are properly supplied with straw or other nesting material and have them darkened so that if an egg is accidentally broken the fowls will not be likely to discover it. Supply plenty of lime in the form of oyster shells, bone or similar substances to insure a firm shell. As soon as it is discovered that a fowl has formed the hobit the fowl should be removed, in order to prevent the spread of the vice. Once formed, it is difficult to eradicate and the safest remedy is the death penalty.

Fowls sometimes pluck feathers from themselves and from each other, which is often caused by too close confinement, by the presence of insect pests, or by improper feeding. When some of the fowls of a flock have formed the habit slightly, a wide range with a change of diet, including a plentiful supply of animal feed, and freedom from insect pests, will usually correct the evil. Above all, see that the fowls have plenty of inducement to exercise. If the habit becomes well formed it is very troublesome and may necessitate the killing of some of the fowls in order to stop it.

HOW TO RAISE DUCKS

To be successful in raising ducks, one should have a roomy yard enclosed with poultry netting. The netting need not be over two fet wide. Ducks

Used from Coast to Coast

For nearly fifty years Pratts Poultry Regulator has been used and recommended by poultrymen the world over.

In Canada, successful poultry-raisers are writing us every day giving concrete proof of its value.

Mr. H. W. Corbett, of Annapolis, N.S., writes: "I have a flock of Plymouth Rock pullets. I put five in a separate house and gave them

Pratts POULTRY REGULATOR

"In February the five pullets produced 116 eggs, or 23 to 24 each. The other 30, without having Pratts, produced only 15 to 16 eggs each. I then fed the 30 Pratts Poultry Regulator, and in 10 days my hens increased 50 per cent. in laying."

Mr. Joseph Burrows, a shareholder in the Vernon, B.C., Fruit Union, writes: "I have used your Regulator for years, and find it indispensable."

Our files are full of testimonial letters—all unsolicited—proving beyond question that Pratts is all we claim and more.

Costs about one cent a month per bird.

Try it to-day at our risk.

MONEY BACK IF NOT SATISFIED.

At your dealer's in popular priced pkgs., also in money-saving 25-lb. pails and 100-lb. bags.

Pratts Poultry Disinfectant is cheap health insurance for your flock. Destroys lice and mites. Kills disease germs. Keeps poultry houses sweet and sanitary.

Inexpensive, non-poisonous, pleasant to use. At your dealer's in 1 gal., ½ gal. and 1 qt. cans.

Write for FREE book on the Care of Poultry.

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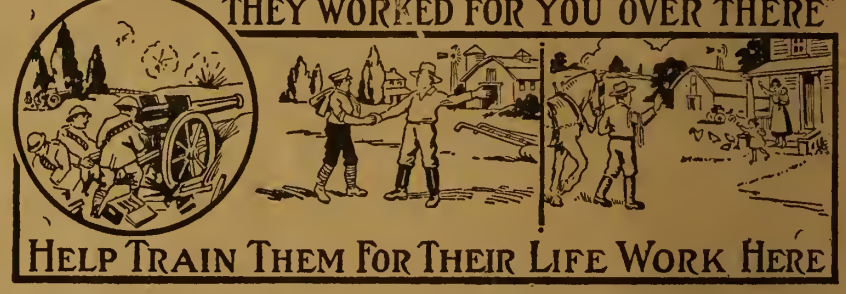
FIT OUR FIGHTERS TO FARM

THEY WORKED FOR YOU "OVER THERE"



HELP TRAIN THEM FOR THEIR LIFE WORK HERE

THE Soldier Settlement Board of Canada offers every eligible returned man who has ample farming experience an opportunity of becoming a farm owner. It is also ready to assist certain inexperienced men to learn the farming business. Of the many thousands of applications that will be received by the Board during the next twelve months a considerable number will be from inexperienced men.

HOW YOU CAN ASSIST— METHOD OF TRAINING

Training Centres have been established to give a limited number of totally inexperienced prospective soldier settlers preliminary practical experience. It is essential, however, that all inexperienced men complete their training by working with successful farmers who will share their experience with them.

SUCCESSFUL FARMER! YOUR OPPORTUNITY

You alone can assist our fighters to acquire the experience necessary to ensure their success as farmers. There is a duty devolving upon you to take as many as possible on your farm. By giving them the benefit of your experience and advice you will fit them to operate successfully farms of their own in the shortest possible time.

The Soldier Settlement Board needs, and must have, the co-operation of successful farmers in every Province of Canada in carrying on this work. Training allowances are granted by the Board to assist in the maintenance of dependents. Will you afford the men an opportunity to gain experience? **Men are waiting now. Take at least one of them for the winter.**

OFFICES AT: Victoria and Vancouver, B.C.; Edmonton and Calgary, Alta; Regina, Saskatoon and Prince Albert, Sask; Winnipeg, Man; Toronto, London and Ottawa, Ont.; Montreal, Sherbrooke and Quebec, Que.; St. John, N.B.; Halifax, N.S.; Charlottetown, P.E.I.

The **Soldier Settlement Board**
W. J. BLACK, CHAIRMAN
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TO BE ABLE TO SAY

"I received my training at the

Fredericton Business College

means a great deal to a young man or woman when looking for an office position.

Those who expect to enter this school for the Winter Term opening January 5th, should write for full particulars NOW.

Address:—

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Success Training Pays

We recently received a request from one of the largest firms in Canada to supply 72 young people for office work.

Prepare for one of these positions. Special classes now open. Enter as soon as possible.

SUCCESS BUSINESS COLLEGE, Ltd.

The Accredited School

Moncton, N. B. Truro, N. S.

should not be allowed to run at large over the premises they wili ruin a flower or vegetable garden in a short itme, but are not detrimental in the small fruit garden.

It is not necessary to have a fine, expensive house for ducks, but it should be dry and furnished with dry liter for roosting.

tI is not necessary to furnish swimming water for them, but they must have drinking water in plenty. A swimming place for the breders will result in a higher percentage of fertile eggs and also in stronger ducklings. This is why it pays to use great care in selecting breeders. Use only birds with long bodies, thick, short legs, yellow bills and feet and bright eyes.

Almost a Miracle But Very Simple

Was the Cure of John New by Dodd's Kidney Pills

His Troubles All Came from Sick Kidneys and He Treated Them With the Old Reliable. Canadian Remedy, Dodd's Kidney Pills.

Hillside, Battleford, Sask., Oct. 10th. (Special)—With a speed that was almost miraculous, Mr. John New, a well-known farmer here, has been cured of the kidney trouble from which he suffered for several years.

"Dodd's Kidney Pills cured me," he says. "I wish to give them all the thanks."

Speaking further of his troubles and their sudden cure, Mr. New says: "I think I inherited my kidney disease from my parents, and I suffered off and on for several years. I had stiffness in the joints, cramps in the muscles, backache and neuralgia.

"I perspired freely on the slightest exertion and my perspiration had an unpleasant odor. I was irritable, often dizzy and was depressed and low spirited. My skin was dry and had a harsh feel and I was often nervous.

"I took just one box of Dodd's Kidney Pills. They cured me."

If your troubles come from the kidneys you will have some of the symptoms that Dodd's Kidney Pills cured in Mr. New's case. Ask your neighbors about Dodd's Kidney Pills.

GIVE HENS PLENTY OF GREEN FEED

Nothing in the hen's ration is more important than green feed and it is especially important in winter. In the early fall it is best to plan on the winter's supply and take a chance on overestimating the amount rather than underestimating it. If the mangels have not done well, or if only a few were planted, it pays to start a late crop of turnips. Hens do not seem to like turnips as well as mangels, but they will do for green feed when other materials are lacking.

Mangels are the best winter green feed and a large amount of them can be grown on a small space. Sprouted oats are greatly relished by hens, but it is some work to prepare them and oats are expensive, so many poultrymen will find that they can get along very well by using mangels and leaving out the sprouted oats. Plan on a supply of cabbages if the mangel crop is short and then feed the cabbages first and save the mangels until late in the winter as they will keep better than cabbages.

Pumpkins are liked by poultry and we find that the crop of pumpkins will not bring much money on the market and they are a bulky crop to deliver. It is much better to feed them in the winter to the hens and market them in the form of fresh eggs. Boiled pumpkin mixed with bran is a healthful feed and very good for forcing the young stock or keeping the old hens healthy while confined in the laying house.

Clover is one of our best poultry feeds. It may be rolled in a cylinder of poultry wire and placed in the house where the birds can pick at it. Clover can be soaked in warm water to freshen it and then placed in the poultr yhouse in troughs. A fork of clean clover hay thrown on the floor of the house will keep the birds busy while they are confined during the winter or on stormy fall days.

Save all the cull vegetables for the poultry. They can be boiled and fed in the form of a wet mash. Such feed is so much better than a straight grain ration for fowls that no flock should be without it. It tones up the birds during the winter and helps them to lay eggs. Even if the cost of eggs in winter is about the value of the eggs, the hens have to be fed something so why not give them all they need and get paid for it rather than half feed them and receive nothing for what they do get.

We have found that a few feedings each week of boiled cull potatoes are relished by the birds and it helps to reduce the cost of feeding toem. At the present price of potatoes they are not economical poultry feed but there are apt to be many unmarketable culls especially after a dry season, and they can be used to advantage in the poultry mash. If there is a vegetable grower in the community some poultrymen can do well to purchase any of the cull stock which he is glad to get rid of at a very low price. Other farmers in the community raise crops of carrots, mangels, turnips or beets which do not find a ready sale on their local market and sometimes the poorer grade can be purchased by the poultryman at a price that makes it an economical investment.

FATTENING CRATES

The purpose of the fattening crate is to so confine the birds intended for market that they will have little opportunity for exercise, and will be grouped within a small space so that the labor of feeding can be reduced as much as possible. A number of crates built together, as is usually practised at the feeding stations of the packing houses, is called a battery. The floor of each crate is 1-inch mesh woven wire, which allows the droppings to work down into the dropping pan below. The crates should be placed in the coolest spot possible. If this happens to be a shed, care should be taken to provide an abundance of ventilation without direct drafts.

MARVEN'S
WHITE LILY BISCUITS

Surely Satisfy Sister, Sweetheart,

Soldier, Son, Everyone

Many Lines

All Good

SOLD IN BULK -- IN PACKAGES -- IN TIN PAILS

J. A. MARVEN, LTD.
BISCUIT MANUFACTURERS
MONCTON HALIFAX ST. JOHN

ITCHY LEGS

Veterinary Editor: "Could you give me a cure for my mare? She is itchy in her hind legs. At night she stamps in the stable. I feed her well and she is working every day and is in good health otherwise."

Ans.: Make a solution of corrosive sublimate at the strength of 30 grains to a quart of water. Heat a little of this to about 105 degrees Fahr. and rub well into the skin of the legs twice daily until itchiness ceases.

Where clover and timothy are grown together it is necessary to cut the crop before the timothy has quite reached the proper maturity in order to catch the clover at the right stage. It is customary to gauge the time of cutting by the maturity of the clover.

End Your Suffering!

Each year thousands of people throughout Canada put an end to their sufferings by the prompt use of Gin Pills. It is estimated that in the Dominion alone one out of every fifteen people annually use and derive the greatest benefit from these wonderful pills.

Prepared with the greatest care and thought from a formula that was only achieved after profound study and patient experimenting.

Gin Pills FOR THE KIDNEYS

have done more to relieve pain and prevent serious Kidney and Bladder Troubles than perhaps any other preparation that can be obtained.

Mr. Frank Ide, a pullman conductor, suffered intensely from pains in the groins, sore back and very severely from gravel and sediment. After taking Gin Pills Mr. Ide wrote us. "The pain left me entirely. I have no trouble whatever in urinating and I feel as well as I ever did in my life. I recommend Gin Pills to everybody in any way troubled with kidneys or bladder."

Mrs. Percy, Halifax, N.S., after trying a sample sent for six boxes. She wrote:—"Before I fiuished the third box I found myself for the first time in years free from pain—the pains did not return. I wish everyone who suffers from backache and kidney trouble would use Gin Pills. They are great,"

If you suffer with pains in the groins or back, Rheumatism, swollen ankles, stiff joints, gravel, constant headache and lassitude, constipation and dizziness, take Gin Pills and nip the trouble in the bud.

Send for free sample or get a box from your druggist or dealer, 50c with money-back guarantee.

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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to houschold science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

October's woods are bright and gay, a thousand colors vie
To win the golden smiles the Sun sends gleaming through the sky;
And though the flowers are dead and gone, one garden seems the earth,
For in God's world, as one charm dies, another starts to birth.
—John Reade.

THE BRUTE-JAW

By Josephine Page Wright

Mary had never stopped to analyze her happiness with her husband; she had never considered the remote possibility of unhappiness with him until the day she saw him strike their young son. Then she remembered many thngs, things that came tumbling out of the past like so many pestiferous insects.

She remembered the day she had announced her engagement, Edith, who afterwards was to be the maid-of-honor, received the news with disconcerting gravity. "I hope you may be very happy, Mary," she had said. "But I never should have the temerity to marry a man with a jaw like Robert's." Mary had laughed at the time.

Now Mary remembered the advice of her own mother. "You have always been more or less domineering, Mary. If you marry Robert you must curb that trait. A man wtih a jaw like Robert's will not stand for petty tyranny."

And even Robert's own mother had said, "We have the Blackstone jaw, both of us. I fancy it will never make trouble for you. You appear to be sensible."

Mary thought her husband very handsome. She was proud of his height, of his broad shoulders, of his big brown hands, of his grim, unsmiling mouth. Who wanted a man to be always agrin? She wanted Robert to be just as he was—until she saw him strike Bobbie.

Bobbie read everything. Mary was rather proud of the fact and was reluctant to interrupt his reading, even when bed-time came. When Bobbie was nine, he began to take advantage of that reluctance.

"Bobbie, dear, it is bed-time," suggested Mary one evening.

"Yes, just a minute," acquiesced Bobbie.

Robert laid aside his paper and watched his young son thoughtfully. Mary, in turn, watched her husband a little anxiously and with vague stirrings of resentment. Bobbie's very innocence of error made her his champion.

"Bobbie, dear, it is bed-time," she prompted tremulously.

"Yes, just a minute," acquiesced Bobbie, turning a leaf and beginning another chapter.

Mary turned to her husband with sudden apprehension. Robert met her eyes squarely and turned deliberately to the war news. Mary sighed with relief and resumed her novel. The hands of the clock continued to move relentlessly toward nine.

As the hour struck, Mary arose nervously, and put her hand on her son's book. The boy, without raising his eyes, withdrew the book from her touch slowly but firmly.

"Bobbie dear," pleaded Mary, "it is an hour past your bed-time."

"Yes, just a minute."

A firm large hand fell suddenly upon the lad's shoulder and Bobbie was dragged to his feet. The book, a handsome edition of Kipling, fell to the floor and lay with crumpled pages. Bobbie's eyes followed the book longingly and then looked into the eyes of his father.

"I am going to finish the chapter," defied Bobbie.

"You are going to bed at once," contradicted his father quietly.

Bob was tall and sturdy and his attitude of defiance made him appear manly. When, however, his will met that of his father, years and dignity were stripped from him and he began to whimper like a child of four.

"Go to your room," he commanded.

If the blow had fallen upon Mary's own shoulders it could not have struck her with greater force. She turned bewildered eyes from the door through which her son had just passed to her husband's face. The face was as serene as an April day after a shower.

"He's had that coming to him for some time," smiled Robert as though Mary must agree with him perfectly.

But Mary stood before him mute, seeing not the smile but only the brute-jaw. Yes, that was what they had meant, Edith and the others. She had been blind not to see it long ago. Robert had the strong square jaw of a brute and she had never seen it until he struck Bobbie.

"Robert," she begged, after an awkward pause. "I want you to promise me never to strike Bobbie again. I do not wish to have him punished that way. You do not understand. Few men do understand. It will break his spirit or it will make him—make him brutal as you are."

The smile was gone from Robert's lips.

"Go to bed, Mary," he counseled gravely. "Go to bed. You are as nervous as the boy."

She went to Bobbie's room to kiss him good-night and comfort him. He was fast asleep and there were no traces of tears on his cheek. She retired to her own room and locked the door. This was what women had meant when they spoke of domestic troubles. It might even lead to a separation from Robert. Mary shuddered. She resolved to be wise and patient but she knew she must stand between her child and brute force. She fell into a troubled sleep and dreamed that Robert had tied Bobbie to the bedpost and was whipping him with a riding-crop.

It was the memory of this dream which chilled her heart and soul and brought her down to the berakfast-room, a frozen image of her natural loving self. Robert and Bobbie were there before her and were chatting away in the most friendly fashion. That was like Bobbie.

"Sleep well?" asked her husband kindly.

"No," she answered, "and when I did sleep my dreams were troubled."

"They would be naturally. I tell you, Mary, it doesn't pay to go to bed in the frame of mind you were in."

Mary raised her eyebrows. "Frame of mind? Really I had control of myself, I believe."

"I wonder," muttered Robert into his second cup of coffee.

Graduall ythe ice that held her better self melted and she was able to meet and to talk to Robert with something of the old freedom. But in the background lurked a nameless fear.

One evening Bobbie begged to come and read his book in the library where they were sitting. Mary granted the permission reluctantly. Bobbie had been nervous and fretful and she feared to have him face his father in that mood. She was beginning to worry a littel about Bobby. He was not like other boys. Although this fact was oftenest a source of pride, sometimes the fear that the difference might make it hard for the boy in years to come troubled her.

This night Bobbie, as before, was absorbed in his book. He responded readily enough, however, to his father's command to light the fire. The servants had laid the paper, kindling and logs ready for the match. Bobbie liked to start the blaze and Mary realized that Robert had meant to please the boy in giving him the task. Bobbie struck several matches before the paper caught the spark. As the flames sprang up, Bobbie watched them with dreamy eyes. Bobbie was a dreamer. But like many another dreamer he let the match in his hands burn his fingers.

"It hurts," he whined and put his fingers into his mouth.

"Nonsense," said his father. "It doesn't hurt. Take your fingers out of your mouth."

"It does hurt," persisted the boy and the tears rolled out of his eyes.

"Bob, stop crying this instant," commanded his father.

"I-I c-cant stop crying," blubbered the boy.

Robert made a rush for his son. The big brown hand shot out, the open palm slapped the side of the lad's face. The blow caught the little fellow off guard and he staggered.

Mary looked at her child and then stepped quickly between him and her husband. Robert took a step forward but she waved him back.

"What do you want?" she demanded hoarsely. "Your work is done."

"Mary," protested Robert, "you are insane."

Mary threw wide her arms. "You shall never touch him again. You shall never even see him again—you brute!"

She left the boy and followed her husband into the hall.

"May I ask you to make all arrangements for Bobbie and me to leave Monday for the west?" she said.

"You think he will be better with your mother for a little time?" he faltered.

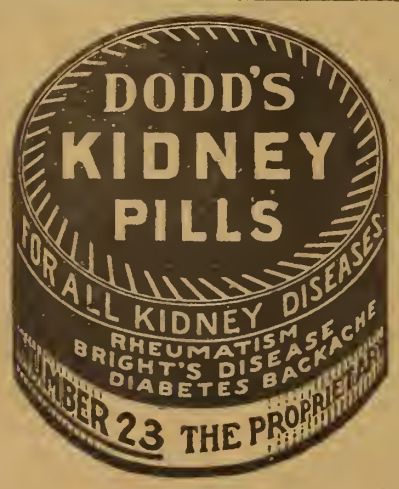
"Do not pretend to misunderstand me. I do not intend to come back—ever," she said coldly.

"Things like this are not settled so quickly," he reminded her. "The law gives me rights—"

"Would it? Would the law grant you any right in the face of this?"

He looked at her long and earnestly but she would not meet his eye. His face was still white and his hands trembled. He drew himself to his full height and clenched his hands.

"Yes," he said, "I shall see that you get away the first of the week."



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The Big Value Package that is Guaranteed.
Perfectly packed in bright lead foil, and price marked on every package.

ARE YOUR BOWELS Constipated?

If So, Watch Your Health.

Unless one has a free action of the bowels, at least once a day, constipation is sure to ensue and it is one of the ills that causes more ill-health than any other trouble of the human system.

Keep your bowels regular by using Milburn's Laxa-Liver Pills and you won't be troubled with your stomach, you will have no sick or bilious headaches, no jaundice, piles, heartburn, water brash, catarrh of the stomach, floating specks before the eyes, and everything will not turn black and make you feel as if you were going to faint.

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Milburn's Laxa-Liver Pills are 25 cents a vial at all dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

She returned to the room and found Bobbie in bed.

"Please hand me the book I was reading when—when—"

She did not see Robert again until she met him at the station. Bobbie was frisking about, wild with the excitement of the proposed journey. When he saw his father he made a dash for him but Mary, alert, headed him off. She gave him change and told him to buy magazines to read on the train. Robert saw the move and rebuked her.

"Does that mean that I am not to say good-bye to him?"

She shrugged her shoulders. "Oh, of course, if you really care to."

Robert handed her the tickets. She examined them hastily and found in the envelope which contained them a large roll of bills. She took the bills out and deliberately dropped them upon the station-platform.

"Something of yours, I believe: Will you pick them up, please?" she said sweetly.

He stooped to gather them and stuffed them into the pocket of his topcoat. His face was flushed and Mary noticed that it was thin and that there were lines on it that she had never noticed before.

"Mary," he protested, "all this is not like you. You may refuse my money if you hate me so. But I claim the right to support my boy—"

"You boy?" she interrupted. "Your boy? Why you have no boy. That boy" pointing to Bobbie, "that boy is all mine."

Bobbie came back with his arms full of magazines. His face was rosy and full of the light of adventure. He liked to travel, did Bobbie, and he wished his father to know that he wanted him to go too. He sang out the invitation from half way across the platform.

"Can't do it my son," said Robert in an effort to speak lightly. "But you must be a manly little fellow and take care of mother. I want you to be manly, remember that. Be game."

Mary pulled the boy across the tracks and into the train. And there was a new bitterness in her heart because the little fellow waved good-bye to that silent figure on the platform, waved until it was out of sight. She sank down into the corner of the seat and cried until her eyes were red and her throat was parched and dry.

"Never mind," comforted Bobbie. "We'll have the good time of seeing grandpa and grandma and then we'll go back to dear old daddy."

"You poor, sweet, forgiving child," sobbed Mary under her breath.

Tears must have washed some of the bitterness away for when Mary regained her composure, she felt no sharp hatred of Robert's deed, only a hopeless sort of apathy, a feeling that she had lived her life, all of its joys and all of its terrors. There was nothing left but Bobbie, to live for him, to fight for him, if necessary to die for him.

The journey was long and tiresome. She began to dread meeting her parents. She dreaded the necessary announcement. She knew that they both loved Robert and she hated to kill that love by telling them of his great brutality.

Her father and mother were at the station to meet her. But their eyes were all for Bobbie. They fondled him, they held him at arm's length and tried to trace likenesses of beloved relatives in his immature features.

"But there's one thing I'm mighty glad of," concluded Bobbie's grandfather. "He's going to have a jaw like his father."

"Like Robert's?" gasped Mary.

"Why, yes, it's a lot like Robert's. Not so strong yet. Maybe it's because Bobbie's young. Maybe it's because you spoil him. You don't spoil the boy do you, Mary? It would be a pity for a boy to have a chin like that and then let it wobble."

"Are you sure Bobbie is a real boy?" questioned Mary's mother several days later. "I don't think he should play good for him. I think he should play around the house so much. It isn't with the Kelly boy."

"Is the Kelly boy a nice child?" asked Mary.

Bobbie's grandfather laughed suddenly. "He's just the boy for Bobbie to play with—now."

Mary dressed her son in what she considered an excellent play suit. His stockings were heavy but trim, his sandals were new and fit him perfectly, his white flannels were immaculate and his tie jaunty.

"H'm," said grandfather when he saw him, "so you're going to play with the Kelly boy, are you? Well he's as square a boy as you'll find asywhere. If I were you, I would appreciate him."

Bobbie had a wonderful time. His clothes were dirty when he returned tired and happy in the evening, but he was ready for another adventure next morning and Mary decided that the problem of companionship for Bobbie had probably solves itself.

In a way she was disappointed. When she left her husband for the sake of her child she had hoped that she and Bobbie might grow to be inseparable companions. She never could go back to Robert, but the place which he had filled in her life was larger than she had realized. She would not admit to herself that she wanted Robert but she did want something to make her forget him, something to take his place. And Bobbie was quite happy to play all day long wtih the Kelly boy.

Thus in her wanderings she came upon a low hedge which separated her from the lot in which Bobbie was playing with the Kelly boy. She heard and recognized their voices and with a mother's interest paused to listen. The fact that they were quarelling became obvious and something in the exasperating whine of her own boy made her delay intervention. For the first time in her life she was dispelased with Bobbie's conduct and she did not know why.

"You've got to take your turn," the Kelly boy was saying.

"But I am not going to play any more," announced Bobbie nonchalantly.

"You've got to take your turn or you're not game," persisted the other. Mary noticed that there was more of surprise than rebuke in the tones.

"I don't want to be game and I don't want to take my turn," boasted the incautious Bobbie airily. "I'm going home now anyhow. I don't like to play with you. You're rough.

"You can't turn me down like that." There was more than a trace of anger in the tones of the Kelly boy now. "You've got to take your turn or you have got to lick me."

"I don't want to fight. I'm a gentleman and I don't want to fight," shrilled Bobbie.

"You've got to fight," growled the Kelly boy between set teeth.

Mary looked over the hedge in time to see Bobbie receive a blow on the end of his unguarded nose. The Kelly boy stepped back, throwing both arms to his own defence. But Bobbie did not strike back. He cringed against the wall, covering his face with flabby outspread fingers. Mary expected to

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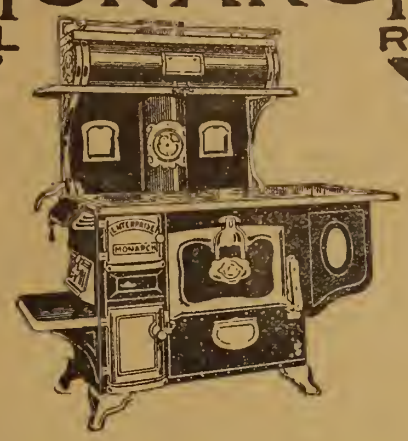

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see her son's opponent follow up his advantage. She stepped through the hedge and confronted them.

"Is he your boy?" asked the Kelly lad looking straight into her eyes.

With no feeling of pride Mary confirmed the suspicion. She saw her own boy come swiftly to her side and snuggle into the protection of her skirts. His hands were still before his face and he was crying audibly. He was bent at the shoulders but even so he was taller than the boy before them.

"He don't know how to fight, does he?" asked the Kelly boy, the wonder of it awing him a little.

Bobbie continued to sob. His mother shook herself loose and confronted him in a blaze of anger.

"Bob, stop crying this instant."

"I-I-c-can't stop crying," he snivelled.

Mary raised her hand and struck him with the force of her disappointment in him. "You're a coward," she cried, "a silly little coward."

Six days later Mary and Bobbie opened the door of their own home. The house was darkened and Mary peered into the shadows and shuddered. Bobbie tugging at the suit case kept wondering where his dear old daddy could be.

"Take the baggage up to my room and stay there till I call for you," smiled Mary. But in spite of the smile there was an imperiousness in her tone which Bobbie rather delighted to obey.

Mary found Robert in his study. He had fallen asleep and she saw the marks of suffering on his handsome face. She knelt at his side and rested her head on his shoulder.

"Robert," she aroused him softly.

"Mary," he breathed. "You have come back?"

"Oh, how can I tell you. I have been brutal. so much more brutal than you could ever be. There is nothing in the world more brutal than a self-satisfied woman. But I have suffered—I have suffered enough!"

"Yes, Mary," he agreed, "you have suffered enough. But you have come back. Lord, how hungry I have been for you and the boy."

He kissed her tenderly and then sat with his face close to hers.

"I have come back because I was starved for you. But if I hadn't loved you as I do, I should have come for the boy's sake. Bobbie needs you. He is an atrocious little coward. You see, dear, he has your splendid jaw but it's wobbly yet. Do you think you can make it strong and firm like yours?"

"Mary, I am quite sure we can make a man of him."

(End)

PRECAUTIONS THAT KEEP THE CHILDREN FROM TAKING COLD

The wise old saying, "An ounce of prevention is worth a pound of cure," is especially aplicable to the management of the child who takes cold easily.

Living in an area which hygenic and preventive methods go hand in hand with medicine, the intelligent mother is in a position to use these valuable aids in correcting such a tendency and it is solely of these that the present article treats.

One of the first steps is to ascertain whether there is a ny superfluous growth of tissues in nose or throat.

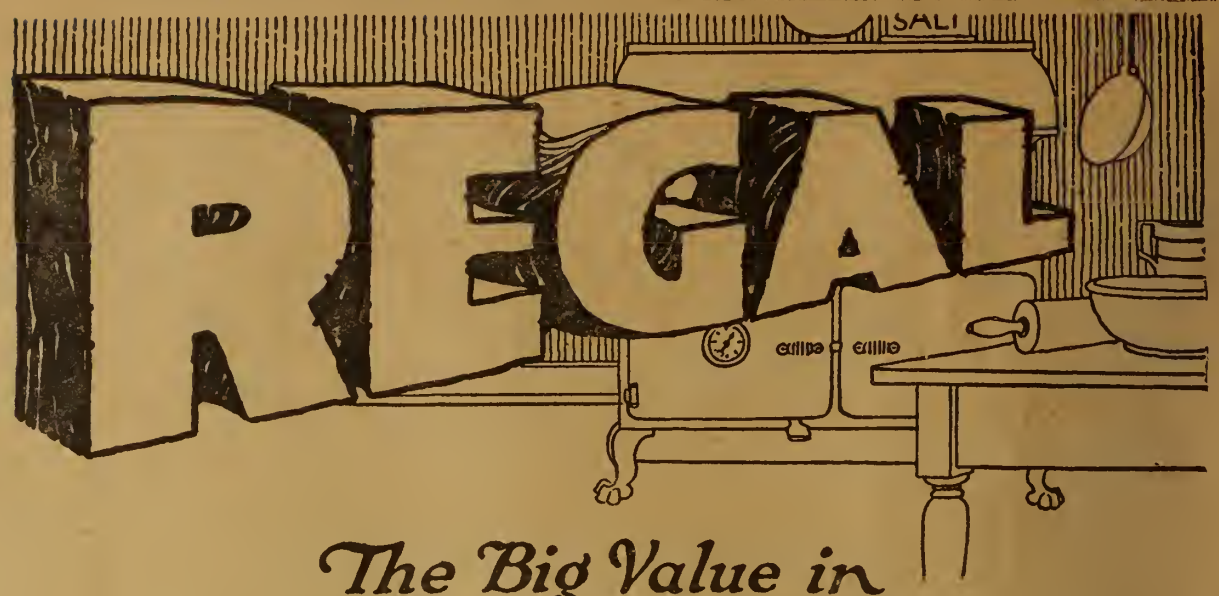
If your physician finds that small bunches of gristly, grape-like growths called adenoids clog the passage from nose to the throat or that the tonsils are abnormally large, obstructing the breathing and are often sore and painful, he will probably advise their removal. It is advisable to give your immediate consent to this as the process is very simple, causing only a day or two of discomfort, with little or no pain.

And your child who has a thick voice, perhaps a vacant expression, noisy breathing with open mouth, headaches or dull hearing, will be wondrefully relieved of colds and sore throats, and will improve markedly in mind and body.

The Right Amount of Clothing

Colds often arise from insufficient clothing causinb chilled extremeties and blue lips. With babies, they are often caused by lack of proper protection for the head when in the open air. Too much clothing, bringing out free perspiration, and causing a moist skin to be exposed to currents of cold air is as bad as too little clothing.

Overheated houses are a fruitful source of colds. The temperature of



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the rooms, especially those occupied by children should be maintained at a temperature of 68-70 degrees F. This is of the utmost importaoce for children who succumb readily to colds.

The child who leaves an overheated room in winter to go out into the cold outdoor air for exercise, even if it is well clad is not able to react promptly to the great difference in temperature that it encounters. Badly ventilated rooms and over indulgence in food either digestible or the reverse, reduce the vitality and resistive powers, so that a cold often results.

Your child should never be permitted to use the pocket handkerchief of another person, nor to come in close contact with any one suffering with colds as cold are undeniably communicable.

Guard against the bed clothes being thrown off at night, or when overheated, by securing them in such a way that the body is protected without interfering with the child's normal movements. Give the child extra covering at night if there is a sudden fall in temperature.

Babies should not be held near a window or draft on cold or damp days, nor allowed to play upon the floor in winter, nor carried from a warm atmosphere into a cooler without some protection.

Do not expose a child to dust nor allow it to sit in drafts or in the wind. Be on the watch for wet feet and have soaked or damp stockings and shoes changed at once; they are often to blame for colds.

Exercise that keeps the circulation even, that increases a development of the muscles and raises their tone is a great aid in bringing up the child's resistive powers.

Hardening is an important process and after your child is a year old you should gradually accustom it to a cold bath (daily.(It should be sponged each morning on back and chest with cold water.

Give Cold Baths Gradually

When the tub bath is given, after the child has been cleansed in warm water, the body should be sprayed with a hand spray, beginning with warm water and gradually lowering the temperatur as much as the child is willing to bear each time a bath is given.

In a short time it will endure and enjoy much colder water than was at first possible. Finally an entirely cold bath can be given.

A salt bath in the proportion of a tablespoon of salt to a gallon of water is very beneficial. There should be a thorough rubbing after the bath, especially in winter, until the skin is in a glow. In summer pat gently until dry so as not to begin the day in a perspiration with moist underwear.

During the hours of sleep see that there is a plentiful supply of fresh air even in winter. After the age of six months the sleeping room windows should be open at top and bottom, varying in amount according to the weather.

The child that is over a year old may have the room flooded with cold air, provided the bedclothing and sleeping garments are adequately warm and the bed is not in a draft and the sheets in winter are of flannes instead of cotton.

Sleeping out of Doors

If you are so fortunate as to have

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an upper porch that can be screened from rain, snow, and wind and used for sleeping purposes, the child that has passed babyhood can spend its nights there with advantage.

It should not, however, be allowed to become chilled there on its way to or from the suitably warm room where it is dressed and undressed. Sleeping out of doors is an excellent way of hardening the growing child but this should be started in mild weather.

When a cold appears in spite of precautions, it should be cured as quickly as possible, for each one that runs its course unchecked leaves the child more susceptible than before.

If it obstinately hangs on after the usual measures of hot drinks followed in a day or two by bed cleansing the nostrils and throat with a strong salt solution and correcting constipation, a doctor's advice should be asked at once.

For, besides the danger of allowing the mucous membrane to become chroncically tender and inflamed, certain of the contagious diseases come on with the symptoms of a common cold or sore throat and precautions for your own child's safety and the well being of others cannot be taken too soon.

MIXING AND MAKING CAKES

Follow These Rules And You Can't Have a Failure

Cakes form pleasant adjuncts to the necessaries of the household, and are only of secondary importance to bread making. There are four ways of making cakes.

The first method is used for plain cakes. The butter, lard or dripping is rubbed into the flour in the same way as for short pastry then the dry ingredients, such as sugar, fruit and spice, are added and lastly the eggs and milk. All are then well mixed together.

The second way is used for fruit, pound and seed cakes. The butter and sugar are creamed together, the eggs beaten in one at a time, and the fruit and flour stirred in lightly and quickly at the last.

In the third way the eggs and sugar are beaten together until thick and creamy, then the flour is stirred in lightly and quickly. This is used chiefly for sponge cakes and cakes of that texture.

For the fourth way the sugar, butter, milk and sirup or molasses are melted together, then cooled slightly and added to the dry ingredients. The method is used for gingerbreads.

Care must be taken to insure the right consistency of cakes. The mixture should be fairly stiff. If too moist the fruit will sink to the bottom.

For rich cakes the tins should be lined with paper, the paper coming a short distance above the tins, so that the cake is protected as it rises. For very rich fruit cakes, experience has shown that it is best not to grease the paper or tin. The cake is not so liable to burn, and then paper can be removed easily when the cake is done without injuring it. On the other hand, if tins are lined for sponge cakes or jelly rolls, the paper should be greased.

I should like to mention that when mixing cakes in which baking powder, carbonate of soda, cream of tartar or tartaric acid are used, almost everything depends upon the handling which should be as light and as little as possible. The more richly such cakes are made, the better they will be, and two cooks working from the same recipe will often produce entirely different results if one kneads her mixture and if it were household bread, while the other handles it with due lightness of touch.

As soon as the baking powder or other rising medium is added to the mixture, the cake should be put into the oven as quickly as possible. Soda alone is never good in a cake where there is butter or dripping, unless some substance containing acid is used along with it. Molasses is one of the substances containing acid.

The greatest care and cleanliness must be exercised in all cake making; and accuracy in proportioning the materials to be used is indispensable. The flour should be thoroughly dried and sifted, and lightly stirred in. Always sift flour before measuring, then stir it again with the baking-powder to insure a thorough blending. Good cakes can never be made with indifferent materials.

Eggs are used both as an aerating agent and as one of the "wetting materials." It is not economy to buy cheap eggs, for such eggs are small, weak, colorless, and often very stale. Eggs should be well beaten, yolks and white separately, unless other directions are given. The yolks must be beaten to a thick cream and the whites until they are a solid froth.

Sugar tends to improve the texture of cakes, and when cheap cakes are made plenty should be used, provided that the cake is not made too sweet. It sould be dissolved before added to the fat and flour.

For best cakes, and all that are required of a light color, fine-grained sugar should be used. With coarse grained sugar there is danger of producing specks which show on the cake after baking, unless they have been made by the method of beating up the eggs and sugar together with a beater over hot water. This method will dissolve the grains of sugar.

Always buy the best fruits for cake

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making, as they are sweetest and cleanest. Currants and sultana raisins for cakes should not be too large but of medoum size and sweet and fleshy. Cheap, dry sultanas should not be used. Though there is no need to wash sultanas, yet if the fruit is inclined to be very dry, it will be better to do so than to put it in to spoil the appearance and the flavor of the cake. Currants should always be washed, cleaned and dried before using. Orange, lemon and citron peel should be of good color and flavor. They should not be added to cake mixture in chunks, as is often done, but should be in long shredded pieces. Large pieces of peel are sometimes the cause of cake cutting badly.

In making fruit cake add the fruit before the flour, as this will prevent it falling to the bottom.

If a cake cracks open while baking, the recipe contains too much flour.

In recipes in which milk is used as one ingredient, either sweet or buttermilk may be used, but not a mixture of both. Buttermilk makes a light spongy cake, and sweet milk a cake which cuts like pound cake.

In creaming butter and sugar, when the butter is too hard to blend easily, warm the bowl slightly, but do not heat the butter, as this will change both the flavor and texture of the cake.

For small cakes have a quick oven so that they set right through and the inside is baked by the time the outside is browned. For all large cakes have a quick oven at first, to raise them nicely and prevent the fruit from sinking to the bottom. The oven should then be allowed to become slower to fire the cakes thoroughly.

Cakes must not be hurried. Keep the oven steady though slow, and after putting a large cake into it do not open the door for at least twenty minutes. If the door must be opened, special care should be taken to close it very gently. If it is slammed carelessly, the shock may make the cake fall, and a quantity of cold air will be shut in which will check baking.

A very light cake put into a quick oven rises rapidly round the sides, but leaves a hollow in the middle. An excess in fat and sugar may also cause this; but there are other causes. If a cake is made too light with eggs or powder and an insufficient quantity of flour is added, it will drop in the centre. Another frequent cause is the moving of cakes while in the oven before the mixture has properly set. The same defect is produced if the cakes are removed from the oven before being baked sufficiently.

When a cake curdles, the texture will not be so even as if curdling had not taken place. Sometimes the mixture will curdle through the eggs being added too quickly, or if the butter contains to much water. This forms a sirup with the sugar and after a certain quantity of eggs has been added the butter will slip and slide about, and will not amalgamate with the other ingredients. Before turning it out allow it to remain in the tin for a few minutes. It is best to lay it on a wire cake stand, or lay it on a sieve; but if you do not possess these things, a loosely made basket turned upside down will do. Do not place cakes in a cold place or at an open window, or the steam will condense and make them heavy.

Wife—And knowing my sentiments on the subject, did that odious Mr. Binks insult you by offering you a drink?

Hubby—That's what Mr. Binks did.

Wife—And how did you resent it.

Hubby—I swallowed the insult.

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This is a true story.

It was at Madagascar Corner, that corner out there in France which the ammunition wagons and supply trains used to pass when going up the line to the left Arras front.

The Hun had been harrassing the wagon lines of the Canadian field batteries: and in one of the huts one of the victims of German mathematical accuracy lay. He was almost cut in two. His face was the color of paper, but he was still conscious.

"You'll be all right in a little while, old man," one of the men who had carried him in remarked.

"Cut out that stuff!" The dying gunner snapped, although his voice was feeble. "I'm done for and you know it. But it isn't worrying me: I'm not afraid to die. I've lived a pretty fair life."

They buried him back there at Savy.

How about you? Have you lived a pretty fair life? Have you done the right thing?

When you subscribe to the Victory Loan, 1919, you are doing the right thing; you are performing one of the acts that go to make up a "pretty fair life."

Mistress—Now, Bridget, there's no use of further argument as to how the dish should be prepared, but our ideas on the subject are so different that it is evident one or the other of us is crazy.

Bridget—True for ye, mum—an' sure it isn't yerself'd be kapin' a crazy cook.

KNITTING MACHINES FOR MONEY MAKING HOME, & RED CROSS WORK

Catalog free. CREELMAN BROS, Mfrs., Box 718 GEORGETOWN ONT.

MARKETS.

THE PROVISION MARKET

Oct. 10.—The Toronto market for live hogs on Monday was steady to firm with sales off cars at $18 per 100 lbs. and fed and watered at $17.75 to $18, but at the close of day buyers were only bidding $16.25 per 100 lbs., f.o.b. for delivery on Tuesday which figure is 50c per 100 lbs. below what they closed at last week. There was no change in the local market today, prices being firm with a good demand from packers for all offerings and sales of selected lots were made at $17.50 to $18 per 100 lbs. weighed off cars. The trade in dressed hogs in a jobbing way was steady and prices were unchanged with sales of abattoir fresh-killed stock at $25.50 to $26 per 100 lbs.

There were no new developments in the market for smoked meats. A fair trade continues to be done in a jobbing way, there being a steady demand for supplies for domestic consumption, of which supplies are ample to meet all requirements. Sales of 8 to 10 lb. hams were made at 35c to 36c per lb. 12 to 15 lbs. at 33c to 34c, and heavy weights at 32c, while breakfast bacon sold at 44c to 45c, Windsor selected bacon at 46c to 48c, and Windsor boneless and skinless bacon at 50c

According to advices from London under date of September 20th, the market remains in an unsatisfactory state for Canadian and American bacon, and some time must elapse before matters are properly straightened out. The heavy accumulation of stock is being dealt with more expeditiously. Importers are allowed to handle their own brands, so that a more speedy clearance is assured. The market, however, is overdone with bacon out of condition, for which there is very little off-take, buyers discriminating strongly against these descriptions. Imports have been somewhat reduced from Canada and the United States, and the exports from Denmark have temporarily ceased, but in the course of the next few months shipments will be on an increasing scale.

There was no further change in the condition of the local market for lard, the feeling being still easy at the recent decline in prices on account of the large supplies available on spot. The demand at present is principally for small lots to meet immediate wants and sales of pure leaf grades in a jobbing way were made at 30c to 30½c per lb. in 20 lb. wood pails, and compound lard at 28c to 29c per lb. in 20 lb. wood pails.

The receipts of provisions today were 2071 packages lard, 514 boxes hams and bacon, and 1524 packages tinned meats.

Chicago, Oct. 9.—Provisions dropped in sympathy with hogs. There was no aggressive support. Prices closed 55c to $1.60 down.

Future quotations were:

	Open	High	Low	Close
Mess pork per bbl.:				
Oct. ...	———	———	———	$36.00
Jan	$32.60	$32.70	$32.37	$32.37
Lard, per 100 lbs.:				
Nov. ...	26.30	26.35	26.25	26.25
Jan. ...	23.80	23.85	23.15	23.17
Short ribs, per 100 lbs.:				
Oct. ...	19.00	19.10	18.70	18.70
Jan. ...	18.00	18.07	17.57	17.57

Cash prices closed: Pork, nominal. Lard $26.27. Ribs, $18.25 to $18.75.

BUTTER MARKET FAIRLY ACTIVE

(Montreal, Oct 10.)

The receipts of butter today were 1,287 packages, as against 1,727 for the same day last week, and 2,166 for the corresponding date a year ago. The offerings at Gould's Cold Storage today amounted to 300 packages of creamery butter, for which the demand was good and all sold at 54c to 54½c per lb. f.o.b. country points. The tone of the market continues strong and prices are steadily tending toward a higher level under a good demand for round lots for shipment to the United States and sales of several care ewere made today including one car of finest Eastern Townships creamery at 57c per lb. and one car of western creamery at 56c. The total shipments of creamery butter from here to New York last week were 13 car loads, aggregating 6,242 packages, and two car loads of dairy butter. There were received in Montreal last week 5 cars of western creamery. There has been no change in the wholesale jobbing prices as yet, sales of finest cramery being made today at 57c per lb in solid packages, and at 58c in 1 lb. blocks, but the indications are that they will be marked up in the near future.

We quote wholesale jobbing prices as follows:

Pasteurized creamery	57 c to 57½c
Finest creamery	56½c to 57c
Fine creamery	55½c to 56c
Finest dairy	52c to 53c

The receipts of cheese today were 13,439 boxes, as compared with 10,675 for the same day last week, and 12,884 for the corresponding date a year ago. At Gould's Cold Storage today there were between 2,000 to 2,500 boxes offered for which the demand was keen and all sold on the basis of 25c per lb. for No. 1 grade delivered in store here. In addition to the above there was also a good demand between houses for supplies and especially so for colored goods and sales were made at 26⅜c to 26½c per lb. with 25 15/16c bid for white and refused. Of the total stock of cheese in store here at the end of last month it is estimated that fully 200,000 boxes belongs to the Cheese Export Committee . It is reported that the low rate of exchange of late has interfered with business for Belgium account. At the old par of exchange the franc was worth 19.3c, today it is worth 12.3c. At the old rate 100 francs would buy $19.30 worth of cheese, while at the current rate it required 157 francs. The loss in purchasing power is therefore 57 per cent. and this means an addition of about 14½c per lb. to th cost of the cheesee.

The Canadian Cheese Export Committee will pay the following prices for all cheese delivered to warehouse, Montreal:

No. 1 grade, per lb.	25c
No. 2 grade, per lb.	24½c
No. 3 grade, per lb.	24c

New York, Oct. 10.—Butter steady. Receipts 10,813 tubs. Creamery, higher than extras, 65c to 65½c; creamery, extras, 92 score, 64½c; firsts, 54c to 63½c; packing stock, current make No. 2, 46c. Cheese steady. Receipts 4,533 boxes. State, whole milk ats, current make, specials, 30½c to 31¼c, do. average run 30c to 30¼c. State, whole milk, twins current make, specials, 30c to 30½c; do. average run, 29½c to 29¾c.

COUNTRY PRODUCE

Eggs Active and Firm—New Crop Honey Moving

Montreal, Oct. 10—A good steady trade continues to be done in eggs for local consumption, and the market is fairly active with a firm undertone. The demand is principally for selected stock and the movement of this grade is large for which most dealers claim to be realizing 63c per dozen. The trade in strictly new laid stock is only fair, while the demand for No. 1 and No. 2 eggs is slow. The receipts today were 5,802 cases, as against 11,574 for the same day last week, and 938 for the corresponding date a year ago.

We quote wholesale jobbing prices as follows:

Strictly new laid eggs	00c to 68c
Selected stock	00c to 61c
No. 1 stock	56c to 57c
No. 2 stock	52c to 54c

There was no further change in the condition of the market for poultry today. The demand continues good for supplies for local consumption for the season of the year, and the offerings are ample to meet all requirements with the exception of turkeys, which are rather scarce on spot. The prospects are that as soo nas the weather becomes colder a very large trade will be done as stocks on spot are comparatively small as compared with other years at this period.

We quote wholesale prices for live poultry as follows:

Chickens, broilers	N22c to 26c
Chickens	20c to 25c
Fowl, heavy	25c to 28c
Fowl, light	17c to 23c
Roosters	15c to 17c
Young ducks	17c to 22c
Old ducks	15c to 16c
Geese	15c to 20c
Turkeys	00c to 35c

There has been considerable more activity in the market for honey of late owing to the fact that farmers have reduced their prices and show a disposition to meet buyers' views, consequently the latter have been operating more freely and some large purchases have been made of late of white clover honey in comb at 22c to 23c per section, and white clover in 30 lb. tin pails at 20c per lb. f.o.b. country points. The offerings of buckwheat honey are light, for which farmers are asking 17c to 18c per lb. in 30 lb. tin pails, f.o.b. country points.

The market for potatoes continues easy on account of the liberal supplies available on spot for the season and the unfavorable weather prevailing for keeping stock. The demand for car lots is somewhat limited owing to the fact that jobbers are well supplied for the time being, and the last sales of Quebec white stock reported were at $1.40 per bag of 90 lbs. ex-track.

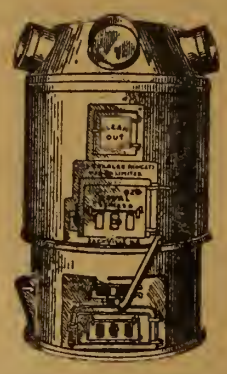
Chicago, Oct. 7.—Eggs unsettled. Receipts 9,984 cases. Firsts, 54c to 56c; ordinary firsts, 46½c to 47½c, cases included, 47c to 55c; storage packed, firsts, 57½c to 58c.

New York, Oct. 7.—Eggs unsettled. Receipts 13,128 cases. Fresh gathered, extras, 66c to 67c; extra firsts, 62c to 65c; firsts, 49½c to 62c; States, Pennsylvania and nearby western hennery, whites, fine to fancy, 83c to 86s. State, Pennsylvania and nearby hennery whites, ordinary to prime, 65c to 81c; State, Pennsylvania and nearby hennery browns, 70c to 73c; do. gathered browns and mixed, 66c to 69c.

LIVE STOCK MARKETS

Cattle and Hog Prices Steady at Toronto

Toronto, Oct. 10—On the local cattle market today there was the usual light run of fresh stock offering today, but with quite a good active demand. Everything, including held-over stuff from yesterday's market, was practically cleaned up at steady prices. For the choicest butcher steers and heifers there was a little better tone



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Is a coal Furnace, which is the result of more than half a century of successful experience and painstaking effort. It is the embodiment of all a Warm Air Furnace should be.

The New Rival is of the finest construction, most compact, durable and best finished Warm Air Furnace on the market. It has large heating surface, every inch of its external area being an active and effective source of heat radiation.

It has many features of unequalled excellence. Accept no substitute or you will regret it.

Ask for circular on Warm Air Furnaces.

Ask your dealer to show you the Fawcett Line or write direct.

CHARLES FAWCETT LIMITED
SACKVILLE · N · B · CANADA

to the market than yesterday. There was no heavy steers in the market and probably none were wanted, but for the handy weight choice butcher there was a very good demand. Lambs firmed up, the market being good and strong at an advance of 50c to 75c. Hogs were nominally the same as yesterday, steady at $16.75 to $17, f.o.b., though as a matter of fact there were no sale tickets marketed up to the noon hour, notwithstanding the new Government regulation requiring that the sale price shall be marked on the weigh scales tickets. At the Union Stock Yards the receipts today were 604 cattle, 393 calves, 784 hogs, and 6,306 sheep and lambs.

ANOTHER ADVANCE IN FLAX PRICES

Winnipeg, Oct. 10.—Messrs. Baird & Botterell wired Shearson & Hammill the following:

Flax—Rapid advancing market. Recent aggressive short sellers on the Argentine news badly punished. The market seems to have advanced entirely too fast for crushers, as there is no evidence of any crushers buying. Argentine is beginning to offer again, although the market has been sharply higher today and yesterday, we rather feel the advance has eliminated the large shorts that must have been built up during the siege of Argentine bearish news, that the trade were furnished with, and we are inclined to the view that actual hedging will become a factor and looked for a gradually receding market against.

Fluctuations in grain today were:

	Open	High	Low	Close
—Barley—				
Oct. ...	$1.28⅜	$1.30½	$1.28⅜	$1.30½
Dec. ...	1.18¾	1.20	1.18¾	1.20
May ...	1.20¾	1.22	1.20½	1.22
Flax—				
Oct. ...	4.08	4.38	4.08	4.27½
Nov. ...	3.97	4.26½	3.97	4.21
Dec. ...	3.81	4.15	3.81	4.09½
Oats—				
Oct. ...	0.80¾	0.81⅜	0.80	0.80
Dec. ...	0.77⅝	0.78⅛	0.77⅜	0.77⅜
May ...	0.80⅝	0.81	0.80⅜	0.80½

Cash prices closed:

Oats—No. 2 C.W., 80½c; No. 3 C.W., 77½c; extra No. 1 feed, 78½c; No. 1 feed, 77c; No. 2 feed, 74c.

Barley—No. 3 C.W., $1.23½; No. 4 C.W., $1.25¾; feed, $1.15½.

Flax—No. 1 N.W.C., $4.32½; No. 2 C.W., $4.23½; No. 3 C.W., $4.02½; condemned, $3.97½.

CO-OPERATIVE SHEEP SELLING

Mr. J. K. King, Maritime Sheep Representative of the Live Stock Branch, has been instrumental in organizing the co-operative shipment of several carloads of sheep and lambs from the Maritime Provinces to the Montreal market. Maritime sheep men have always been at a disadvantage in marketing their stock, owing to lack of stock yard and abattoir facilities. Through co-operative shipping this difficulty is being temporarily overcome. In all eight carloads have been forwarded to date, comprising 759 sheep and lambs. The cars were consigned to and sold by a Montreal commission firm, and the lowest returns secured realized $2.50 to $2.75 per head more than would have been obtained at home. The farmers claim that prices now paid in the country have advanced as a result of co-operative shipments.

MILLFEED AND ROLLED OATS

Montreal, Oct. 10.—The condition of the market for millfeed is unchanged. The demand is good and the market is active with a firm undertone. Sales of car lots of bran were made at $45, and shorts at $55 per ton, including bags, ex-track, and broken lots of bran in mixed cars at $46 to $46.75, and shorts at $56 to $56.75 per ton, including bags, delivered, all less 25c per ton for spot cash. The market for rolled oats is quiet with car lots of standard grades selling at $4.45 per bag of 90 lbs. in jute, and at $5 in cotton, ex-track.

INVINCIBLE

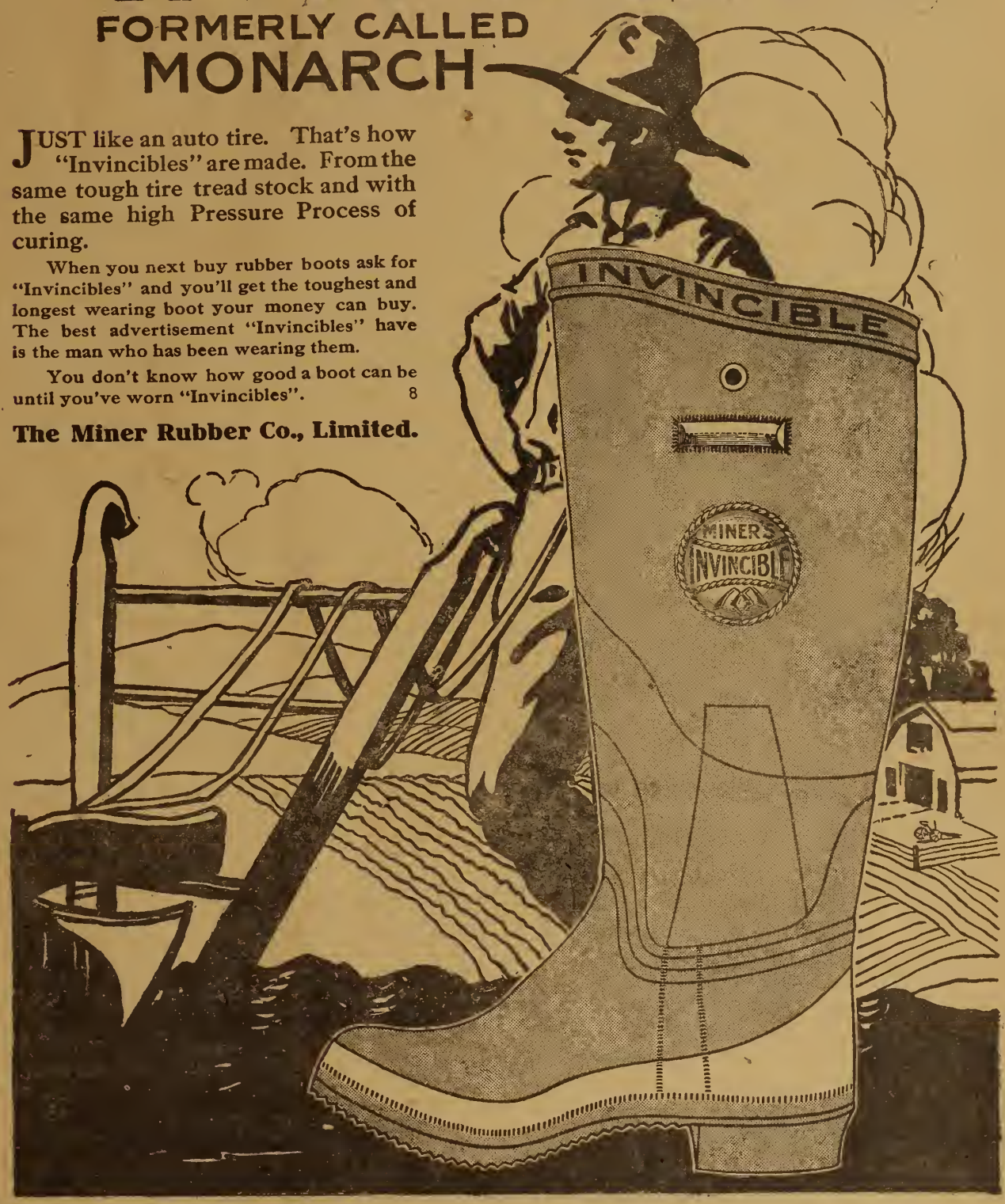
FORMERLY CALLED MONARCH

JUST like an auto tire. That's how "Invincibles" are made. From the same tough tire tread stock and with the same high Pressure Process of curing.

When you next buy rubber boots ask for "Invincibles" and you'll get the toughest and longest wearing boot your money can buy. The best advertisement "Invincibles" have is the man who has been wearing them.

You don't know how good a boot can be until you've worn "Invincibles". 8

The Miner Rubber Co., Limited.



POTTED PLANTS FOR THE WINTER MONTHS

Those desirous of having success with potted plants during the winter months should make careful preparations during the late summer and early autumn, and they will find it much easier to have fine house plants.

If plants are allowed to remain out of doors until injured by frost they cannot be expected to do much during winter .

Lift all pot plants not later than September. Use good soil.

Let the plants become well accustomed to being in the house while it is yet warm enough to have the doors and windows open, for if they are taken indoors to protect them the warm close atmosphere will weaken the plants, and they cannot do as well as if they are hardened and become accustomed to the indoor location.

All plants that are so treated will carry their large thrifty appearance on into the winter and if properly cared for should produce a fine lot of flowers. Buds should be removed during late summer to help produce bloom in winter.

NEEDS OF THE HOME VS. THE BARN

A woman on the farm can make her life about what she wishes it to be, for a great deal depends upon her attitude towards farm life and the work that it brings.

She is an equal partner with "dad" and they should work together. There can be no set and definite lines drawn between outdoor and indoor operations. The improvements that are necessary and can be afforded outside to save time, labor and money, can be afforded and are fully as necessary inside for the same reason.

Any farm that can afford running watre to be pined into the barn for the old "red cow" can afford to furnish the house with the same necessity. If the farmer needs a gang plow, the farmer's wife needs a washing machine run by power. The woman is to blame because her home improvements do not keep pace with the outside improvements. She is too willing to keep doing without and using the tools her great grandmother had. Any man is willing if he is financially able to make the kitchen the right kind of workshop for the farm women, but she must study her problem and then both together must determine the greatest needs so that home improvements may be made.

Let us resolve to get away from primitive methods and plan and work to have well equipped, comfortable, convenient and sanitary farm homes. —Miriam M. Haynes.

Laid 30 Years ago—perfectly sound today
Get real economy—get absolute protection for your buildings for a generation and more. Use
Eastlake Galvanized Shingles
They are a PROVEN roofing—not an experiment. Very easily laid, joints are snug and close fitting—they simply cannot leak. They save labor in laying and improve your buildings. Reduce insurance rates. No danger from fire by lightning or sparks.
Write for interesting Booklet. Price lists and detailed information about "Metallic" building materials, Siding, Corrugated Iron, "Metallic" Ceilings, etc.
Metallic Roofing Co. Limited
Toronto Winnipeg 164

FREDERICTON EXHIBITION PRIZE LIST

(Continued from last issue)

POULTRY

Plymouth Rocks, Barred, Cock—1, Chas. R. Willis, Nashwaaksis; 2, Aubrey C. Stevenson, St. Stephen; 3, Seaman Bros., St. John.

Plymouth Rocks, Barred, Hen—1, Chas. R. Willis; 2, 3 and 4, John E. Page.

Plymouth Rocks, White Cock—1, G. W. Fisher; 2, Walter Bailey; 3, Fred Lyons.

Plymouth Rocks, White Hen—1, Walter Bailey; 2, Fred Lyons.

Plymouth Rock Partridge, Cock—1 and 2, Ralph H. Libby, Stanstead, Que.

Plymouth Rock Partridge, Hen—1 and 2, Ralph H. Libby.

Wyandottes, Whtie, Cock—1 and 3, Percy L. Morgan; 2, Avondale Boon.

Wyandottes, White, Hen—1, 3, 5 and 6, Percy L. Morgan; 2, L. B. Johnston; 4, Avondale Boon.

Wyandottes, Partridge, Cock—1, Bertrand Goodspeed; 2nd, R.P. Allen.

Wyandottes, Partridge, Hen—1 and 2, R. P. Allan.

Rhode Island Red, S. C. Cock—1 and 2, Aubrey C. Stevenson, St. Stephen; 3 and 4, Walter Bailey.

Rhode Island Red, S. C. Hen—1 and 2, Walter Bailey; 3, Aubrey C. Stevenson.

American Breeds

Plymouth Rocks, Barred, Cockerel—1, J. Ernest Sharp, Nashwaaksis; 2 and 4, Fredericton; 3, Charles R. Willis, Nashwaaksis; 5, Aubrey C. Stevenson; 6, Arthur Lockhart.

Plymouth Rocks, Barred, Pullet—1 and 2, J. E. Page; 3, J. Ernest Sharp; 4 and 5, F. Emms, Fredericton.

Plymouth Rock, White Pullet—1 and 2, Walter Bailey.

Plymouth Rock, Partridge, Cockerel—1 and 2, Ralph H. Libby, Stanstead, Que.

Plymouth Rocks Partridge, Pullet—1 and 2, Ralph H. Libby.

Wyandottes, white, Cockerel—1, Mrs. George Danby; 2 and 3, L. B. Johnston, Nashwaaksis; 4, Walter Raymond, Fredericton; 5, Percy L. Morgan; 6, Geo. D. Ballanger, Kingsclear

Wyandottes, White, Pullet—1 and 5, L. B. Johnston; 2, Walter Raymond; 3 and 6, Mrs. eGorge Danby; 4, Avondale Boone.

Wyandottes, Partridge, Cockerel—1, Lewis J. Allan; 2 and 3, Robert P. Allan.

Wyandottes, Partridge, Pullet—1, 2 and 3, Robert P. Allan; 4, Bertrand Goodspeed.

Rhode Island Red, S. C., Pullet—1, 2 and 3, Walter Bailey; 4, D. E. Neill.

English Breeds

Sussex, light cock—1, Percy J. Lively, Sussex, N. B.

Sussex, light hen—1, Percy J. Lively.

Dorkings, Silver Grey, Cock—1, Ralph J. Libby.

Dorkings, Silver Grey, Hen—1 and 2, Ralph H. Libby.

Dorkings, Silver Grey, Cockerel—1, Ralph H. Libby.

Dorkings, Silver Grey, Pullet—1 and 2, Ralph H. Libby.

Asiatic Breeds

Brahmas, Light, Cock—1, Joe Ellick, Nashwaaksis.

Cochins, Partridge, Cock—1, Seaman Bros., St. John.

Cochins, Partridge, Hen—1, Seaman Bros., St. John.

Brahmas, Light, Cockerel—1, Joe Ellick; 3, William E. Seery, Fredericton.

Brahmas, Light, Pullet—1, Joe Ellick.

Mediterranean Breeds

Leghorn, S. C. Brown, Light Cock—1, Percy L. Morgan.

Leghorn, S. C. Brown, Light Hen—1 and 2, Percy L. Morgan.

Leghorn, S. C. Brown, Dark, Cock—1 and 2, Percy L. Morgan.

Leghorn, S. C. Brown, Dark, Hen—1, 2 and 3, Percy L. Morgan.

Leghorn, R. C. Brown, Light, Hen—1 and 2, C. Roy Forbes, South Devon.

Leghorn, R. C. Brown, Dark, Hen—1 and 2, C. Roy Forbes.

Leghorn, S. C. White, Cock—1 and 2. J. W. Ferguson, Fredericton; 3, L. B. Johnston, Nashwaaksis.

Leghorn, S. C. White, Hen—1, L. B. Johnston; 2 and 3, J. W. Ferguson.

Minorcas, S. C. Black, Hen—1, George Baxter, Fredericton.

Minorcas, S. C. White, Hen—1, C. Roy Forbes.

Anconass, Mottled S. C., Cock.—1, James W. Stickles, North Devon.

Anconas, Mottled S. C., Hen—1 and 2, James W. Stickles, North Devon.

A. O. V., Cock—1, J. R. Smith; 2, Frank H. Libby.

A. O. V., Hen—1, Frank H. Libby; 2 and 3, J. R. Smith; 4, Mrs. G. R. Lockhart.

Leghorns, R C. Brown, Light, Cockerel—1, C. Roy Forbes.

Leghorns, R. C. Brown, Light, Pullet—1 and 2, C. Roy Forbes.

Leghorns, R. C. Brown, Dark, Cockerel—1, C. Roy Forbes.

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MALTESE CROSS NON-SKID TREAD
TRADE
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The unprecedented number of used cars with full Maltese Cross Tire equipment is the best proof of the staunch faith motorists have in
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HALIFAX MONTREAL OTTAWA TORONTO
FORT WILLIAM WINNIPEG REGINA
SASKATOON EDMOMTON CALGARY
LETHBRIDGE VANCOUVER VICTORIA

Leghorns, R. C. Brown, Dark, Pullet 1 and 2. C. Roy Forbes.

Leghorns, S. C. White, Cockerel—1, L. B. Johnston; 2, 3, and 4, J. N. Ferguson; 5, Mrs. G. R. Lockhart; 6, D. H. Ferguson.

Leghorns, S. C. White, Pullet—1, Mrs. Thos. Murray; 2, Miss Gladys

Partridge Tires
Mighty Aids To Progress
Partridge Tires
have proven that they occupy a premier place in the march of progress.
Such a position is based on performance and achievements due to their dependability.
THE F.E. PARTRIDGE RUBBER Co LIMITED. GUELPH, CAN.
PARTRIDGE Co LIMITED, GUELPH
Made by The F.E. Partridge Rubber Company, Limited, Guelph, Ont.
57

Veno; 3 and 4, L. B. Johnston.
Minorcas, S. C. Black, Cockerel—1, C. Roy Forbes; 2, Geo. Baxter.
Minorcas, S. C. Black, Pullet—1, C. Roy Forbes; 2, Geo. Baxter.
Andulusians, Blue, Cockerel—1, Mrs. Thos. Raymond.
Andulusians, Blue, Pullet—1 and 2, Mrs. Thos. Raymond.
Anconas, Mottled S. C., Cockerel—1 and 3, Jas. W. Stickles; 2, eGo. Bakter.
Anconas, Mottled S. C., Pullet—1 and 2, Jas. W. Stickles; 3, Geo. Baxter.
Anconas, Mottled R. C., Cockerel—1, 2 and 3, J. W. Stickles.
Anconas, Mottled R. C., Pullet—1, 2 and 3, J. W. Stickles.
A. O. V., Cockerel—1, R. H. Libby; 2, J. R. Smith
A. O. V. Pullet—1, R. H. Libby; 2, J. R. Smith.

Dutch Breeds

Hamburgs, S Spangled, Cock—1, S. F. Lockhart.
Hamburg, S. Spangled, Hen—1, S. F. Lockhart.
Hamburgs, S. Spangled, Cockerel—1, Marshall C. Mills.
Hamburgs, S. Spangled, Pullet—1, Marshall C. Mills; 2, S. F. Lockhart.

Bantams

Game, B. B. Red, Cock—1, Kate Sinnott; 2, George Baxter.
Game, B. B. Red, Hen—1, Joseph Toner; 2, George Baxter.
Cochin, Buff, Cock—2, Seaman Bros.

POULTRY—UTILITY

Plymouth Rocks, Barred, Cocks—1, Bertrand Goodspeed; 2, Robert P. Allan.
Plymouth Rocks, Barred, Hens—1, Robert P. Allan.
Rhode Island Red, Cock—1, Fred Dibb.
Rhode Island Red, Hen—1 and 2, Walter Bailey; 3, Bertrand Goodspeed.
Plymouth Rock, Barred, Cockerel—1 and 2, William Lyons; 3, Robert P. Allan.
Plymouth Rock, Barred, Pullet—1, Robert P. Allan; 2 and 3, William Lyons.
White Wyandottes, Cockerel—1, Mrs. C. A. McVey; 2, Bertrand Goodspeed.
White Wyandottes, Pullet—1, Mrs. D. P. Coburn; 2, Mrs. C. A. McVey.
Rhode Island Red, Cockerel—1, Fred Dibbs.
Rhode Island Red, Pullet—1 and 2, Fred Dibbs.

DRESSED POULTRY

Pair Plymouth Rocks—1, Arthur Illingworth.
A. O. V.—1, Percy J. Lively.
Wyandottes, White—1, Avondale Boone— 2, James Toner.
Rhode Island Red, S. C.—1, Walter Bailey.
Leghorns, Light brown—1, C. Roy Forbes.
Anconas, any variety—1 and 2, James W. Stickles; 3, George Cummings.

EGGS

1 doz. Brown Eggs—1, Roland B. Shaw; 2, R. P. Allan; 3, George F. Lockhart.
1 doz. White Eggs—1, Mrs. T. A. Niles; 2, Robert P. Allan; 3, J. N. Ferguson.

GEESE

Toulouse, (over 1 yr.) male—1, Bertrand Goodspeed; 2, Aubrey C. Stevenson.
Toulouse, (over 1 yr.) female—1, Aubrey Stevenson; 2, Bertrand Goodspeed.
Embden, (over 1 yr.) male—1, Bertrand Goodspeed; 2, Joe Ellick.
Embden, (over 1 yr.) female—1, Joe Ellick.
Embden, (under 1 yr.) male—1 and 2, Joe Ellick.
Embden, (under 1 yr.) female—1 and 2, Joe Ellick.
African, over 1 yr.) female—1, Bertrand Goodspeed.

The Ford Manual says—

"There is nothing to be gained by experimenting with different makes of plugs."

"The make of plugs with which Ford engines are equipped when they leave the factory are best adapted to the requirements of our Motor."

Since 1911 Fords have been and are now equipped with

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Dependable Spark Plugs

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Champion "X" for Ford Cars A 15. ½ inch. Price 90c.

Champion Spark Plug Co. of Canada Limited
Windsor, Ontario

79B

DUCKS

Pekin, (over 1 yr.), male—1, Richard Oldham.
Pekin, (over 1 yr.) female—2, Richard Oldham.
Pekin, (under 1 yr.) male—1, Geoffrey Randolph; 2, Richard Oldham.
Pekin, (under 1 yr.), female—1, Geoffrey Randolph; 2, Richard Oldham.
Indian Runner, (over 1 yr.), male—2, Joe Ellick.
Indian Runner, (over 1 yr.), female—2, Joe Ellick.
Indian Runner, (under 1 yr.), male—2 and 3, Joe Ellick.
Indian Runner, (under 1 yr.) female—2 and 3, Joe Ellick.
A. O. V., (Malay)—1, S. F. Lockhart.

Breeding Pens

Plymouth Rocks, Barred—1, Aubrey C. Stevenson.
Wyandottes, White—1 and 2, Percy L. Morgan.
Rhode Island Reds, S. C.—1, Aubrey C. Stevenson.
Leghorns, White—1, L. B. Johnston.
Anconas, any variety—1, James W. Stickles; 2, George Baxter.

BOYS AND GIRLS CLUBS

CHARLOTTE CO.

Plymouth Rock, Cock—1, Hazen I. Reid, Rollingdam, N. B.; 2, Frederick Ormrod, St. Stephen.
Plymouth Rock, Hen—1, Alice L. Liner, Rollingdam; 2, Frederick Ormrod, St. Stephen; 3, Marjorie Davidson.
Plymouth Rock, Cockerel—1 and 6, Ethel B. Hanson, Rollingdam; 2, Frederick Ormrod, St. Stephen; 3, Alice Liner, Rollingdam; 4, Hazen I. Reid; 5, Eugene Monahan, Elmsville.
Plymouth Rock, Pullet—1, Hazen I. Reid; 2 and 5, Ethel B. Hanson; 3, Frederick Ormrod; 4, Eugene Monahan; 6, Jas. Hawkins.

KINGS CO.

Plymouth Rocks, Barred, Cockerel—1st and 2nd, Edward Bacon, Central Greenwich.
Plymouth Rocks, Barred, Pullet—1 and 2, Edward Bacon.

QUEENS CO.

Plymouth Rocks, Barred, Cockerel—1, Elizabeth Duncan, Shannon, N. B.
Plymouth Rocks, Barred, Pullet—1 and 2, Elizabeth Duncan.

SUNBURY CO.

Plymouth Rock, Barred, Cock—1, Harry Patterson, Hoyt Station; 2, Letitia Patterson, Hoyt Station.
Plymouth Rock, Barred, Hen—1, Letitia Patterson; 2 and 3, Harry Patterson.
Plymouth Rock, Barred, Cockerel—1, Harry Patterson; 2, Letitia Patterson.
Plymouth Rock, Barred, Pullet—1 and 2, Harry Patterson; 3, Letitia Patterson.

FREE SAMPLE
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Enough for 2 or 3 sets—attracts all flesh eating animals—is put up in tubes (like tooth paste)—not affected by rain or snow. Economical to use, handy to carry.

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Plymouth Rock, Barred, Cockerel—1, Harold Emms, Fredericton; 2, Orman Patterson, Harvey Station; 3, Jessie O'Leary, Beaverdam.

Plymouth Rock, Barred, Pullet—1, Jessie O'Leary; 2, Harry Emms; 3, Orman Patterson.

A. O. COUNTY

Plymouth Rock, Barred, Cockerel—1 and 2, Winifred Goggin, Elgin, Albert Co.; 3, Hattie Steeves, Elgin.

Plymouth Rock, Barred, Pullet—1, and 3, Hattie Steeves; 2, Winifred Goggin.

Breeding Pens

Plymouth Rocks, Barred—1, J. W. Ferguson, Fredericton; 2, Roland B. Shaw, New Maryland.

Plymouth Rocks, White—1, Mrs. Thos. Raymond.

Breeding Pens—Young Stock

Plymouth Rock, Barred—1, C. A. McVey Fredericton; 2, Mrs. George Danby, North Devon; 3, Jas. D. Ballanger, Fredericton.

Wyandottes, White—1, George F. Lockhart; 2, Walter Raymond.

Boys and Girls Clubs—Pens—Utility Plymouth Rocks

Charlotte Co.—1st, Hazen J. Reid; 2, Frederick Ormrod; 3, Eugene Monahan.

Sunbury Co.—1, Letitia Patterson.

York Co.—1, Jessie O'Leary.

Albert Co.—1, Winifred Goggin, Elgin; 2, Hattie Steeves.

WOMEN'S WORK

Ladies Sweater, crocheted—1, Miss Lillie Jarvis, North Devon.

Child's Sweater, crocheted—1, Mrs. George McKay; 2, Mrs. C. Graham Chisholm.

Bed Jacket, wool, knitted—1, Miss J. L. Winifred Barker; 2, Mrs. C. E. McLean, Fredericton.

Shawl, wool, knitted—1, Mrs. E. Graham Chisholm.

Tam O'Shanter—1, Mrs. F. L. Armstrong, Lr. St. Marys.

Bedroom Slippers—1, Miss Everett, Freericton; 2, Mrs. Joseph McKay.

Quilt, patchwork, calico—1, Mrs. Harry Myshrall, City; 2, Mrs. Conrad E. Miller, City.

Quilt, patchwork, topsewn—1, Mrs. James Palmer, South Devon.

Quilt, patchwork, silk—1, Margaret E. Rossborough, Prince William; 2, Mrs. Fred T. Allen, City.

Quilt, white, quilted—1, Mrs. George McKay.

Specimen Fancy Knitting—1, Mrs. J. W. Robinson; 2, Mrs. Donald McDonald.

Darning on Stocking—1, Mrs. Joseph McKay.

Hand Sewing 3 articles—1, Mrs. Joseph McKay; 2, Mrs. Donald McDonald.

Specimen of Button Holes—1, Mrs. Walter Sentner, City.

Meadowlands Stock Farm

GAGETOWN, N. B.

We are offering a number of choice young Shorthorn bulls from six to fifteen months old. They are a splendid lot. We have also several exceptionally good cows and heifers priced right for quick sale.

For particulars phone or write

MORRIS SCOVIL & SONS

TWO CENTS A WORD COLUMN

SHROPSHIRE RAMS FOR SALE—One ram, two years old, two yearling rams, and a number of ram lambs. These sheep are all pure bred, and have been marked two star by a government inspector.—JOSEPH T. BARNES, Sussex, N. B.

FOR SALE—Pure Bred Barred Rock Cockers from pedigreed and bred-to-lay stock. $2.50 ach for delivery before November 1st—GUS LANGELIER, Supt. Experimental Farm, Cap Rouge, Que.

Best Collection Domestic Work—1, Mrs. E. Graham Chisholm; 2, Mrs. George McKay.

Homespun, plain—1, Mrs. Graham Chisholm, New Glasgow, N. S.; 2, Mrs. George McKay, Upper Kingsclear, N.B.

Carriage Rug, Wool—1, Mrs. Graham Chisholm; 2, Mrs. Donald McDonald, New Glasgow, N. S.

Carpet, wool—1, Mrs. Graham Chisholm; 2, Mrs. George McKay.

Carpet, rag—1, Mrs. Donald McDonald; 2, Mrs. Graham Chisholm.

Rug, rag, hooked—1, Mrs. Donald McDonald; 2, Mrs. Graham Chisholm.

Rug, wool—1, Mrs. Graham Chisholm; 2, Mrs. Donald McDonald.

Mat, rag, braided—1, Mrs. Joseph McKay.

Mat, rag, cut—1, Mrs. Sadie Cronkite, Lower Southampton; 2, Mrs. Warren Manzer, Durham Bridge.

Pair Stockings—1, Mrs. Graham Chisholm; 2, Mrs. Joseph McKay, Upper Kingsclear.

Socks, wool, hand made—1, Mrs. Donald McDonald; 2, Mrs. George McKay.

Gloves, coarse—1, Mrs. Donald McDonald; 2, Mrs. Joseph McKay.

Gloves, fine—1, Mrs. George McKay; 2, Charlotte H. Perley, Fredericton.

Mitts, coarse—1, Mrs. Graham Chisholm; 2, Mrs. Joseph McKay.

Mitts, fine—1, Mrs. eGorge McKay; 2, Mrs. Joseph McKay.

Knitted Woollen underskirt—1. Mrs. George McKay; 2, Mrs. Joseph McKay.

Knitted Woollen drawers—1, Mrs. Joseph McKay; 2, Mrs. H. J. McCullough, Mouth of Keswick; H. C., Miss J. L. Winifred Barker, St. John.

Petticoat, knitted or crochet—1, Mrs. E. Graham Chisholm; 2, Mrs. Donald McDonald.

Shawl, home made, knitted—1, Mrs. Joseph McKay; 2, Mrs. Donald McDonald.

Knitting Yarn, wool, white—1, Mrs. Joseph McKay; 2, Mrs. Donald McDonald.

Knitting Yarn, wool, grey—1, Mrs. George McKay; 2, Mrs. Donald McDonald.

Counterpane knitted—1, Mrs. Clowes Patterson, City; 2, Mrs. H. S. McIntosh, City.

Counterpane, crocheted—1, Mrs. Hetty M. Day, Ripples, N. B.; 2, Mrs. Ralph Gunter.

Ladies Coat Sweater, knitted—2, Mrs. P. M. McDonald.

Men's Coat Sweater, knitted—1, Mrs. Joseph McKay.

Men's Sweater, pullover—1, Mrs. Queenie M. Taylor, South Devon; 2, Mrs. J. M. Robinson, Moncton, N. B.

Ladies Sweater, pullover—1, Mrs. William Graham, City; 2, Mrs. James Davidson, South Devon.

Sofa Cushion, other than Emb.—1, Miss Noon Burden, City; 2, Mrs. Frank Wilson, Stanley, N. B.

Sofa Cushion, with crochet—1, Mrs. Allan Carman, South Devon; 2, Miss Letitia A. Carman, South Devon.

Bedspread, Emb.—1, Mrs. Margaret Law, City.

Bureau Scarf, Emb.—1, Mrs. P. M. McDonald, City.

Pincushion, washable—1, Miss L. B. Elliot, Port Arthur; 2, Mrs. P. M. McDonald.

Pillow slips, Emb.—1, Miss L. B. Elliott; 2, Mrs. Ford Smith, City.

Pillow slips, crochet—1, Genevieve Brophy, Woodstock, N. B.

Pillow slips, tatting—1, Fern McDowell, Marysville, N. B.

Towel, Emb., large—1, Fern McDowell; 2, Miss L. B. Elliott.

Towel, Emb., guest—1, Miss L. B. Elliott; 2, Miss H. C. Macreadie, City.

Towel, crochet—1, Miss L. B. Elliott; 2, Miss Althea Kelly, City.

Bath Towel, Emb.—1, Miss Peters, City; 2, Mrs. Fowler, City.

Bath Towel, crochet—1, Miss Peters.

Eyelet Work—1, Miss L. B. Elliott; 2, Mrs. H. C. Cooper, City.

Cross Stitch—1, Miss L. B. Elliott; 2, Mrs. P. M. McDonald.

Collection Fancy Work—1, Mrs. J. A. Kitchen, City; 2, Miss H. C. Macreadie, City.

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Atlantic Underwear makes friends with men of action because it stands the strain of the heaviest work.

The long, fine sea-breeze toughened wool of the Maritime sheep gives to Atlantic its strength, warmth and wear resisting qualities.

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UNSHRINKABLE

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MONCTON, N.B. 10

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Table Centrepiece, white—1, Miss L. B. Elliott, Port Arthur, Ont.; 2, Miss Kathleen Everett, City; H. C., Miss Cora Hoyt, City.

Table Centrepiece and 6 Doilies—1, Miss H. C. Macreadie, City.

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Tray Cloth, white, linen—1, Miss L. B. Elliott; 2, Mrs. J. E. Page, City.

Tray Cloth, oval—1, Mrs. H. C. Macreadie; 2, Mrs. W. A. Clark, City.

Tea Cloth, Five O'clock, Linen—1, Miss Louise Kinghorn, City; 2, Miss Winifred Staples, Nashwaaksis.

Table Cover—1, Mrs. McElveny, City; 2, Mrs. John Powers, City.

Sideboard Scarf—1, Mrs. F. L. Armstrong.

Tea Cosy—1, Mrs. M. L. Stevenson, City; 2, Mrs. H. J. Ryder, City.

Table Centrepiece, colored—1, Mrs. J. L. Neville, City; 2, Mrs. John Powers, City.

Library Set, 3 pieces—1, Miss L. B. Elliott; 2, Miss Ina McKeen, South Devon.

Sofa Cushion—1, Mrs. Joe Ellick, Nashwaaksis; 2, Miss Fern H. McDowell, Marysville; H. C., Miss M. E. Gilbert, Marysville, N. B.

HOUSEHOLD SCIENCE

Loaf White Bread—1st, Miss Gladys Veno. Fredericton; 2nd, Mrs. W. T.

"KINGSBROOK FARM"

Shropshires and Cheviots

We are offering for fall delivery a number of Shropshire Rams, both Shearling and Lambs, and as well a few splendid Ewes.

In Cheviots we have a limited number of very choice Rams to offer.

The largest Pure Bred flock of Shropshires and Cheviot Sheep in the Province, also largest prize winning flock in the provinces at the Fall Fairs.

JOHN H. KING & SON, Sussex, N. B.

Craigs, Nashwaaksis.

Loaf Brown Bread.—1st, Vida McLean, Fredericton; 2nd, Mrs. J. R. Walker.

Loaf Nut Bread.—1st, Mrs. J. R. Walker; 2nd, Mrs. P. M. McDonald, Fredericton.

Loaf Pound Cake.—2nd, Mrs. P. M. McDonald.

Loaf Chocolate Cake.—1st, Mrs. C. E. Wilcox; 2nd, Mrs. M. L. Stevenson.

Loaf Sponge Cake.—2nd, Miss Eliza Campbell Springhill, N. B.

Pan Milk Rolls—1st, Mrs. W. T. Craig; 2nd, Miss Eliza Campbell.

Pan Biscuits—1st, Miss Eliza Campbell.

Doughnuts.—1st, Mrs. Chas E. Wilcox, Fredericton.

Puff Pastry.—1st, Mrs. Fowler, Fredericton.

Canned Friuts

Strawberries.—2nd, Mrs. P. M. McDonald.

Raspberries.—1st, Mrs. P. M. McDonald; 2nd, Miss Marguerite Christie Fredericton.

Blueberries.—1st, Miss M. Christie; 2nd, Mrs. P. M. McDonald.

Plums.—1st, Miss M. Christie; 2nd, Mrs. P. M. Christie.

Peaches.—1st, Miss M. Christie.

Crab Apples.—1st, Miss M. Christie.

A. O. V.—1st, Miss M. Christie; 2nd Mrs. P. M. McDonald.

Collection Canned Vegetables.—1st, Miss M. Christie.

Fruit Jellies

Crab Apple—1st, Mrs. Warren Manzer, Durham Bridge; 2nd, Mrs. Jos. McKay, Kingsclear.

Apple.—1st, Mrs. P. M. McDonald; 2dn, Mrs. Joseph McKay.

Cranberry.—1st, Mrs. Joseph McKay.

A. O. V.—1st, Mrs. W. E. Coy, Fredericton.

Pickles

Collection.—Mrs. P. M. McDonald.

Candy

Collection.—1st, Miss Margaret Feeney, Fredericton.

Sweepstakes

Collection Cooked Foods, Canned Goods, Pickles and Jellies.—1st, Mrs. Harry McClary, Fredericton.

THE WILL TO SUCCEED

Men on active service learned much about one another and perhaps the Canadian soldiers learned to recognize and appreciate the Canadian Spirit. Before 1914 most folk would have been puzzled if asked to explain the differences between a Canadian and an American, or between a Canadian and an English man. Perhaps superficial differesces might have been cited, but the peculiar inner possession of every good Canadian would have remained elusive.

The men marching to Passchendaele, Vimy or Cambrai knew one another. They recognized certain treasures of humor, of iniative and of energy which inspirited the soldiers and the Corps as a whole. They knew something of the semi-Puritan strain of resolution which made war almost evangelical.

Perhaps also they recognized in the continuing support of the people at home that iron quality of native Canadianism. Those who were leaders in Canada during the struggle developed a finer conceit of their country and their countrymen. They discovered that the Canadian could start things and hang on until they were finished. He was no quitter. The demands of the Red Cross were met. The calls of the Patriotic Fund were answered. There was evident in the people a passionate desire to see the thing through, no matter at what cost of convenience or money. Perhaps the Canadian Spirit could be defined now, after these five years, as the Will to Succeed.

When the Armistice was signed in November 1919 the Dominion was engaged in floating a popular War Loan. The thrill of victory was in the air, and the slogan "Bring the Boys Home" had an echo in every heart. The total subscription reached $610,000,000. Once more the Will to Succeed had been apparent.

Then, the fighting was over. To-day the war is over, but the military charges are not yet complete. During the present fiscal year many thousands of men have been paid, clothed, maintained and brought across the Atlantic. They have received the gratuities established by Statute, and such of them as desire technical training are taking special courses at national expense. For these and other outlays arising out of the war another Victory Loan is imperative.

The facts are before the public and the co-operation of everyone is urgently required to complete the obligations of Canada to the soldiers and make a clean-up of a well-conducted and successful war. The Canadian Spirit will make the subscription commensurate with other War efforts during the past five years. Remember the national Will to Succeed. It is equal to every emergency.

WHY A PIT SILO

First, because every farmer who has right soil conditions can have one and second because it will pay for itself in a year.

Pit silos cannot be built where water will seep in or where there are large boulders to interfer. The former is more serious than the latter. Pit silos can be built in most places where water does not give trouble.

Dozens, if not hundreds, of surface silos, costing from $500.00 to $1000.00, are being built to every pit silo. Why? Because they are for sale and can be bought. There would not be a hundred surface silos in Colorado today if it were not so. They did not come until the manufacturer brought them and so it will be with the pit silo. A few farmers are building pit silos, but generally farmers are too busy to do it themselves, they often cannot secure labor to do it and consequently it is not done.

A certain firm in Colorado is offering to build pit silos. A 51 ton silo will cost about $170.00. That looks high when some farmers will tell how cheaply they built their pit silos, but they did not take the cost of their labor into account. Such talk is mainly responsible for the small number of pit silos that are being built.

A third of the crop is lost when it does not go into the silo. A third of 51 tons is 17 tons and as silage sells at not less than $10.00 a ton, the saving amounts to at least $170.00, the price of the silo.

There is no other piece of farm equipment that will give as great returns and pay for itself in a year like the pit silo. There should be hundreds of pit silos buitl to every one that is now being constructed. It is better to sell a cow if necessary and get a silo than to go along year after year without it. To do so is "saving at the spicket and losing at the bung."—R. W. Clarke, Colorado Agricultural College.

Cabbages may be stored in a pit, but it is easier to put them into or remove them from a trench. A good idea is to dig a trench about 18 inches deep and a foot wide. Put a layer of straw in the bottom of the trench. Leave the roots and leaves on the cabbage and put it into a trench, roots up. Then put a layer of straw in the th etrench, but above the heads, and cover the rest of the pit with soil. Cabbages keep well in this long pit and may be easily removed when needed for the table.

A New York orchardist was laid up with a severe illness, and his work was away behind. His neighbors turned seven power spray outfits into his orchard and cleaned it up in a short time. The milk of human kindness still has its quota of cream.

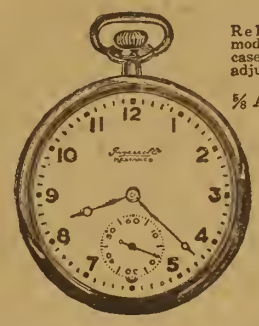
Ingersoll watches

are built to keep accurate time.

25 years experience proves it. The system of tests and inspections assures it. Inspected after each factory operation. Tested in from 3 to 6 positions. Timed in the case.

Waterbury Radiolite — jeweled — small size—luminous dial. Tells time in the dark.

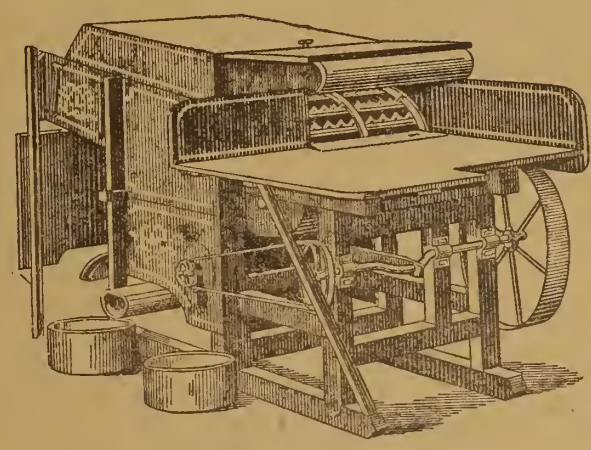
½ Actual Size



Reliance—thin model, gold filled case—7 jewelled, adjusted

⅝ Actual Size

Sussex Little Giant Threshers



NO. 2 THRESHER

Made in four sizes. Write for prices.

Agents wanted in every territory to sell Sussex Little Giant Threshers, Wood Saws, Pulpers, Garden Seeders, Feed Cookers and Engines.

Write for catalogues and Prices.

Two No. 1 Second Hand Threshers at bargain for quick sale.

Wallace Machine Works, Sussex, N. B.

Sussex Feed Cookers

STOVES HEAVY SHEET STEEL

Heavy Cast Pots with Spouts.

No. 30—Capacity 1 bbl.
" 40— " 1½ "
" 50— " 2 "

Our prices are right—Let us quote you.

☞ SEE OUR BIG THRESHER AD. IN THIS ISSUE

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SUSSEX, New Brunswick

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on. as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex N. B.

FOR SALE—Ancona Cockerels - Gies Strain, also 2 Cock Birds. GEO. H. SEAMAN, Moncton N. B.

FOR SALE—25 Young Pigs Four Weeks Old October 1st. Apply to W. H. MILLER CO., Campbellton, N. B

FOR SALE—R. I. Reds, Brilliant & Dark Red Cockerals, Choicest Blood, Excellent Laying Strain. HAROLD E. IRVING, St. Stephen, N. B, R. R. No. 1.

FOR SALE—Registered Cheviot ewes and lambs. also bigh grade ewes.—R. FURNESS, Vernon Bridge, P.E.I.

FOR SALE—One Registered Holstein Bull, (No. 26112) Frank Cobequid. For particulars apply to S. DeWITT JOHNSON, R. R. No. 1, Norton, N. B.

FOR SALE—Pure bred Oxford Down ram lambs and ewes, also shearling rams, all registered.—R. G. McLEOD & SONS, Lansdowne Station, Pictou Co., N. S.

FOR SALE—2 Young Pure Bred Guernsey Bulls, one five and the other three months old. 1 grade Heifer (Guernsey) 11 months old.—H. C. CORSON, Middlehead, South Bay C.B.

LADIES WANTED—To do plain and light sewing at home; whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING COMPAMY, Montreal.

GREAT WHITE LIGHT BURNERS—The lamp burner that doubles the light you get from your oil lamps. We have a few dozen to offer at 18c each, postpaid. They are a big investment for any person using oil lamps. In large size only. —THE MARITIME FARMER, Sussex, N. B.

THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and otber premises. Price $3.50 per 100 lbs. Apply by mail to "NAILS," care of Office Maritime Farmer, Sussex, N. B.

Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages. Have some good cows to freshen soon. Am booking orders for ram lambs for fall delivery. Write or phone for prices and description.

J. ROBIE MacDONALD,
Shubenacadie, - - Nova Scotia
Successor to J. MacDonald & Son

Five Ayrshire Bulls for Sale!

From good milking strain. All fit for service.

Prescott Blanchard,
Truro - Nova Scotia

FOR IMMEDIATE SALE

A number of Ayrshire Cows. Ask about them, it will he worth your while.

One pure bred Ram Lamb, Horned Dorset, from the best of stock, in good condition.

B. R. Cockerel from the best trap nest strain in Canada. $2.00 each while they last.

S. J. HAWKINS,
Stewiacke, Col. Co., N. S.

Chester White Pigs for Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

ELMHURST STOCK FARM

Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S.

SUNNYSIDE STOCK FARM

Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

HIGHLAND LAKE HOLSTEINS

Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.

We have young bulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yonge St. Radial) JEFFERSON, ONT

BELLEVUE STOCK FARM

Shorthorn Cattle and Shropshire Sheep

The early maturing and good doing sort—bred from Show stock in every cross. Offering thirty ewe lambs and shearling ewes to avoid crowding winter quarters. Also a few ram lambs not booked yet.

C. A. ARCHIBALD, Bellevue, Clifton, N. S.

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for sale calves of both sexes, sired by Dutchland Pieterje Count, a bull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Johanna Lad, who has 101 A. R. O. daughters, 4 over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice, come and see these calves or write for further particulars.

We will also book orders for young Yorkshire pigs for next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - CANARD, N. S.

COBEQUID FARM HOLSTEINS

We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows have in turn been bred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter each in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a heifer calf or two. Get your orders in quick, they won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

WISH-TON-WISH STOCK FARM

Breeders of Big, Smooth, Heavy Producing Holsteins

The kind that fill big pails the year through. Can sell a few good bulls fit for service and some choice Bull Calves; also some Heifers and Cows due to freshen soon. Write or 'phone for description and prices.

HARDING BROS., Proprietors, WELSFORD, New Brunswick.

FOR SALE!

Our Shorthorns are about ready for the block. Parties wishing to start a herd can do so at reasonable prices from us. If not sold for breeding purposes, will go for beef. Both sexes, all ages. Come and see them before buying.

A few very nice Berks for sale.

L. M. ANDERSON, Sackville, N. B.

A PROFITABLE BUSINESS OPENING FOR YOU

I want an energetic man, with a little time to spare, to handle a high class line of Cream Separators, in your locality. Machines fully guaranteed, prices and terms to purchasers right, and a paying business for the dealer.

Write for particulars.

W. C. ROTHWELL
General Agent
11 WATED ST. ST. JOHN, N. B.

Willow Glen Shorthorns!

Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

A. N. GRIFFIN,
New Mines - - - N. S.

COSSAR STOCK FARM
Lower Gagetown, N. B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

Orders now booked for EWE and RAM LAMBS for fall delivery, several extra good animals for sale out of Ewes clipping 10 to 12 lbs. and sired by an Imported Ram weighing about 400 lbs. with a clip of 18 lbs.

BREED LEICESTERS the Sheep with THE HEAVY FLEECE.

G. C. Cossar, Proprietor. J. Melkiejohn, Agent.

GUERNSEYS !

For Sale—Registered stock. Male or female.

T. D. BLAIKIE,
Great Village, N. S.

ELMHURST FARM

Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $2.00 per 15.

R. R. BLACK, Proprietor
Oxford Junction, N. S.

Elmwood Stock Farm

OFFERS FOR SALE:

Two choice young Holstein Bulls, 15 and 19 months old, sired hy Dutchland Pieterje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad, "the world's greatest hull," 101 A.R.O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

Clearing Sale of Shorthorn Cattle

Am offering for sale my herd of pure hred registered Shorthorn cattle. These cattle range in age from 7 years to 3 years, or a little less, with one hull calf two weeks old, and are all fine in type and color.

I have also exceptionally good grade cattle of various ages for sale. All will he sold at a reasonable price and offer an unusual opportunity to anyone desiring to start a herd of choice stock or to renew an old herd.

J. E. HETHERINGTON, - Codys, N. B.

Springbrook Farm Ayrshires !

Females, all ages. Also a number of bull calves ranging from one month to eight months. Sired by the prize winning bulls "Morton Mains Amanth" Imp. and "Cherry Bank Cicero."

McINTYRE BROS.
SUSSEX CORNER, - - N. B.

AYRSHIRE CATTLE. KARAKULE-ARABI SHEEP

We are offering two Ayrshire Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

For particulars and prices write

THE EASTERN KARAKULE-ARABI SHEEP CO., LTD. WINDSOR, N. S.

FOR SALE

Two yearling Gurnsey hulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

SARAH E. M. SMITH,
Woodwards Cove, Grand Manan, N. B.

Firshade Farm
Dual Purpose Shorthorns

P. R. L. FAIRWEATHER
Rothesay, N. B.

Lawndale Stock Farm
Jerseys and Shorthorns (Pure Bred)

Jersey Offerings for the Summer of 1919—

3 year old registered heifer freshened in June, 1919, and now more than qualifying for the Govt. R. O. P. test. A splendid young cow of producing family. A few registered (mature) cows due to freshen in the coming fall and winter.

One 4-year-old Grade, heavy milker, due to freshen from pure bred bull, Oct. 11th, 1919.

Several pure hred calves, male and female.

Several yearlings, bred and not bred, registered and grades.

Shorthorn Offerings for Summer of 1919—

One young hull (pure bred and registered), dropped March, 1918, of splendid parentage.

Two yearling Heifers, very thrifty.

One Bull Calf, dropped Jan. 16th, 1919.

Several pure bred calves, male and female, by Imported English milking Shorthorn bull, out of splendid producing dams.

Apply for information to

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

F. W. C. Nase, Nerepis, N B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B'

Ayrshire Cattle

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co,, N. S.
C. A. Archibald, Truro, N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

YORKSHIRE PIGS

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
Isaac Chipman & Son. Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
C.A. Archibald, Truro, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

Milking Shorthorns for Sale

We are offering some choice young Shorthorn bulls of the milking strain, ages 3 months to 15 months.

Also a limited supply of heifers, one and two years of age.

For particulars apply to

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett
Upper Sackville, - - - N. B.

KEEP
Holstein-Friesian Cows

1. The Holstein-Friesian is a large vigorous cow, full of energy and abounding in vitality.
2. Her physical organization and digestive capacity are such that she is able to turn to the best advantage the roughage of the farm, converting the same into merchantable products.
3. She yields large quantities of most excellent milk, fit for all uses and especially suited for shipping purposes.
4. Heredity is so firmly established through her long lineage that she is able to perpetuate herself for the production of strong, healthy calves.
5. When for any reason her usefulness in the dairy is at an end, she fattens readily and makes excellent beef.

If you can't buy a herd, buy a heifer

Information from the Holstein-Friesian Association

President, Dr, S.F. Tolmie. M.P. Victoria, B.C.
Secretary, W A. Clemons St. George, Ont.

AYRSHIRES BULLS !

fit for service, bred from heavy producing stock.

FRED S. BLACK & SONS,
Springvale Farm,
AMHERST, - - - N. S.

Brantford "Ideal" Kerosene Engines

An engine for every need. Also operated on Gas and Gasoline.

Maple Leaf Grain Grinders. 6 to 15 in.

Kerosene Light Tractors

WINDMILLS,

Pumps.
Tanks.
Waterboxes.
Steel Saw Frames.
Concrete Mixers.

Agents wanted in unrepresented territory.

GOOLD, SHAPLEY & MUIR CO., Limited
BRANTFORD, CANADA

FOR SALE !

Several young bulls of serviceable age and youngsters. Well bred and good individuals. Prize winners at our recent show. Their dams won 1st. 2nd and 3rd in the ring of aged cows; also 1st and 2nd in the dairy test, 1st in heifer class and st in grade cow, competing against all breeds at our late show at Charlottetown, with an average fat of nearly 4 per cent. We will send photos of these young bulls and their dams to any prospective buyers. For quick sale we have priced them at from $50 to $125.

W. M. LEA,
"RIVERSIDE FARM," VICTORIA, P.E.I.

FOR SALE !

We have an exceptionally fine litter of 13 (living) of our large Berks for sale @ $12.00, four to 6 weeks old. Ready first of June.

Owing to scarcity of labor and we not being able to see eye to eye with certain Gov. officials, as to the type of Shorthorn to raise, we have decided to go out of the breeding and raising of pure bred live stock. Therefore our herd of 40 head of Shorthorns will be sold between now and fall for either breeding or for beef. Parties wishing to buy, please come and see them. We have seven very nice bulls, 10 months to two years.

L. M. ANDERSON, Sackville, N. B.

QUALITY BRAND
Rabbitry and Poultry Yards
Amherst, Nova Scotia
E. I. PEEL & SON, Proprietors

Breeders of pedigreed Hares, White Rock and White Leghorn Fowl.

Black Siberian Hares, the most profitable fur hearing animal living, price per pair..$25.00
Silver Siberians, price per pair..... 5.00
Belgians, price per pair 3 00
The above prices apply to stock under 3 mos. old
Day-old White Leghorn Chicks, price 25c each.
D. W. Young's stock, as good as money can buy.
White Leghorn 260 egg strain, for hatching.....$2.00 per 15
White Leghorn, No. 1 exhibition stock for hatching.....$4.00 per 15

We Guarantee Safe Delivery. Terms Cash with Order

Glenrane Farm Holsteins

We have for sale a number of Cows due to freshen in Sept. & Oct. also yearling Heifers & a few Heifer Calves. We still have a few Bull Calves 8 & 9 months old.

Our herd hull Homestead Hengrueld Rooker is also for sale after September. These cattle are all from stock hacked by official records,

We will have a litter of York pigs due Sept. also our stock hoars 16 months old for sale. These are the finest type of York pigs.

One Oxford grown Ram and a number of grade Ewe Lambs.

ROBT. HICKS
WEST BATHURST, - - N. B.

Advertise in the Farmer. Advertise in the Farmer.

Exclusive All-Star Bill on Columbia Records

Ponselle

Makes Records Exclusively for Columbia—Here Are Some of Her Best

Il Trovatore. D'Amor Sull' Ali Rosere 49559 . $1.50

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Good-Bye! (Tosti) 49560 . $1.50

Stracciari

Makes Records Exclusively for Columbia—Here Are Some of His Best

Core 'ngrato (Cardillo) 49522 . $1.50

Elegie (Massenet) 49333 . $1.50

The Sunshine of Your Smile . . . . . 49590 . $1.50

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Makes Records Exclusively for Columbia—Here Are Some of His Best

Gypsy Airs (Zigeumerweisen) Opus 20 Sarasate . . 49564 . $1.50

Hejre Kati. Scenes from the Csarda 49630 . $1.50

Romance from Concerto No. 2 Opus 22 (Wieniawski) 49447 . $1.50

Lashanska

Makes Records Exclusively for Columbia—Here Are Some of Her Best

Louise. Depuis le Jour . . . 49364 . $1.50

Kiss Me Again (Herbert) 77843 . $1.00

Bonnie Sweet Bessie (The Maid o' Dundee) . 49443 . $1.50

The Pick of the Popular Artists and Concert and Grand Opera Stars

At your bidding Nora Bayes rollicks through her latest song. Put on one of Jolson's records and he jollies you along. You can almost see Bert Williams when you hear his deep bass voice. Van and Schenck are just as funny in your home as on the stage.

The many great concert and Grand Opera stars who make records for Columbia exclusively do so because Columbia Records conserve the charm of personality and truly convey the living human voice.

The exclusive Columbia Records made by great singers, pianists, violinists, orchestras, bands and other ensembles bring these artists before you as intimately, warmly, vividly, as if they were actually there in the flesh.

Get the New
Columbia
Novelty Record Booklet
Eveyy Columbia Dealer Has It
It contains the cream of the instrumental music of many nations, whether it's Gypsy, Jewish, Spanish, Turkish, Russian or Hawaiian.

Columbia Records are made in all languages

New Columbia Records on Sale the 20th of Every Month

COLUMBIA GRAPHOPHONE COMPANY

Toronto, Ontario

Al Jolson

Makes Records Exclusively for Columbia—Here Are Some of His Best

I'll Say She Does —From "Sinbad" A-2746 . 90c

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Nora Bayes

Makes Records Exclusively for Columbia—Here Are Some of Her Best

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My Barney Lies Over the Ocean . . . . . A-2678 . 90c

Mammy's Pickaninny, Don't You Cry . A-2771 . 90c

Bert Williams

Makes Records Exclusively for Columbia—Here Are Some of His Best

Everybody Wants a Key to My Cellar . . A-2750 . 90c

O Death, Where Is Thy Sting? . . . . . A-2682 . 90c

Bring Back Those Wonderful Days . . . A-2[illegible]

Van and Schenck

Makes Records Exclusively for Columbia—Here Are Some of Their Best

Oh! How She Can Sing . . . A-2757 . 90c

In the Land o' Yamo-Yamo . . A-2521 . 90c

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NOV 3 - 1919

The
MARITIME FARMER
AND CO-OPERATIVE DAIRYMAN

REGISTERED TRADEMARK

Published Twice-a-month in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., OCTOBER 28, 1919 No 2.

Library Univ of Illinois
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Urbana Ill.

"YOU SEE IT'S A MARITIME FENCE"

Maritime fences will stand the severest tests, because they are built throughout of extra heavy hard drawn No. 9 steel wire. The superior stretching power of No. 9 wire keeps the strands from snapping under heavy strains or hard frosts. Each fence is thoroughly galvanised and will sturdily resist the rust and rot of weather.

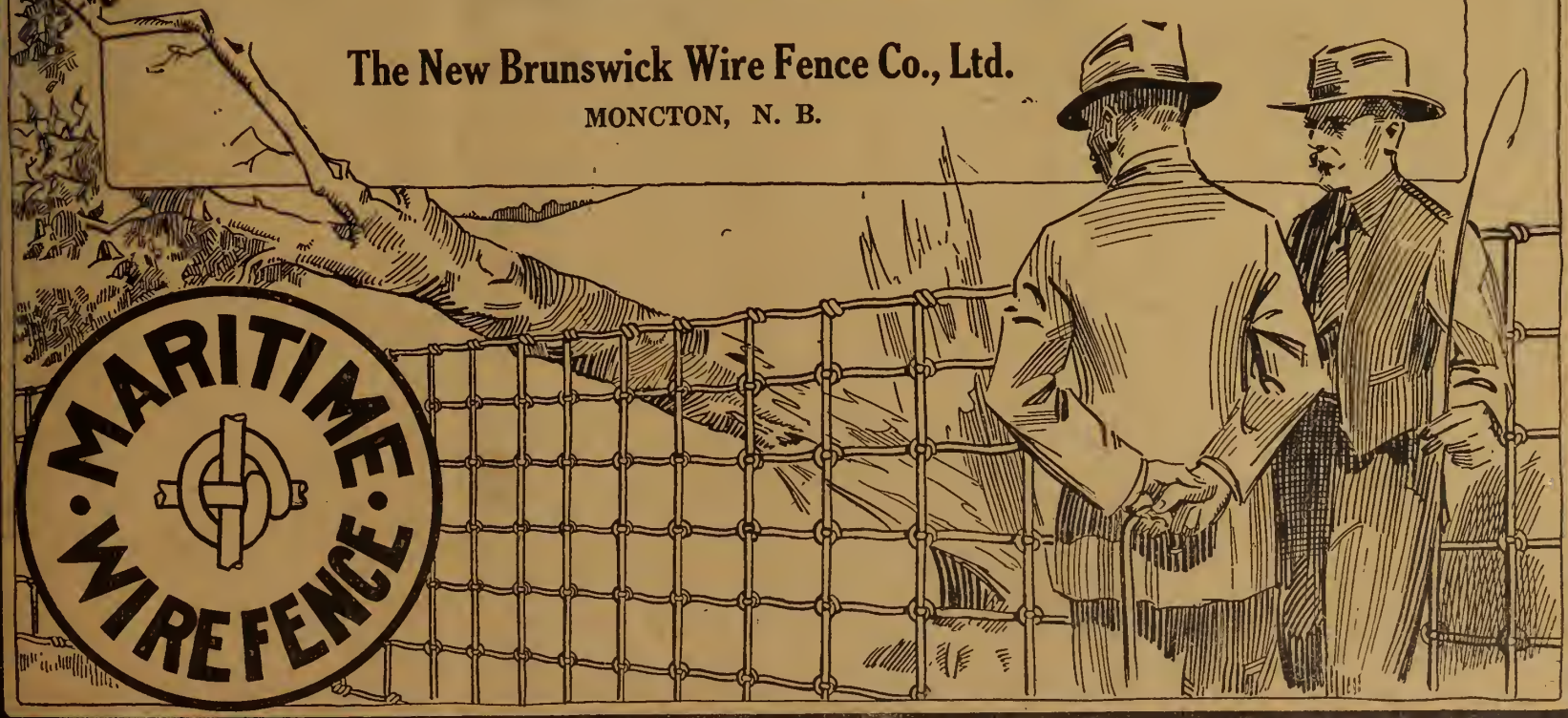
STANDS THE TEST OF MAN, BEAST, WEATHER and TIME

The strands and stays are firmly gripped at every join by our special time tried and tested never-slip lock. Even after years of hard service, Maritime wire fence retains its sagless shape and sightly appearance. All Maritime Fences are carefully inspected and rigidly tested before leaving the factory. When you buy it you know you have got something that is bull strong and hog tight, something that will withstand greater strain than it is ever likely to receive.

Before you buy fencing it will pay you to first learn what the Maritime has to offer in the way of real fence service.

For sale by agents and dealers in nearly every section.
If you don't know the local dealer, write to us direct.

The New Brunswick Wire Fence Co., Ltd.
MONCTON, N. B.



"Wabasso Cottons replaced with good advantage all imported lines during the war. Let Canadians buy Wabasso Cottons in preference to Imported Lines now that the war is over."

Our Principal Lines are :

Good as Gold White as Snow
WABASSO

Lawns—Nainsooks—Madapolams—
Bridal Cloths—Voiles—Organdies
—Middy Cloths—Cambrics—
Longcloths—Sheets and
Sheetings
Slips and Circular Pillow
Cottons

The Wabasso Cotton Company Ltd.

Three Rivers, Quebec

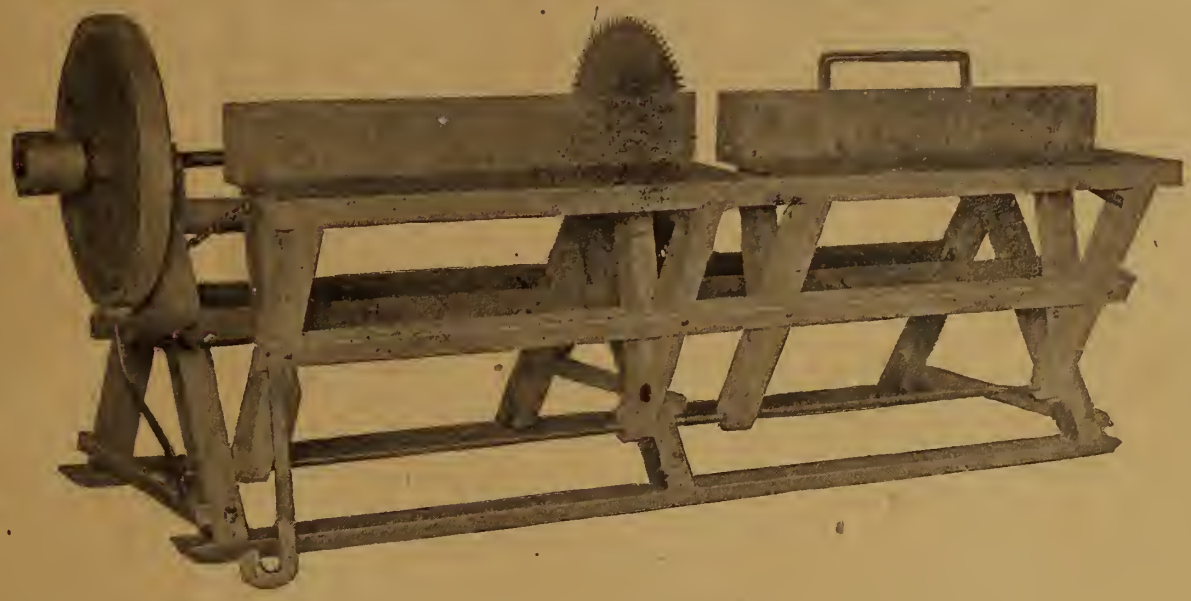
THREE SEASONABLE ARTICLES

MADE IN THE

MARITIME PROVINCES

SUSSEX WOOD CUTTERS

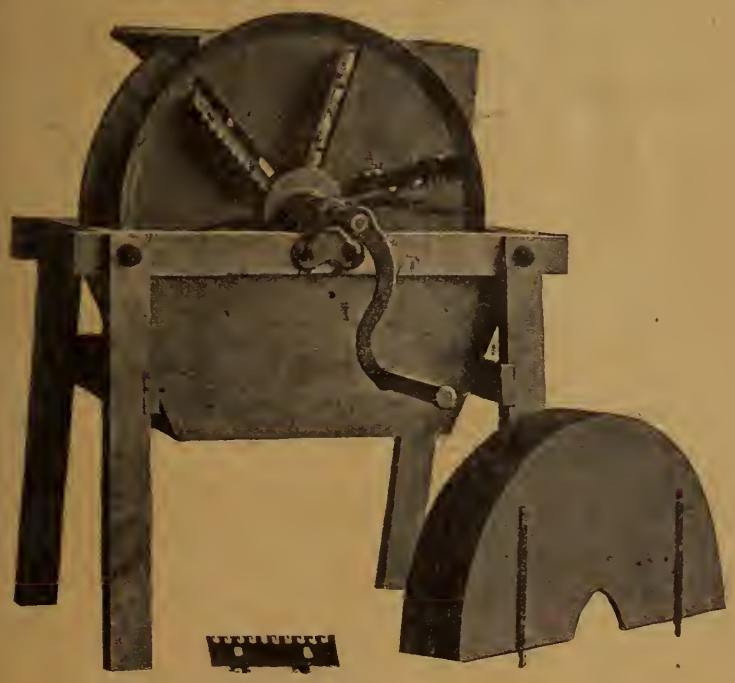
The Best by Test



Buy the Right Article made in the Right Place Is the Right Thing to do

Made in three styles. **Long Swing** as shown in cut, 4′ 3″ between balance wheel and saw. **Short Swing** 3′ 3″ between balance wheel and saw. Flat Roller Table 4′ 3″ between balance wheel and saw. **Balance Wheel 150 lbs.** Frames made of heavy birch mortised and bolted together. Tables made of heavy sheet steel. Saws 28″ Simonds. Saw supplied with each machine unless otherwise specified. Sussex Wood Cutters are not made to cut kindling wood they are built to cut those heavy birch and beech sticks which you will have to cut and stand up to it day after day.

WALLACE ROOT PULPERS



Side wheel reversible knife.
Root Pulper for pulping and slicing. Roller bearing.
A convenient, strong, easy running Pulper.

SUSSEX FEED COOKERS

Stoves of heavy sheet steel.
Made in 3 sizes No. 30 cap. 1 bbl.
No. 40 cap. 1½ bbl.
No. 50 cap. 2 bbl.

Sussex Little Giant Threshers. A few new ones and a second hand machine left for quick sale. Also second hand 6 h. p. Engine all in good repair.

You will need one of the above articles, write us now for full particulars and prices. **It will pay you.**

PROMPT SERVICE AND QUALITY OUR AIM. AGENTS WANTED IN EVERY LOCALITY.

HOW CAN WE SERVE YOU?

WALLACE MACHINE WORKS, Limited

SUSSEX, New Brunswick

DELCO LIGHT

The Complete Electric Light and Power Plant

Lights the Home

Pumps the Water

Pays for Itself

ANY one of over 75,000 users will tell you that Delco-Light pays for itself.

In money.

They will tell you that the pleasure and comfort of Delco-Light cost you nothing.

Delco-Light does work on the farm. Saves time for more productive things. Its electric power will, in most cases, save enough time to pay for the complete Delco-Light plant in three years.

The electric light you get free.

CHORES are non-productive work. Cut down chore time and you can do things worth money to you. Wm. Schneekloth says the electric power from his Delco-Light plant saves him 8½ hours a week on the churn, separator and washing machine alone—over 40 working days in a year. Think of the money he can make in those forty days.

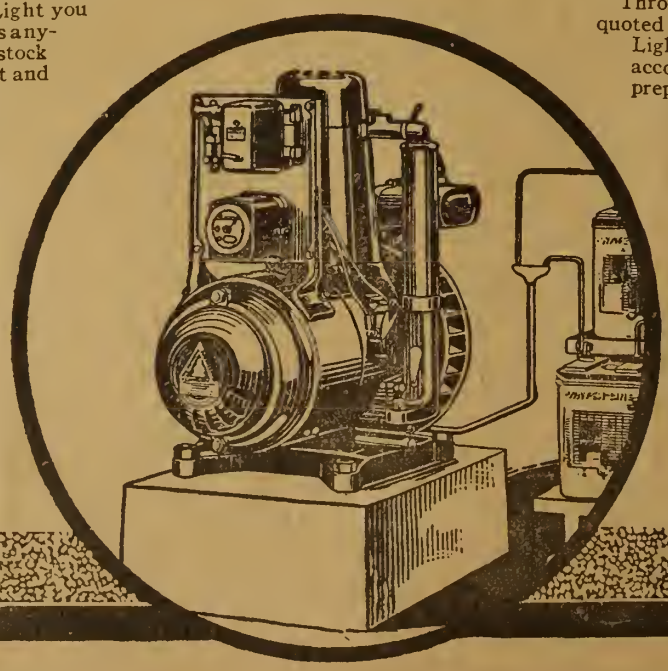
On the Helms farm at Belleville they use Delco-Light power for the chores—in milking and feeding stock, in pumping water, in ironing and washing—and save 19 hours a week or about three months of one man's work in the year. Here's a hired man's work for three months which Delco-Light does. The cost of operating Delco-Light is less than the cost of oil for oil lamps.

But operating the small machinery around the farm is only a part of the work which Delco-Light does for you. Take the question of pumping water; with Delco-Light you can have water under pressure at taps anywhere on the farm. You can water stock easily and quickly. You can have hot and cold water in the house. S. W. Cooke and Son of Maysville, have a big herd of Holsteins. Delco-Light has pumped the water and done the milking for three years. They figure that their saving is not less than $1,800. As Mr. Cooke says, they could pretty nearly afford a new Delco-Light plant every year. And remember this saving does not include the convenience and comfort and saving of electric lights.

J. H. Lackey raises Polled Jerseys and Poland China Hogs. He, also, needs a lot of water. His Delco-Light outfit enables him to get along *without* two men he formerly hired.

AROUND THE HOUSE there is a great big saving of time and work for your wife—time she can very well use for her chickens or her garden or her dressmaking. A. F. Hinnenkamp tells us that Delco-Light saves his wife 416 hours of housework a year by operating an electric iron, a vacuum sweeper and a washing machine. *Besides*—no lamps to clean, no matches to use, no danger of fire, lots of light.

C. F. Tressin adds in the time saved from cleaning lamps and makes a total of 547 hours a year. Think of all the things your wife could do with that extra seven weeks. And then you have electric light. You can't know the joy and comfort of electric light till you have experienced it. Just press a button and release a flood of bright, clean, *safe* light. No matches. No lamps. No danger. Delco-Light gives four times as much light from a gallon of coal oil as a lamp gives.



DELCO-LIGHT is a complete electric light and power plant, easy to install and easy to care for. It will give twenty-four-hour-a-day electric light and power service.

Delco-Light is direct-connected. There are no belts to slip, break or be replaced.

It is self-cranking. Pressing down a lever starts the engine.

It is air-cooled. There is no water to carry, to freeze or to boil away.

There is only one place to put oil.

A simple mixing valve regulates the fuel supply. There is no complicated carburetor.

Ball and roller bearings cut down friction to a minimum.

Long-life batteries mean economy.

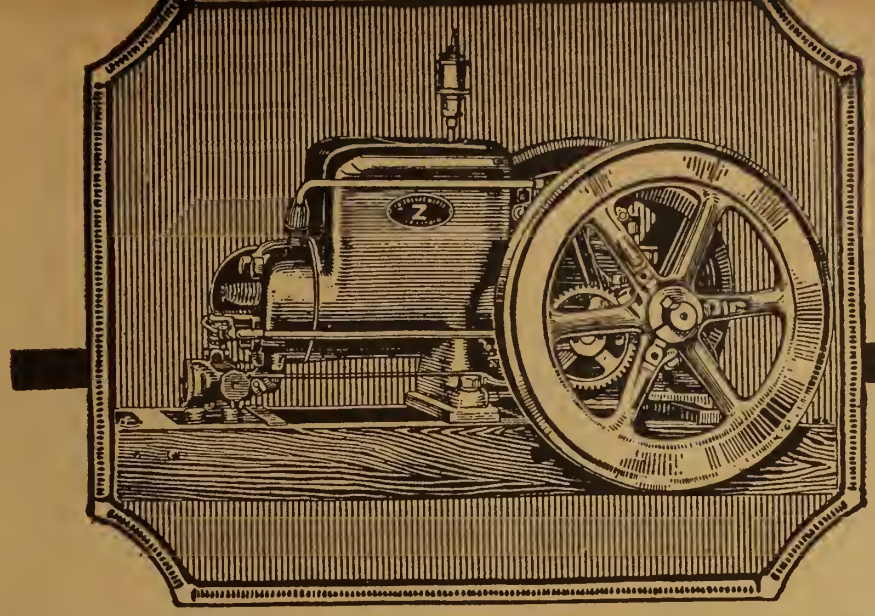
You need to know more about Delco-Light. We have fully illustrated literature showing Delco-Light in operation. Write your nearest distributor for it.

Throughout this advertisement we have quoted from letters received from Delco-Light users. Each of these letters is accompanied by an affidavit. We have prepared a folder reproducing some of these letters, and with photographs of some farms where Delco-Light is used. Your nearest distributor will be glad to send this book to you.

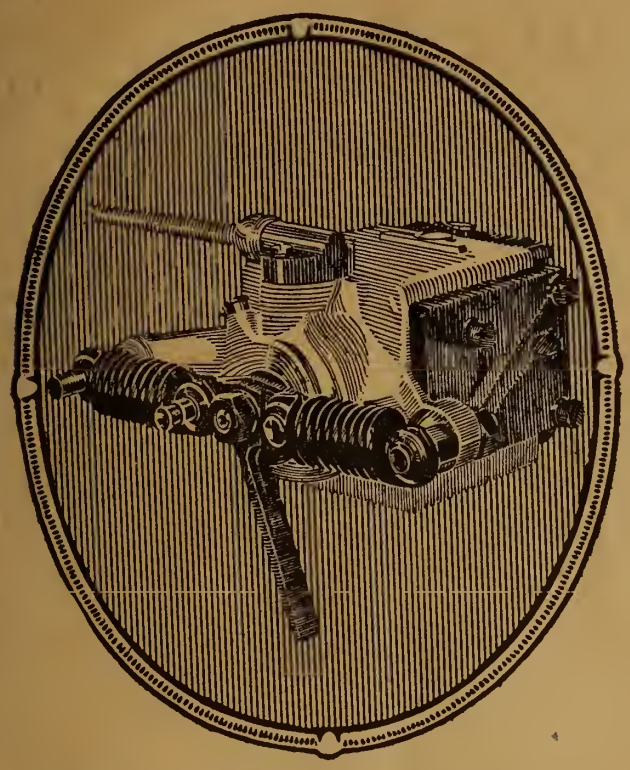
The
Domestic Engineering Co.
Dayton, Ohio

PROVINCIAL ELECTRIC LIGHT AND EQUIPMENT CO., KENTVILLE, N. S.

Making the Best Engine Better-



Fairbanks-Morse "Z" Farm Engine with Bosch Magneto



JUST think of the famous "Z" engine with a Bosch high tension, oscillating magneto—which delivers a steady succession of hot, intensive sparks. ¶ Every farmer in Canada should at once call on the nearest "Z" engine dealer and see the result of this recent epoch-making combination—FAIRBANKS-MORSE "Z" WITH BOSCH MAGNETO. ¶ Mechanical perfection, plus power—and right price—to date sold the "Z" Engine to over 250,000 farmers. ¶ This quality and quantity production enabled us to contract for a large proportion of the extensive Bosch facilities for making this one possible "Z" betterment, which establishes a new farm engine standard. ¶ And all Bosch Service Stations throughout Canada will assist our dealers in delivering maximum engine service.

MADE IN TORONTO, CANADA, BY

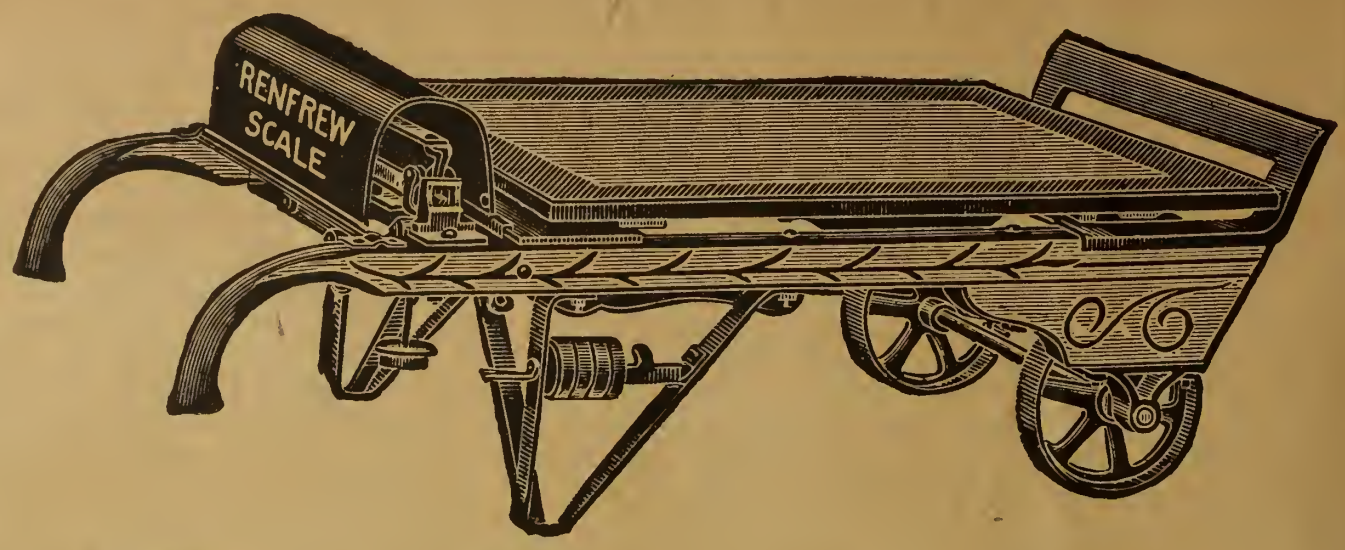
The Canadian

Fairbanks-Morse

Co., Limited.

HALIFAX ST. JOHN QUEBEC MONTREAL
OTTAWA TORONTO HAMILTON WINDSOR WINNIPEG
SASKATOON CALGARY VANCOUVER VICTORIA

45



A Real Money Saver

Farmers cannot afford now-a-days to drag along with old-fashioned methods. This handy truck scale will prove a wonder as a money-saver, and will make many short-cuts in your work. The

Renfrew
TRUCK SCALE

weighs anything from a pound to a ton. There is no need to lift heavy loads; simply truck the scale to whatever you want to weigh, slip it underneath, and the load is weighed. When it is not in use it can be stood up against the wall out of your way. Every part of the patform weighs accurately on even or uneven ground.

You need it for weighing cattle, horses, hogs, sheep, grain, feed, groceries, milk, etc. It is simple in construction and built for durability. Every scale carries a Government certificate of correct weight.

The Renfrew Machinery Co., Limited

Head Office and Works—Renfrew, Ont.

Eastern Branch—Sussex, N. B. Ageneies Almost Everywhere in Canada

LIVE STOCK NOTES

The districts from which the greatest numbers of live stock are regularly shipped to market are the districts which have suffered least from drought this year.

The following extract is from a letter just received from the head of an importing firm in Paris,—

"Some friends of mine now seem well disposed to enter into the business. They intend to import for Belgium and North of France through Dunkirk and Antwerp. Animals are specially wanted for wilk purposes and my friends want to know the breed of proposed cattle, also the average production of a cow. It is suggested to send young cows in state of pregnancy for some months, in order to avoid accidents during the voyage. If prices are suitable, we may buy several thousand head of cattle. Payment will be effectuated by bank credit opened in New York or in Montreal when giving the order, money delivered against bill of lading."

Copies of the letter are being addressed to various firms and parties likely to be interested in this business and our correspondent will be forwarded the information he asks so soon as it can be obtained.

Our Markets Representative at one of the Stock Yards reports that during the week ending October 9th there were over 15,000 sheep and lambs on the market. He graded over 8,000 of these and estimates that there were not more than 300 wethers in the lot. He quotes several instances of lambs averaging from 68 lbs .to 73 lbs. which sold for 12 cents and of other lots of lambs averaging from 64 lbs. to 71 lbs. which sold for 13 cents. It will be noted that the 13 cent lambs were of equal weight or lighter than the 12 cent lambs. Our representative reports that the difference in price was entirely due to the fact that the good lambs were better bred and that a large percentage of males had been castrated and docked.

From April 1st to September 30th, approximately 100,000 cases of Canadian eggs have been inspected and passed for export. 83,503 cases were inspected for export in Eastern Canada, and 10 car loads for shipment direct to Great Britain from Winnipeg. Is addition to the above, 70 cars moved from Eastern Canada under inspection to Montreal, 19 cars to Toronto, 83 cars to British Columbia and 60 cars interprovincially between the Prairie Provinces.

It will be remembered that eggs cannot now move interprovincially or for export except under government inspection and in accordance with Standard grade. British importers have strongly commended this action on the part of Canada and give it as their opinion that it will go far to establish Canadian eggs on the British market as eggs of uniform and dependable quality. Our eggs now command a steady premium over United States product and export movement for October promises to be exceptionally heavy, provided space can be obtained.

Dominion Live Stock Commissioner.

CAPT .GOOD RETURNS TO THE COLLEGE STAFF

Capt. C. A. Good, formerly assistant entomologist at the Agricultural College, Truro, who has been overseas for the past three years, has just returned from England. Since the Armistice Capt. Good has been teaching in the Khaki University. He is again taking up his work at Truro, where his presence will add to the effectiveness of the Entomological Department at the College.

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTESED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

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Buy a Better Buck and Flush the Ewes

F. Walker in American Sheep Breeder

The folowing article by J. F. Walker in the columns of the American Sheep Breeder should be of interest to every reader of the Maritime Farmer. If you have never owned a pure bred, buy one this fall and take advantage of the Federal and Local Governments' assistance. Buy a good one and follow the advice contained in this article:—

The Head of the Flock

He stood in the stock yard pen, resting on three legs, his horns propped up aganist the fence as if for support, looking decidedly the worse for wear. He had been bought in by the local buyer along with a job lot of sheep, and his future seemed brief. A farmer who owned a large farm and who is able to support a six-cylinder automobile, saw him standing there. "What will you take for him,' he asked the buyer?

"Five dollars," was the reply.

"Is he any good?"

"Can't prove it by me. I bought him along with this bunch of wether end ewe stuff and he must be all right, or he wouldn't be sticking around in the country this long."

"Give you four dollars for him."

"No, I gave four dollars. Tell you what I'll do, I'll split the difference," and at the magnificent sum of four dollars and fifty cents the bargain was completed, the old ram loaded in the back of the machine and taken to his new home.

I happened on the scene just as he was being loaded in the car. "Been buying a sheep?" I inquired of the owner.

"Yes, expect to use him on about fifty ewes. That's a good deal cheaper than any you felows that are raising them to sel lwould price one to me."

"What breed is he?" was my next inquiry.

"I don't know; got horns, he must be a Merino."

"How is his woll?" was my next inquiry.

"I didn't stop to look at that, he was just cheap and I bought him."

"He looks rather pointed over the shoulders and decidedly cat hammed," was my next observation.

"Yes," he said, "an old fellow that used to keep sheep in our county twenty years ago, told me that a ram ought to be sharp on the withers and I never saw a good one that wasn't."

"Well," I said, "if you want to raise something and not particular whether it has wool or mutton qualities, I believe you have pust the sire you are looking for, but if your business is to raise sheep, it strikes me that you have made a bad bargain—even if someone gave him to you, for the only value of a stock ram lies in the qualities that he is able to transmit to his offspring.

Do not think, reader, that is a fanciful tale draw nout of my imagination, but it is an actual happening in the great and wonderful state of Ohio within the past few months, and unfortunately it is by no means an isolated case. Years ago I wondered why there were so few good sheep throughout the country. As I studied the methods of feeding and breeding as practiced by the ordinary farmer, I have begun to wonder why it happens that we have as many good sheep as we do. Lack of care is responsible to a great extent for many poor flocks, but lack of study of the need of the flock from a breeding standpoint is equally repsonsible. I have seen men who thought it well worth while to spend days at a time looking for a suitable sire for their cattle and horses, who are willing to pay good service fees to get one offspring, men who recognized that a good herd boar was a profitable investment, but when it came to their flock of sheep, pursued exactly the same policy of the man who bought the ram at the loading chutes. Never figuring farther than the initial cost of the sheep.

The query was once raised at a meeting of a breeding association as to the amount of money it should cost t obuy a good ram. I would like to reverse this and ask the farmer what it has cost him t obuy a cheap or inferior ram? I am not speaking now in terms of dollars and cents when I say cheap, but in terms of breeding qualities. I am not one of those that thinks a high price makes a valuable product, nor a low price an inferior one. There are exceptions to this rule, but generally speaking, the man who is producing high quality stock can secure a fair price for his product and the man who is producing cheap, inferior stuff is satisfied to sell at any price he can secure. A man asked me the other day what kind of a stock ram he needed and how much he ought to pay for one? My answer to him was that depends all together on the class of ewes you are keeping, what your purpose is in keeping sheep and how much care or attention you are willing to put into them, and this applies to every man who maintains a flock of sheep.

"What kind of a ram shall I use? What kind of a flock have I got? What are the defects that are most prominent in my flock? What undesirable features are there that I wish eliminated? What do I expect to do with my flock, handle it as a wool and mutton proposition or a mutton-wool proposition? Am I willing to give them the care they must have to develop the best there is in them, or do I expect to run them as farm scavengers?" These are the question that every man must answer for himself.

Personally, I have never been very much of an advocate of mixing breeds. If my ewe flock were of the mutton type and had proven profitable, I would secure a ram of the same breed. I would pay particular attention to his mutton qualities and secure as good a fleece as possible in connection with mutton characteristics. No one can afford at present wool prices to overlook the fact that from one-third to one-half of the value of a sheep at the present time is in the wool it produces and there are good grades of medium wools as well as poor grades. It has been my pleasure to have handled some beautifhl clips of medium wool from pure bred sheep with also fine mutton qualities, so there is no quest ion but what it is possible to combine these two of the so-called mutton breeds. We have also handled some clips of wool from the fine wool sheep that really have rankel lower in quality than some of the mutton breeds, and the only reason that they were called delaine or fine clothing was because they were nothing else that we could think of. Had their shrink been lighter, some of these wools would have found a home in the three-eighths and quarter-blood grades, but in nearly every nstance these low grade wools carried a hig hpercentage in shrinkage and reflected the effort on the part of growers to breed a heavy weight of fleece without any attention paid as to quality. This grade of wools known to dealers as X's is found entirely too often amoni the fine wool sheep of the United States, and these coarse fibred heavy shrinking fleeces seem to be on the increase in certain sections.

It is asking too much to throw all these sheep in the discard, and relief must come only through the use of good sires . The expression has often been heard that a ram is half the flock. From a breeding standpoint he wants to go farther than that and say that so far as the improvement and development of the flock is concerned, the rams are the entire flock. A succession of good rams, good care and management being assumed, will develop a good flock from very ordinary foundation. One or two poor rams will ruin the best flock of sheep in the country. It is vitally essential if one wishes to obtain success as a shepherd, to study well the needs of the flock and buy accordingly.

There are cetrain dominant characteristics that all men recognize as essential in the sire, whatever breed your live stock may represent. He must be typically macsuline. He must carry a sire's head. I do not think it necessary to go into those details at this time, as practically every man who writes a letter of inquiry concerning a stock ram is able to describe the ideal sire. All to frequently, however, at the bottom of the page there s a little note, "If you have such a ram at ten or fifteen dollars, please let me know. I do not want to pay over this, as I only have thirty or forty head of sheep to breed."

L'll bet dollars to doughnuts that that man will spend more for tobacca in six months, more for a tire for his jitney, more for a service fee for a colt, more for a one hundred-pound pig than he would for a stock ram that he might use for three years and then sell at a very slight discount under what he gave for him.

So I ask you, reader, to get your ideal type in mind, then if you are breeding mutton sheep that are deficient in back or loin, get a ram that is especially strong there. If they are long necked and light headed, secure and ram with a burly, heavy head and short, massive neck. If they are smaller in size than you desire, use a ram with plenty of stretch and bone, though really it seems that we have worshipped at th shrine of size entirely too much.

After all, what is the most profitable type of sheep? The one that will go to market when it reaches marketable age at a size that meets the most general demands of the consuming public, and fortunately this is not an excessive size. Lambs weighing from eighty to ninety-five pounds at the ages of ten to twelve months and that are good conformation, are generally the market toppers, and it is not necessary to keep over-grown sheep to satisfy this market. Even the fine wool breeds, if properly grown, will duplicate these weights. So if I had a flock of sheep tha tseemed too small to me. I would inqure first as to whether or not it was due to some faulty system of my in keeping or feeding them before I determined on getting an over-sized sire to remedy the defect.

My attention was called some time ago to one of our public institutions maintaining several representative specimens of some of the more popular breds of sheep. Two Shropshire rams were shown with some pride, and their smoothness and mutton qualities and type were emphasized. One of these rams weighed two hundred pounds, the other, if I remember correctly, some ten pounds lighter. Then we were shown a Delaine ram weighing considerably over two hundred pounds. A ram that had neither fleece or form to recommend him, and instead of hearing somewhat of the fleece qualities of the sheep, the entire emphasis was laid on his great size. I am free to confess that for one I was decidedly puzzled to know why that two hundred-pound Shropshire ram should be valued for his conformation and fine fleece quality, while the Delaine natuarlly supposed to be some twenty-five to fifty pounds lighter than the Shropshire and bred primarily for wool should weigh well over two hundred and be valued for his great size and heavy, soggy low grade fleece. Truly a campaign of education is needed.

Every man has heard it said, a ram should carry a ram's fleece. To this I heartily agree, but the kind of a ram's fleece that one ram should carry for one flock may be and often is the very opposite of the kind of a fleece a ram should carry for another man's flock. I do not beleive that any man can afford to use a ram of low grade fleece unles he expects to send his lambs to the butcher before shearing and even then a coarse fleece denotes, as a rule, poor feeding qualities. The vast majority of men seem to think that a ram's fleece means a coarse fibred, unelastic, heavy oiled bunch of wool. The reason that Delaine wool s so valuable for the purpose of making fine clothing is due to the fineness and elasticity or spinning quality of its fibres. When you have bred away from this you have lost the essential characteristics of Merino wools and are producing wools really lower in grade than that produced on mutton sheep because of greater shrinkage in scouring. An effeminate fine ewe fleece has been discriminated against by growers and yet there ar instances where this very style of fleece is very valuable in restoring a coarse fleece bunch of ewes low in quality. I believe this prejudice is due largely to the effort made by breeders some thirty or forty years ago to get away from the fine saxony type of sheep . The advice at that time to breed only a big bold fibred ram well taken because a large number of ewe flocks had been carried so fine that they were losing weight of fleece, length of staple and becoming undersized and weak constituted themselves. I have seen rams at the head of some flocks that I will agree to duplicate their fleece if some one will let me shear a white collie dog after soaking his hair with low grade castor oil, and yet these men have gone on well satisfied to produce this character of wool and talk of their four and five-inch staple which is just as long before being stretched as after.

Judge yourfleece as determined by its elasticity and fineness, and no ram should be used lacking in these qualities. Many confuse fineness of fibre with cramp. Generally speaking the crimp of a ram's fleece should be solider and the fibre somewhat stronger than that of the ewe, provided of course the ewes carry fleeces of good quality.

Question of shrinkage is one that is bound to be considered in the near future, especially so in the change in the methods of marketing wools. No manufacturer wil lpay as much for excessive shrinkage wools as those of lighter shrink of the quality. I have been interested in noting the average weights of the good flocks of Australia and shrinkages. I note one ram shearing over twenty-one pounds of wool when six years old with a shrink of forty-eight per cent., and a flock average of twelve pounds with a shrink of forty-six per cent. Is there a flock of sheep in the United States today carrying that weight of fleece that will not shrink around sixty per cent. I am referring now primarily to fine wool sheep. If it is possible to secure these results in Australia is it not possible to approximate them here? I know you are going to raise the question of climate, etc., but really it seems to me that the main difference has been one of selection of high class sires and systematic effort in the direction of production of good staple, bulky light shrinkage wools. I do not know as to the advisability of attempting to produce wool in the United States with shrinkage of fifty per cent. or less, but am very certain that we could dispense with the rams with a shrinkage of seventy per cent., eighty per cent., or even higher, and I have seen these shrinkages on fleeces that would not weigh over twelve to fifteen pounds in the grease.

Next to a ram's individual characteristics comes the question of hs ancestry. It is very possible that the question of whether it is best to select a ram with high individuality and poor or unknown ancestry is to be preferred to one of poor individuality from high grade ancestry. The safest plan is to let both strictly alone. It is generally accepted as true that no sire can transmit qualities beyond those which he himself possess or has inherited through his ancestors. Careful breeders are inclned to lay greater emphasis on the blood close up in the pedigree of their sires. Given a ram of good breeding and high individuality, his impression should be strongly felt in any flock nor need his usefulness end with the first crop of lambs, because if he were producing to a marked degree of improvement of the flock he can safely be used back on his daughters or possibly better still one out cross, then back to his granddaughters.

Do not neglec to get your breeding ewes into the best possible thrifty condition before the breeding season opens. Ewes gaining flesh at time of breeding give the highest percent-lamb crop.

Jottings From the P.E.I. Department of Agriculture

SCHOOL FAIRS

Prince Edward Island schools have finished holding their fall fairs for 1919. Beginning Sept. 29th four, five and six fairs were held each day until the 40 fairs organized were completed. Fortunately the weather, with the exception of one day, was ideal and all fairs were conducted on the dates as arranged.

School Fairs as a part of the agricultural training in the rural schools were not organized in this province until 1916. As an experiment, 4 fairs were started. These were so well received by the districts that the following year saw the number ncreased to 14. In 1918 the number again increased to 29, and this year to 40.

Objects

1. To interest the children of the schools in the things which are grown on and about the farms.
2. To encourage the production of produce of better qualty.
3. To train pupils to enter into friendly competition.
5. To produce better educated boys and girls.

Orgonization

1. The public school inspectors of whom there were 8 assited the teachers in their organization.
2. A number of schools, from 4 to 7, group into one fair centre.
3. The pupils and one trustee from each school with the Inspector form an advisory committee. Officers from each school are appointed, a prize list drawn out and all arrangements are completed in the spring in order to give the pupils an opoprtunity to prepare exhibits.

Assistance Given to Fairs

The Department of Agriculture through its Rural Science Branch assists the organization: 1st, by supplying a school fair circular containing a suggestive prize list. 2nd, supplying all material required at the fair, such as Secretary's entry book, entry tickets, prize tickets, officers' badges and ribbons for the sports; 3rd competent judges in live stock, vegetables and Domestic Science are sent to each fair. The inspector judges the school work.

No grant as yet has been paid for prixes. The prize money is made up by the schools in various ways, by holding entertainments, selling special contributions, etc. The generous action of the Canadian Bankers' Association in giving $30.00 for calves and pigs when exhibited according to their regulations, is highly appreciated and has resulted in great benefit to live stock industry. It has also suggested to dairy companies a way in which they too could assist in developing their industry, and in 1918 the Tryon Creamery donated $25.00 in prizes for dairy calves. This year the amount was increased to $75.00 and a like abount was voted by the Crapaud Creamery. As a result there was the finest exhibit of dairy calves and yearling heifers, all under 18 months, shown at the Tryon School Fair ever brought together in the province. The interest is extending. The Dunk River Creamery this year voted $28.00 for the same purpose. We cannot attach too much importance to these contests. The boys in striving to win, learn to feed, care for and exhibit, and become intensely interested in live stock. The boys of today are our future farmers, and as the prosperity of an agricultural country depends on its live stock there arises the necessity of giving every possible encouragement to an education that will foster the future increased development of this main industry.

It is gratifying to note the increased interest taken by parents and children in the fairs. The improvement in the exhibits, the better arrangement and management in holding the fair, friendly spirit shown in the sports and best of all, the evidence that each year the exhibitts represent more individual effort on the part of the pupil. The individual effort is further encouraged by the organizing of Pig and Poultry Clubs, which contribute to the exhibits.

ABOUT SHEEP

The Federal Live Stock Department have done considerable advertising of their policy of offering a bonus of $5.00 a year for two years to any one who has never used a pure bred ram in his flock and it was thought that every interested farmer in the Maritime provinces would have noticed this and remembered the terms stated, but it appears that something more is necessary, and from the experience of this office it would seem that only by frequent letters bearing on this subject can the matter be properly kept berore them. The article about "Sheep" I am enclosng, the second of its kind to be published in our Island papers, bronught a large number of fresh enquiries to our office, which is further proof that we must continually have some sort of a reminder face the public of anything we wish them to take up.

Charlottetown, P. E. Island,
October 2, 1919.

To the Editor:

Sheep are universally adimitted to be the greatest weed destroyers of any of our farm animals, and could profitably be kept on most farms in the Maritime Provinces. In fact, any observing person has noticed the alarming increase of weeds on farms where sheep raising has been discontinued for any number of years, as sheep will readily eat a large majority of our mose prevalent weeds, and if closely confined, or on scant pasture, will devour and destroy almost all of them .

The time was (but is happily past) when lambs sold for $1.50 each and wool at 20 cents and less a lb. and this coupled with the ushering in of co-operativ edairyiny were the chief causes of many farmers going out of sheep raising the dairy cow proved a greater profit maker and could be fenced with wire at less cost and trouble. But another and more serious matter soon developed. Several of our old weed enemies and a few new ones began to gain headway on these sheepless farms and their owners began to regret the absence of these industrious little workers. For the past few years many who have neglected breeding sheep for a considerable time began to consider if they could not get their fences in shape and make room again for another flock.

All three Maritime Provincial Governments have offered some little assistance and encouragement to induce as many farmers as possible to again go into sheep raising. The Federal Department is also lending assistance to the entire Dominion by way of a bonus to farmers who have never used a pure bred ram by offering a grant of $5.00 a year for two years, or $10.00 in all, to assist in their purchase, information relating tao which may be obtained by writing to the Department of Agriculture, Charlottetown. The benefits of using a pure bred sire of any kind should now be apparent to anyone, as these animals have been bred, raised, selected, and culled for many years with some special improvement in view that has been an almost inestimable commercial value in the care of sheep, both in the muton and wool. The best evidence of the immense value of the latter is found in the results of the Co-operative wool sales, the best grades of wool selling for over 20 cents a lb. over the coarser kinds, which goes to show what improvement has been accomplished by the breders of pure bred sheep. Not only has the wool, size and quality of mutton been greatly improved, but also the vigor and constiution of these animals are readily noticeable in the first crop of lambs from a pure bred ram or grade or mongrel ewes, and it does not matter how good a grade or scrub ram you may consider you have, it is a penny wise and pound foolish policy to continue using him when a high class pure bred may be obtaned at little additional cost.

Write the Department for any further nformation you wish as to the easiest method of securing a pure bred ram to head your flock.

(Sgd.) WALTER M. LEA,
Commissioner of Agriculture.
Department of Agriculture.

Butter is now selling at some of our best conducted creameries at 57 cents a lb., which would give the owner of profitable dairy cows furnishing the cream a good profit and any who are privileged to be in reach of such a creamery to endeavor if they have no cows freshening this fall to plan to have a few for next winter. It has been proven beyond a doubt that cows coming in in the fall months will produce a greater quantity of milk in the year on the same feed than those fresening in the early spring, due princpally to the fact that the fall beginners will come on grass (about the eighth or ninth month) which is the greatest stimulant as well as one of the best feeds we have, and this will give them a fresh start almost is if they had freshened again, whereas the spring freshened cow will strike dry feed and cold weather at about the same time, consequently cannot maintain such a long milking period. They will also generally be in much stronger and healthier condition after running on the grass all summer than those tied up in the stable. The offspring will also be a stronger, more vigorous calf and be easier raised during the winter months. The work is better divided up in the year. Try one or two cows if you have never done wnter dairying in conjunction with the creamery.

Gleanings From the Nova Scotia Agricultural College

AGRICULTURAL STUDENTS

The College of Agriculture at Truro opens on November 4. Correspondence to date indicates very much larger classes than during the war. Indeed the applicatons to hand now, are from 25 to 50 per cent. higher than at the corresponding date in any previous year. It therefore looks as if the College will have the biggest year in its history. Perhaps at no time in the history of the world has the necessity of good farming been as great as now. We strongly recommend young farmers of the Maritime Provinces to take advantage of the splendid opportunity afforded at this institution. Particulars may be learned from the advertisement on another page of this issue.

WOMEN'S INSTITUTE ACTIVITIES

Among the many interests which have been successfully taken up by the Women's Institutes in this Province, are two which are particularly important just now. One is the improvement of the local school by means of a School Fair, where exhibits in gardening, Domestic Science and skilled handwork of every kind bring out the latent ability of the young folk. In schools where no other opportunity is open to these scholars, competent lades in the community are freely giving their services in lessons and demonstrations along the lines of Domestic Science. Another activity in which several Institutes are interesting themselves is the building of Community Halls as Memorials to the boys who fell at the front.

The Annual Convention of the Women' sInstitute organization will be held in Truro on Oct. 22nd and 23rd. The programme promises to be very atractive, with a number of speakers of wide reputation. One of the features is a course of lectures on Home Nursing, given under the auspices of the St. John Ambulance Association.

THE EGG LAYING CONTEST

Thirty-six entries have been received up to date for the egg-laying contest at Truro. The capacity of the plant is thirty hens. The entries include six pens White Wyandottes; six of Rhode Island Reds; five of Barred Plymouth Rocks; five of Single Comb White Leghorns; two of Anconas; two of Rose Comb Brown Leghorns; one pen each of Rhode Island White, Buff Orpingtons, Single Comb Buff Leghorns, Silver Wyandottes an dBuff Wyandottes. Five pens are as yet unnamed.

The birds have to be in their pens by Oct. 15, but they have until Nov. 1 before records will be kept. All parts of the Province are represented, but the premer place goes to the Glace Bay Poultry Club which has entered seven pens.

Records will be kept of the number of eggs, weight of eggs, kinds and quantities of food used and cost of production. Although a great many breeds are represented, it is not a competition of breeds but rather of strains for egg production. Visitors will be admitted between Oct. 15 and Nov. 1; after the latter date no visitors will be allowed among the contesting pens.

Houses, fencing and other equipment are now all in readiness to receive the birds. Mr. F. C. Elford, Dominion Poultry Husbandman, Ottawa, has visited the pens and states that the equipment is the best he has ever seen. This is no small compliment to the College authorities, since Mr. Elford was connected with the International Egg-laying contest, at Storrs, Connecticut, and with other similar contests in the United States.

NOTES ON CLOVER SEED

It is very gratifying to those who have been watching the clover seed situation to know that large numbers of farmers all over Nova Scotia have saved quantities of clover for seed this season. Market advices indicate that this article will not only be very scarce, but also from 20 to 50 per cent higher than last year's very high price.

A word of warning should go out to those who are undertaking for the first time to save clover for seed. There is always a tendency at the approach of winter to hurry harvesting. Clover should be left until it is quite certain that the seed is mature. The blossoms should be black, and the maturity of the seed can easily be tested by rubbing out a few heads between the hands. It is better not to cut at all than to cut for seed, immature clover. Successful threshings have been made from second growths left until the snow begins to fly.

The Department of Agriculture which, for five years have been sending out a power clover huller to any point where a group of farmers have saved clover for seed purposes, are continuing their policy this year. From applications received it would appear that the Government huller will have a very busy season. Enquiries have come in from communities all the way from Inverness to Yarmouth.

The Department was well advised in forestalling the situation and providing the opportunity for farmers to grow their own clover seed and have it hulled. In addtion, the Department offers a bonus, to any group of farmers who will purchase a huller for use in the community in which they live. One which, several years ago was purchased for Kings County will be largely used this year. Another is being bought by a group of men about River John, Pictou County, this year, and there is a substantial quantity of clover awaiting it in that neighborhood. Those who are unfamiliar with the harvesting and threshing process should write to the College at Truro for information.

FERTILIZING OF PASTURE LANDS

Judging by correspondence received at the College quite a number of farmers will this fall apply fertilizer to at least a few acres of pasture lands. The results from this practice at the Agricultural College Farm are so striking that those who have been watching them feel that many farmers should adopt the practice.

According to their figures the total cost ,including interest on investment, annual charges for fertilizer, fencing and incidentals, is about five cents per pound of gain in live weight. As compared with this cost per pound of gain by stable feeding in winter, was fifteen cents when feeds were at prewar prices.

From now until the snow flies is the proper tme to make the application of fertilizer. Slag or acid phosphates of wood ashes have proven most economical but almost any fertilizer would give results, although it is not good practice to apply a fertlizer which is very rich in ammonia in the Fall, because the ammonia will leach out, whereas the phosphoric acid, potash and lime, which are the principal ingredients in those mentioned above will not leach out, but will become incorporated with the soil during the winter months. These will therefore give better results than would be deriver from a spring application.

CLUB ROT IN TURNIPS

There is much concern throughout the province over the ravages of Club Root. It is estimated that not less than 20% of the entire turnip crop of Nova Scotia has been lost this year through this disease. In some districts farmers are about making up their minds to cease growing this valuable vegetable on account of their losses. This is not at all necessary as there is a simple remedy which can be recommended without hesitation, as it has now passed the experimental stage. The remedy is a good application of lime, if ground lime stone at the rate of four tons to the acre, if ordinary burnt lime, half this quantity.

Experiments at the College Farm, Truro, go to prove that where lime was applied two years ago, in the spring of 1917, there is practically no club root, whereas adjacent lands without the lime application show over 75% of club root infestation. As corroborative evidence the experience of a vegetable grower near Truro may be cited. His turnip plot was very badly infested, almost completely destroyed, indeed, by club root. An adjacent plot was this year planted to cabbage, which is equally subject to this foe, and a quantity of burnt lime aplied as each plant was set out. The cabbage thus treated shows no sign of club root, except a few plants which show infection some five inches below the surface, where the lime did not penetrate. A row of cabbage alongside these is very badly affected.

Thus for an outlay of, say, $20, an acre of ground which is liable to club root may be treated so as to not only protect it from this enemy, but also to increase the yield. The average yield of turnips is about 600 bushels to the acre. 25c. per bushel is a low valuation for the crop either for market or feeding purposes. In other words a crop worth $150 may be practically assured by an outlay of $20.

The lime should be applied this fall on fields to be sown to turnips in the spring. Even better results would be obtained by a period of one, two, or even three years between the application and the crop. This, however, is a matter of simply getting the lime thoroughly incorporated with the soil to a fair depth. For fuller information on the whole question write the College at Truro.

EFFECT OF SALT ON A FIELD OF MANGELS

An interesting result was obtained this year froim the application of common salt to a part of a field of mangels, on the College Farm at Truro. Two plots equally treated in other respects show these results. One had an application of 100 lbs. nitrate of soda and no salt. It yielded at the rate of 899 bushels to the acre. The other plot had 100 lbs. nitrate of soda and 200 lbs. of common salt applied. It yielded at the rate of 1125 bushels to the acre. The applications in both cases were 100 lbs. nitrate per acre, and the salt application 200 lbs. per acre. Thus the salt application increased the yield by 226 bushels, which, at 20c. per bus. represents a gain of $45 for a trifling outlay. The difference in the appearance of the plots was evident to any observer while the crop was growing.

Great Advances Made by the Farming Industry

Tremendous Gains Made in Amount of Farm Products Raised and Export Figures Show Marvelous Strides in Past Few Years

The Dominion of Canada with approximately 450,000,000 acres of land suitable for farming is supremely an agricultural country.

Canada offers greater advantages and opportuniities in her farming industry to the man not afraid of work than any other country. Energy and intelligence are certain to bring results beyond those to be obtained from the investment of an equal capital in any other business.

Of Canada's total area of 2,386,85,600 acres only 106,777,085 acres were, when the last census was taken (1911) in actual occupation, while of the occupied areas, 48,503,360 acres were improved, and of improved areas 30,566,169 acres were under field crop in 1910. These figures show that the Dominion has an enormous area of agricultural land, more perhaps than any other country, Russia alone disputing the supremacy.

Wheat Exports

During the present century Canada has become one of the chief wheat exporting countries of the world, ranking closely in this respect with the United States, British India, Russia and the Argentine Republic. The quantity of wheat and wheat flour expressed as actually exported in recent crop years ended Aug. 31 has varied from 84,531,922 bushels in 1914-15 to 289,794,152 bushels in 1916-16.

The total yield of wheat for Canada in 1918 was returned to the Dominion Bureau of Statistics, Ottawa, as 189,301,350 bushels grown on 17,353,902 lowsacres. The yield of oats in 1918 was 380,273,500 bushels, grown on 14,790,336 acres. Of the remaining grain crops the total yields in 1912 were as follows: Barley, 77,290,240 bushels; Rye, 8,496,700 bushels; Buckwheat, 11,428,500 bushels; mixed grains, 35,730,300 bushels; Corn for husking, 14,214,700 bushels; flax, 5,972,200 bushels; Peas, 3,110,100 bushels; Beans, 3,568,300 bushels. Other crops were: Potatoes, 104,512,700 bushels; Turnips, etc., 130,989,600 bushels; Hay and Clover, 14,661,400 tons; fodder corn, 4,776,000 tons; sugar bets, 180,000 tons; Alfalfa, 446,400 tons.

In the Provinces of Saskatchewan, Alberta and Manitoba the total yields in 1918 were: Wheat, 160,456,100 bushels; Oats, 222,049,500 bushels; Barley, 47,607,400 bushels; Flax, 5,776,000 bushels.

The estimated present value of improved agricultural lands in Canada is $2,792,229,000. The value of farm buildings, $927,548,000 . That of agricultural tools and machinery is $387,079,000, and that of livestock $1,102,261,000.

More Credits Needed

In 1918 Canada exported foodstuffs to the value of $385,746,765, an increase over the exports of 1914 of over 90%. To accomplish this it was necessary to advance credits to Great Britain alone of $294,564,744. And if Canada is to retain the position she has achieved as an exporting and agricultural nation it will be necessary to advance still further credits. Otherwise she will have no markets for her surplus foodstuffs.

For the purpose of enabling Canada to remain in the export market as a great force the Domfinion is asking for funds for the Victory Loan,1919.

The Centerville Exhibition

The Centreville Exhibition, held in the rich agricultural county of Carleton, under the auspices of Agricultural Society No. 44, on September 24th and 25th was, to use the words of the management, "a grand success." Perfect weather prevailed during the two days on which the show was held, and the attendance was all that could be desired.

The entries in each and every department far exceeded that of previous years. There were no fewer than forty pure bred Percherons and Clydesdales, with a good showing in the other classes. There were also over one hundred head of pure bred Ayrshires, Shorthorns, Holsteins and Jerseys, and a large number of grades contributed by local exhibitors. Competition was strong in nearly every class.

The judges of the respective classes were:—Horses—J. F. Frost, Hampton; Cattle—E. McIntyre, Sussex; Sheep and Swine—F. Waldo Walsh, Assistant Live Stock Superintendent, Fredericton; Poultry—R. Kidney, Hartland; Domestic and Fancy Goods—Mrs. E. McL. Hall, Fredericton; Agricultural Products—Wm. Palmer, Scotch Lake; Honey and Horticulture—G. S. Peabody, Woodstock; Dairy Products—Geo. Ransom, Woodstock.

Following is a list of the prize winners:

HORSES

Standard Bred Horses

Stallion, 4 yrs. old—1, B. E. Cliff, Centreville, N. B.

Mare, 4 yrs. old—Dr. F. M. Brown, Centreville, N. B.

Mare, 2 yrs. old—Clover Nook Stock Farm, Hartland, N. B.

Percherons

Stallion, 4 yrs. old—1, C. Allen, Hartland; 2, S. Hamilton, Bath; 3, Holland Estey, Florenceville.

Stallion, 3 yrs. old—1, John Wakem, Greenfield.

Stallion, 1 yr. old—1, W. B. Webb, Centreville.

Brood Mare with foal—1, W. B. Webb; 2, Edner Reid, Knoxford; 3, J. Wakem.

Mare, 3 yrs. old—1, S. T. Gallagher, East Centreville.

Mare, 2 yrs. old—, John Wakem.

Mare, foal—1, W. B. Webb.

Stallion Foal—1, Edner Reid; 2, John Wakem.

Clydesdales

Stallion, 4 yrs. old—1, A. W. Lister, Listerville.

Stallion, 2 yrs. old—1, Clover Nook Stock Farm.

Stallion, 1 yr. old—1, Clover Nook Stock Farm.

Mare, 4 yr. old—1, William Page, Williamstown; 2, William Page; 3, Clover Nook Stock Farm.

Brood Mare with Foal—1, W. S. Cogswell, East Centreville.

Mare, 3 yrs. old—1, W. S. Cogswell.

Mare, 2 yrs. old—1, Clover Nook Stock Farm.

Mare, 1 year old—1, C. A. Simonds; 2 and 3, G. A. Lamoreaux.

Mare Foal—1 and 2, W. S. Cogswell; 3, G. A. Lamoreaux.

Draft Horses

Pr. Draft Horses—1, W. Reid, Knoxford; 2, Frank Sloat, Centreville.

Pr. Draft Horses, 2 yrs. old—1, C. P. Palmer, Woodstock.

Pr. Draft Horses, 1 yr. old—1, William McDonald, Centreville.

Brood Mare with Foal—1, Edner Reid.

Mare or Gelding, 4 yrs. old—1, C P. Palmer; 2, Edner Reid; 3, A. R. Hawkins, Centreville.

Mare or Gelding, 3 yrs. old—1, W. B. Webb; 2, Robert McKay, Centreville; 3, E. W. McLeary, East Centreville.

Foal—1, Edner Reid.

General Purpose

Pr. G. P. Horses—D. Tompkins, Brookville; 2, Edward McCain, Florenceville.

Brood Mare with Foal—1, C. Dickinson, Hartland.

Mare or Gelding, 4 yrs. old—1, J. Dougherty, Centreville; 2, Robert Orchard, Centreville; 3, C. P. Palmer.

Mare or Gelding, 3 yrs. old—1, G. F. Briggs, Centreville; 2, T. Jameson, Knoxford; 3, A. R. Hawkins.

Foal—1, C. Dickinson.

Driving Horses

Brood Mare with Foal—1, Harley Margison, Knoxford.

Mare or Gelding, 4 yrs. old—1, G. A. West; 2, Dr. F. M. Brown.

Mare or Gelding, 3 yrs. old—1, C. P. Palmer; 2, S. Cormier, Centreville.

Mare or Gelding, 1 yr. old—1, S. T. Gallagher.

Foal—1, Harley Margison.

CATTLE

Shorthorns

Bull, 3 yrs. old—1, C. P. Palmer.

Bull, 2 yrs. old—1, W. Reid; 2, N. B. Rogers, Fielding.

Bull, 1 yr. old—1, William Page.

Bull Calf, under 12 months and over 6—1, Harley Margison.

Bull calf, under six months—1, C. A. Simonds; 2, R. McKay; 3, N. B. Rogers.

Cow, 4 yrs. old—1 and 2, William McDonald;; 3, N. B. Rogers.

Cow, 3 yrs. old—1, and 2, W. A. McDonald.

Cow, 2 yrs. old—1, C. A. Simonds.

Heifer, 2 yrs. old—1, C. A. Simonds; 2, Harley Margison.

Heifer, 1 yr. old—1, C. A. Simonds.

Heifer Calf under 12 months, and over six—1, W. A. McDonald; 2, N. B. Rogers.

Heifer calf under six months—1, W. A. McDonald; 2, C. P. Palmer; 3, C. A. Simonds.

Holsteins

Bull, 2 yrs. old—1, Clover Nook Stock Farm; 2, G. A. Lamoreaux.

Bull, 1 yr. old—1 and 3, J. I. Gallagher, East Centreville; 2, Clover Nook Stock Farm.

Bull calf under 12 mos. and over six—1, Clover Nook Stock Farm; 2, G. A. Lamoreaux.

Cow, 4 yrs. old—1, Clover Nook Stock Farm; 2, G. A. Lamoreaux; 3, J. I. Gallagher.

Cow, 3 yrs. old—1, J. I. Gallagher.

Cow, 2 yrs. old—1 and 2, J. I. Gallagher.

Heifer, 2 yrs. old—1, Clover Nook Stock Farm; 2, G. A. Lamoreaux.

Heifer, 1 yr. old—1, Clover Nook Stock Farm; 2, J. I. Gallagher.

Heifer calf under 12 mos. and over six mos.—1, J. I. Gallagher.

Heifer calf under six months—1, J. I. Gallagher; 2, Clover Nook Stock Farm.

Ayrshires

Bull, 4 yrs. old—1, A. W. Lister.

Bull, 3 yrs. old—1, F. B. Pelkey, Landsdown.

Bull, 2 yrs. old—1, Clover Nook Stock Farm.

Bull, 1 yr. old—1, A. A. H. Margison; 2, Edward McCain.

Bull calf under six months—1 and 2, A. A. H. Margison.

Cow, 4 yrs. old—1, G. F. Briggs; 2, A. W. Lister; 3, A. A. H. Margison.

Cow, 3 yrs. old—1, E. W. McLeary; 2, Clover Nook Stock Farm.

Cow, 2 yrs. old—1 and 3, A. A. H. Margison; 2, F. B. Pelkey.

Heifer, 2 yrs. old—1, A. W. Lister.

Heifer, 1 yr. old—1, A. A. H. Margison; 2, A. W. Lister; 3, E. W. McLeary.

Heifer calf under 12 mos., and over six—1, E. Hoyt; 2, B. Clark, Centreville; 3, A. A. H. Margison.

Heifer calf under six months—1, A. W. Lister; 2, A. A. H. Margison; 3, Clover Nook Stock Farm.

Jerseys

Bull, 4 yrs. old—1, A. R. Hawkins.

Bull, 2 yrs. old—1, C. R. Smith, Lakeville.

Bull, 1 yr. old—Hamilton Reid, Centreville.

Cow, 4 yrs. old—1, A. R. Hawkins; 2 and 3. H. Reid.

Cow, 3 yrs. old—1, H. Reid.

Heifer, 2 yrs. old—1, H. Reid.

Heifer, 1 yr. old—1, H. Reid; 2, A. R. Hawkins.

Heifer calf under 12 mos. and over six—1, A. R. Hawkins; 2, Burton Clark, Centreville.

Heifer calf under six months—1, A. R. Hawkins.

Grades and Crosses

Cow, any age—1, Beecher Clark; 2, W. A. McDonald; 3, P. Simonds.

Heifer, 2 yrs. old—1, R. Orchard.

Heifer, 1 yr. old—1, David Burtt, Centreville.

Shorthorn Cow—1, Percy Simonds, Tracy Mills.

Shorthorn Cow, 1 yr. old—1, W. A. McDonald.

Shorthorn Heifer Calf—1, W. A. McDonald; 2, H. Estabrooks, Centreville.

Holstein Cow—1, G. A. Lamoreaux; 2, Frank Sloat.

Ayrshire Cow—1, Burton Clark.

Ayrshire Heifer, 2 yrs. old—1. Frank Sloat.

Ayrshire Heifer, 1 yr. old—1, W. A. McDonald.

Ayrshire Heifer Calf—1, David Burtt.

Jersey Cow—1, W. B. Webb; 2 and 3, David Burtt.

Jersey Cow, 2 yrs. old—1, W. B. Webb.

Jersey Heifer, 1 yr. old—1, Horace Estabrooks; 2, Frank Sloat.

Jersey Heifer Calf—1, Dr. F. M. Brown.

SHEEP

Lincoln Ram, 2 yrs. old—1, H. Weade, Royalton; 2, G. A. Lamoreaux.

Lincoln Ram Lamb—1 and 2, C. A. Simonds; 3, G. A. Lamoreaux.

Pr. Ewes—1, C. A. Simonds; 2, G. A. Lamoreaux.

Pr. Ewes, 1 yr. old—1, G. A. Lamoreaux.

Pr. Ewe Lambs—1, G. A. Lamoraux.

Dorsets

Ram, 2 yrs. old, Ram Lamb, Pr. Ewes, Pr. Ewes, 1 yr., Pr. Ewe Lambs, all 1st prizes won by Clover Nook Stock Farm.

Shropshire Downs

Ram, 2 yrs. old, Ram, 1 yr. old, Ram Lamb, Pr. Ewes—all 1st prizes won by Clover Nook Stock Farm.

Oxford Downs

Ram, 2 yrs. old, Ram, 1 yr. old, Ram Lamb, Pr. Ewes, Pr. Ewe Lambs—all 1st prizes won by Clover Nook Stock Farm.

Leicesters

Ram, 2 yrs. old—1, Edward McCain; 2, W. Page.

Cotswolds

Ram, 2 yrs. old—1, W. S. Cogswell.

Ram Lamb—1, W. S. Cogswell; 2, E. W. McLeary.

Pr. Ewes—1, E. W. McLeary.

Grade Sheep

Pen of 4 Ewes—1, W. A. McDonald; 2, Dr. F. M. Brown; 3, W. B. Webb.

Pen of 4 Ewe Lambs—1, H. Weade; 2, W. A. McDonald; 3, Dr. F. M. Brown.

Pr. of Ewes—1, Frank Sloat; 2, W. A. McDonald.

Pr. of yearling Ewes—1, W. B. Webb; 2, W. A. McDonald; 3, Dr. Brown.

Pr. of Ewe Lambs—1, E. W. McLeary; 2, F. Sloat.

Fat Ewe—1, W. A. McDonald; 2, R. McKay.

Nannie Goat—1, Walter Bramley.

Chesters

Breeding Sow with pigs, 2 yrs.—1, A. A. H. Margison.

Breeing Sow, 2 yrs. old—1, R. McKay; 2, W. Page.

Sow Pig—1, A. A. H. Margison; 2, R. McKay; 3, W. Page.

Boar Pig—1, J. I. Gallagher; 2, R. McKay.

Boar, 1 yr.—1, G. A. Lamoreaux.

Tamworths

Boar, any age—1, Clover Nook Stock Farm.

Breeing Sow with Pigs—1, Clover Nook Stock Farm.

Sow Pig—1, Clover Nook Stock Farm.

Grades an Crosses

Breeding sow with pigs, 2 yrs. old—1, W. B. Webb.

Sow Pig—1 and 3, W. B. Webb; 2, J. I. Gallagher.

POULTRY

B. P. R. Cock—1, W. J. Page; 2, A. R. Hawkins.

B. P. R. Hen—1, W. Page; 2, David Burtt; 3, A. R. Hawkins.

B. P. R. Cockerel—1 and 3, W. Page; 2, A. R. Hawkins.

B. P. R. Pullet—1 an 2, W. Page; 3, S. Niles, Centreville.

W. P R. Cockerel—1, 2 and 3, G. E. Wilson, Centreville.

W. P. R. Pullet—1, 2 and 3, G. E. Wilson.

W. L. Cock—1, C. Sullivan, Centreville; 2, W. S. Cogswell.

W. L. Hen—1, C. Sullivan; 2, H. Weade; 3, W. S. Cogswell.

W. L. Cockerel—1, C. Sullivan; 2, H. Weade; 3, G. Smith.

W. L. Pullet—1, C. Sullivan; 2, H. Weade; 3, G. Smith.

B. L. Cock—1, W. S. Cogswell; 2, A. J. Lee.

B. L. Hen—1, W. S. Cogswell; 2 and 3, A. J. Lee, Centreville.

B. L. Cockerel—1, A. J. Lee.

B. L. Pullet—1, A. J. Lee; 2, W. S. Cogswell.

W. W. Cock—1, G. Smith; 2, H. Weade; 3, J. I. Gallagher.

W. W Hen—1, J. I. Gallagher; 2, G. Smith; 3, H. Weade.

W. W. Cockerel—1 and 2, J. I. Gallagher; 3, G. Smith.

W. W. Pullet—1 and 2, J. I. Gallagher; 3, G. Smith.

R. I. R. Cock—1, A. J. Lee; 2, A. A. H. Margison.

R. I. R. Hen—1, A. J. Lee; 2, A. A. H. Margison.

R. I. R. Cockerel—1, A. J. Lee; 2, A. A. H. Margison.

R. I. R. Pullet—1, A. J. Lee; 2, A. A. H. Margison.

Pr. Toluce Geese—1, Percy Simonds.

R. I. R. Breeding Pen—1, A. J. Lee.

R. I. R. Breeding Pen Chicks—1, A. J. Lee.

W. P. R. Breeding Pen—1, G. E. Wilson.

W. L. Breeding Pen—1, C. Sullivan.

W. L. Breeding Pen, Chicks—1, C. Sullivan; 2, A. A. H. Margison.

B. M. Breeding Pen—1, F. B. Pelkey; 2, C. Sullivan.

W. W. Breeding Pen—1, J. I. Gallagher.

W. W. Breeding Pen, Chicks—1 and 2, J. I. Gallagher.

B. P. R. Breeding Pen—1, W. Page; 2, A. R. Hawkins; 3, S. Niles.

B. P. R. Breeding Pen, Chicks—1, A. R. Hawkins; 2, Beecher Clark.

B. L. Breeding Pen, Chicks—1, A. J. Lee.

B. M. Cockerel—1, C. Sullivan.

B. M. Hen—1, F. B. Pelkey.

B. M. Pullet—1, C. Sullivan.

Geese, any breed—1, Percy Simonds.

G. Campine Cock—1, Dr. F. M. Brown.

G. Campine Hen—1 and 3, Dr. F. M. Brown; 2, A. J. Lee.

G. Campine Cockerel—1, 2 and 3, Dr. F. M. Brown.

G. Campine Pullet—1, 2 and 3, Dr. F. M. Brown.

S. C. Ancona Cock—1, Dr. F. M. Brown.

S. C.Ancona Hen—1, 2 and 3, Dr. F. M. Brown.

S. C. Ancona Cockerel—1, 2 and 3, Dr. F. M. Brown.

S. C. Ancona Pullet—1, 2 and 3, Dr. F. M. rown.

Sicilian Buttercup Cock—1, Dr. F. M. Brown.

(Continued on page 74)

Some Points in Successful Sheep Breeding

Dr. H.B. Arbuckle in American Sheep Breeder

When success in sheep raising is so dependent upon proper mating and handling it seems strange that so many men are careless about certain fundamental principles that underlie the whole business.

Let's discuss briefly these essential matters.

The ewe flock deserves close attention. Just any sort of ewes can not be depended upon to bring good results. Many men are satisfied to turn rams into a flock of most any sort of ewes. This is a foolish policy. There can be no argument for keeping absolutely unprofitable ewes in a breeding flock, for it will cost just about as much to winter them as it does to winter the profitable sort. Ewes that have gotten too fat to breed is not a common trouble in grade flocks, because the ewes have raised lambs and have not been pampered. However, very fat ewes that have failed to raise lambs for two years in succession should be sent to the butcher. All ewes with defective udders should be rejected. Ewes of weak constitution that are apt to remain too weak to handle their lambs have no place in the flock. Even in a grade flock it is important to retain ewes that are strong, good feeders, good in bone and well covered. The culling of the ewe flock is the first sound principle of successful breeding and it pays to attend to this first.

If you are handling a pure bred flock, you should have an eye to the production of ram lambs and ewe lambs. When I was in England a few years ago, I visited a large flock of pure bred sheep that was most carefully divided into two parts. The heavy boned, coarser ewes were to be mated to the ram that would be best suited for producing the ram lambs, while the more refined, neater ewes were mated for the ewe lambs. The outstanding success of this breeder is proof that the method is worth trying.

When you have gotten your ewe flock properly divided, you should strive to bring the flock into good breeding condition by the time of mating. The date of mating must be determined by local conditions.

It may not always be best to have your lambs dropped in the early winter, as you may not have suitable equipment in barns and feed to get through very cold, bad weather with a lot of young lambs. Lambs that are dropped about two weeks before grass comes often grow off so quickly that they overtake lambs that are a month earlier. This is because the ewes freshen up better and supply their lambs from the very start with an abundance of milk, which is the thing that counts in lamb raising. Unless you know what you can do, you had better not breed for early lambs. This year I had a ram lamb dropped on March 15 that weighed 145 lbs. on August 1, and he was a twin at that. He never knew what it was to be hungry.

The next sound principle is in selecting the proper ram and making sure that he is not only pure bred, but well bred. It never pays to use a grade ram. It would be going too far aside to discuss the characteristics of the dependable ram, as this is a big subject in itself.

Suffice it to say that he must be outstanding in masculinity and eager for his work and must be bred right. I know of nothing so foolish as for a man who wants to get good lambs, deciding to take a grade ram, because he can be had for less money. Everyone knows the ram is more than half of the flock, and the "better ram" slogan is the real secret of making a success of this thing of sheep breeding. Let me give you one instance of failure, which came under my observation, which may drive it home: I once loaned a neighbor a fine Dorset ram to prove to him what Dorset blood would do for producing lambs. He had a wonderful lot of lambs and he bragged on them everywhere he went. Among the lambs were two big ram lambs that weighed at four months almost 140 lbs. each and they were dandy lambs. The man said he knew he could never buy a pure bred Dorset ram as good as these, so he kept them for breeding. They were large and vigorous, but he never figured on that half of their inheritance that called for small bones, narrow shoulders, contracted chest and light hams. Their free milking mothers passed this on to them by the inexorable laws of nature along with the wonderful growth that abundance of milk had supplied. The result was pitiable to behold. The lambs came small of bone and lacking in uniformity, and the man blamed it on Dorset blood. Was this right? It will work this way every time, and I can conceive of no more foolish policy than that of trying to save money on the ram that is more than half of the flock.

If this man had brought the right sort of Dorset ram, he would have paid for him twice over by the additional weight of his lambs, to say nothing of hi ssatisfaction of having a lot of lambs he would never be ashamed to show to his friends.

This, in my judgment, is even more essential than having the ewe flock right, for nothing is more astonishing than to see what a really good ram can do with a flock of mediocre ewes.

The next point is in getting the ram in proper condition for the hard strain of the breeding season. I do not think that any ram will give the highest success that is in a run down condition. If your ram is thin, he should be carefully fed for the month before mating, using principally protein food, such as oats and bran, so he will be in strong condition and on edge for the game. He should have plenty of exercise, which is impossible for him to secure in a small lot. It is a wise policy to continue his feeding, until the breeding season is over, for you do not want him run down in the winter. Winter care of the ram is another strong point for the next season's success. This thing of turning the ram out to hustle for himself and find his feed at the straw stack can not be condemned too severely.

The last point I want to impress upon you is probably the most neglected of all. For the best results the ram should be hand bred, that is, he should not be allowed to run with the ewe flock. The ewes should be brought to him and he should be allowed to serve each ewe only once.

The ewe should be marked and turned out not to come back again for three weeks. This not only preserves the strength of the ram, but insures stronger lambs and more certain service. I have seen a ram serve one ewe twelve times in a single day. Often three or four ewes are in at the same time, so it is no wonder that many ewes miss the first service. From actual experience I can say that a ram that is bred in the way I suggest will handle sixty ewes with more ease than thirty by the common method and the results will be far better. If we think enough of our bulls and stallions to observe this simple plan of conserving strength, do you not think it wise to do as well by your rams. If you use this method, you can afford to pay more for a good ram and use him on as many ewes as you could use two ordinary rams on, when turned with the flock. Of course, it is useless to urge the importance of never turning two or more rams out into the same flock of ewes.

If you have never tried the method suggested, try it this season and see what results you will get. Your lambs will come all together and will be stronger. You can practically breed every ewe in good condition in the flock in a period of thirty days and then you can take the rams away and your lambs will not be strung out over a long period.

Here is hoping you will have the greatest crop of lambs you have ever known.

Prize Essay on Dairying

Two years ago a Dairy Essay competition was begun in Nova Scotia on the basis of instruction given in the Schools. Prizes were provided by progressive farmers, Agricultural Societies, bankers and business men. This year a Grand Prize was offered by the Dairymen's Association of N. S. for the best essay in the whole Province. This prize has been won by Master George MacKay, Marshville, Pictou County., and his essay is given below.

THE COW AND HER PRODUCTS

In the last few years dairying has taken a place in the front rank of Canadan industries. In 1917 $190,000,00 worth of milk and milk products were sold from farms in Canada. In that year 1,760,371 pounds of butter were manufactured in Creameries in Nova Scotia. The immense food value of this is realized when we consider that butter generates three and two-thirds times as much energy as the same amount of beef steak does. There was also a good deal of cheese and condensed milk made, besides the raw milk and cream consumed in towns and cities and in the country.

If we fill a bottle with milk and let it stand for two weeks we see that it divides into three parts, cream on top, water in the centre and the curd below. It is the cream that contains the butter-fat, of which whole milk contains about 4%. It is in the form of tiny gobules and is divided into two classes, "Volatile and Non Volatile Fats." The "Volatile" fats which form the smaller part are easily dissolved and pass off in gas. They are important in that they influence the keeping qualities of butter.

There is also about 87% of water in milk, 4¾% sugar, 3% casein, 2/5% albumen and ¾% ash made up of potash, lime, soda, magnesia and iron. All these ingredients are very important in nutritive value.

Now we see that milk is a wonderful thing, so we conclude that the cow is also wonderful. She is like a machine which takes raw materials in the form of food and water and turns them into milk, therefore she needs careful attendance. The food given to a cow to keep her in condition is known as the "Maintenance Ration" and all food given over this ration is turned into milk. The most difficult food to get is protein which contains nitrogen. Commercial foods such as "Oil Cake Meal" have large quantities of this and also total nutrients. The food must be in a form that the cow will ike . Spring grass is the best natural food for the cow, but, as she cannot have this the year round, she must have substitutes. The root known as Swedes is very suitable here, but if enough of these cannot be had "Ensilage" may be used. Ensilage is some green plants such as oats, peas and vetches cut up fine and put into an airtight box called a silo. This food when well preserved has a high nutritive value and the cows eat it readily.

A cow also needs a large supply of good fresh water which she must get without too much exposure in winter. She should be watered at least twice a day. As cows need Oxygen to make right use of their food the stable must have lots of fresh air. Each cow needs a volume 14 ft. x 14 ft. x x14 ft. of fresh air each day. In modern barns the foul air is carried to the roof by a flue, while another somewhere near the floor carries in the fresh air. These are constructed to give the proper circulatoin of ai without chilling the stable. Then the stable must be well lighted having 5 to 7 square feet of glass for each cow, also each cow must be bedded with straw or some other litter.

Everything in the stable and dairy including the cow must be kept clean. The cow's udder should be wiped with a damp cloth before milking and everything with which the miik comes in contact must be scalded twice a day to kill any bacteria which tend to sour the milk.

Cattle are known as breeds when they come from different countries and possess characteristics which separate them from others.

The Breeds are divided into three classes, "Dairy Breeds," "Dual Purpose Breeds" and "Beef Breeds." Of these the "Dairy Breeds" interest us most. They are Jersey, Guernsey, Holstein-Freisian, Ayrshire, Dutch-Belted, French Canadian and Kerry. The Jersey gives the richest milk of all these breeds. She came from the Island of Jersey in the Channel Isles. The Guernsey came from the Island of Guernsey and although she gives a larger amount of milk it is not as rich as the Jersey's. The Holstein-Friesian originated in Holland and is a good cow on good pastures. The Ayrshire came from Ayr in Scotland, and will thrive where no other cow could. The other breds in this class are seldom found in Nova Scotia.

Of the Dual class the Shorthorn is the most mportant, many being found in this province as meat and milk producers. This breed is suposed to have originated in the Northeast of England.

A movement has been started to make it mor convenent for farmers to have their cows tested, by having testing stations in certain centres. One of these stations has ben started in this place (Marshville) by Mr. H. R. Brown, Supervisor of Cow testing for Nova Scotia, and has proved successful.

GEORGE MacKAY,
Grade X.
Marshville School, Pictou County.

Windbreaks are a very desirable addition to any farm. Plan now for one if it is not already there.

THE MARITIME FARMER

And Co-operative Dairyman
Registered Trade Mark
Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

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DATES OF ISSUE

November - - - - -	11—25
December (Xmas) - - - -	9—23

OCTOBER 28, 1919

HOW LOSSES FROM FARM FIRES CAN BE PREVENTED

The number of fires that annually occur brings enormous losses, many of which could have been prevented. These losses, in certain instances, were not total, being partially covered by insurance. Nevertheless, a loss by fire is a serious drain on the resources of the whole country, being just so much valuable property that is absolutely gone for good.

The causes of most rural fires may be numerous: Among the most common and frequent might be fires resulting from lightning, spontaneous combustion, overheated stoves and bad chimneys, fires caused from sparks from engines, carelessness in the use of matches, kerosene and gasoline. Any person can mention other causes, some no doubt peculiar and unusual, which may cause the loss of valuable property.

Losses from lightning striking farm buildings may be greatly reduced if the buildings are properly rodded. After a fire of this kind the following may be heard repeatedly, "Was the building rodded?" and nine times out of ten the answer is, no. Also ask an insurance man if he would not rather take a risk on a barn that is rodded and see what he says. The added protection and safety that one feels by having the buildings rodded is well worth the cost of this protection.

People, although knowing the danger, often start fires as the result of carelessness. Matches are left in places where small children have access to them and as a result buildings are destroyed and lives sometimes lost. Then, there are certain people who insist on pouring coal oil on fires, saying that they have done it dozens of times, but there is danger and the next time may result seriously. Gasoline is very treacherous and a spark from a room that is saturated with the vapor may explode and start a fire that will spread very rapidly.

Then we have out-door fires started from burning brush, cinders from engines, and burning stubble that cannot be kept under control. In timber regions the losses from these fires have been enormous and here, organization for fighting rural fires is needed perhaps more than in any other instance. City residents are afforded the protection of an organized, drilled fire company but there is little fire-fighting equipment found in most rural districts for the protection from fires of various origins.

In certain districts rural organization for fighting fires has proved effective. The plan is something like this: The members of the company, upon being informed of a fire, drive to the fire with all possible speed. Behind their car is a trailer carrying the needed fire-fighting equipment. The trailers carry chemical extinguishers, buckets, axes, shovels and other tools, the equipment needed depending upon the kind of a fire. The cost of these outfits is not so large but that they might be provided in any farming community where sufficient interest is taken. With the aid of the telephone and automobile a rural fire can be quickly reached by a large number of farmers and a little organization along the lines of fire fighting would sometimes save buildings that formerly were destroyed for want of help.

After every disastrous fire agents come round selling insurance and seeking to rod your buildings and they usually do a good business, too. However, this does not help the one who has suffered the loss. Every farmer might be the next one to suffer loss.

Sometimes losses from fires cannot be prevented by human aid, but carefulness in the use of all inflammable and explosive materials, seeing that buildings are rodded and promoting a rural fire-fighting organization in your community will do much towards checking and preventing fires and bringing down the insurance rates. O. L. I.

FARM FIRE INSURANCE

Adequate insurance on buildings, contents and live stock should be a matter of careful concern with every farmer. This is a subject which comes very much to the fore just at this season of the year, when practically the whole of the season's crop is in the barn, and the thunder-storm menace is still very much in evidence. Up-to-date safeguards calculated to condust stray lightning bolts to earth by a safe route, sometimes work wonders and at other times evidently do not work at all. Case after case is on record where valuable farm livestock have been killed in the pasture field by similar "bolts from the blue." Farm buildings of modern fireproof construction may be a thorough protection from fire losses in many ways, still they offer little guarantee against damage to contents in the case of a fire that may start in the barn itself. In view of this no farmer cas afford to slight the matter of insurance against fire, no matter how small may seem his chance of incurring loss from this source. Paying a fire-insurance premium on a practically fireproof barn may appear a little like overdoing the habit of "playng safe", but all the same it may prove to be a very choice "ounce of prevention."

But though the number of farmers who ignore the question of insurance altogether may be very small, it is certain there are a much larger number who carry an insurance policy, which is entirely inadequate to give even a fair measure of protection against fire losses. Many men who had thought their property fairly well insured have received rather a rude jolt, when after suffering the misfortune of a fire have figured up their loss, and balanced it against the amount due them on their policy. It has been said—and perhaps there's more truth than fiction in it—that it takes a fire to show many a farmer what his stock and equipment really are (or perhaps were) worth.

In short then, an adequate, well-proportioned fire insurance policy, placed with a reliable firm, is one of the investments a farmer cannot afford to pass by.

UNSIGHTLY VIEWS ABOUT THE FARM

There is no excuse, in many instances, for having unsightly views about the farm home. There are few old buildings but what can be removed or remodeled and made presentable, brush heaps can be burned, old fences repaired, and many places can be improved so as to add to the attractiveness of the place. It is often advised to plant trees, shrubs or vines to hide or cover up these homely places on the farm, but a better plan is to remove the homely things that detract from the beauty of the farm home. Some may regard the poultry house a homely thing, and in such case it can be hidden from view by shrubs, if the family so chooses. But a poultry house that is a disgrace and needs hiding, is not a fit place to "bring up" poultry. But the shrubbery along the poultry house is not bad for it would serve two purposes—hiding the house from view and providing shade fo rthe chicks on hot days. Sometimes a discarded old building or a broken fence has greeted the eyes of the farmer so long that he has ceased to even think about them, but the stranger coming onto the place soon sees where improvement could be made. Don't let buildings stand until they rot away and fall into ruin. Tear them down and if the lumber is worth preserving store it away for future use, and if it is not fit for such purpose, turn it into stove wood. Many a farmer's wife would be happier if she had some pretty views to greet her as she goes about her work.

A SCOT IN THE SHOW RING

A Scotch lad who was starting for the country fair to exhibit a herd bull received these instructions from his father: "Show The Duke for all you are worth, from the minute you take him out of his stall until you get back." Good advice that, and characteristic of the proverbial earnestness and thoroughness of the Scot. Slouchy work, including the showing of animals, is too common, and always the experienced showman has an advantage over the beginner in presenting his animals for the scrutiny of the judge. He is on the job every minute of the time, for well he knows that the judge may be watching the style and action of each bull as it leaves the arena, and walks to the stables. The first-prize animals will come back for the championships, and must therefore be kept in mind by the judge, and he does not readily forget if a winner that appeared almost perfect in the ring humps and waddles painfully when relaxed and headed for the barns.

* * *

Most of the conveniences of the city home are now available in the country. A farmer can have an electric lighting plant in his cellar or woodhouse to furnish him light and power, running water in his kitchen and bathroom, and a septic tank in his back yard to take care of the sewage wastes from the house. The septic tank is one of the greatest conveniences the farmer can install. It provides for the disposal of sewage in a safe and sanitary way with practically no expense after the tank has been constructed. There is no better way for taking care of sewage wastes except the city sewage system which is available only to a limited number of farmers.

* * *

Enthusiasm is a lubricant that makes the wheels of trade go round; a grouch is sand in the bearings. Enthusiasm, like factory melancholla, is catching.—Elbert Hubbard.

Prize Winners at the Chatham Exhibition

HORSES

Hackneys

Stallion, 3 years—R. A. Snowball, 1.
Stallion, 2 years—Wm. M. Johnston, Newcastle, 1.
Filly, 3 years—Wm. M. Johnston, 1 and 2.
Stallion, any age—Wm. M. Johnston, medal.
Mare, any age—Wm. M. Johnston, medal.

Standard Bred Horses

Filly, 3 years—R. Cox, Loggieville, 1.
Foal of 1919—Geo. E. Fisher, 1.
Brood mare with foal, Dr. Marven, 1.
Mare, any age—R. Cox, 1.

Clydesdales

Stallion, 4 years—R. A. Snowball, 1, 2 and 3.
Stallion, 1 year—R. A. Snowball, 1.
Filly, 3 years—R. A. Snowball, 1 and 2.
Stallion, any age—R. A. Snowball, medal.
Mare, any age—R. A. Snowball, medal.
Stallion, 4 years (Canadian Bred.)—R. A. Snowball, 1 and 2.

Percheron

Stallion, 2 years—Wm. Main, Rexton, 1.
Filly, 3 years—Wm. Main, 1.
Stallion, any age—Wm. Main, 1.
Mare, any age—Wm. Main, 1.

Carriage Horses (to Halter)

Filly or gelding, 3 years—R. A. Snowball, 1.
Yearling filly or gelding—Hotel Dieu Farm, 1.

Carriage Horses (to Harness)

Matched Pair—Wm. M. Johnston, Newcastle, 1; Maher Bros., Chatham 2.
Single horse—A. E. Corbett, St. John, 1; A. S. Cameron, Douglastown, 2; J. Fred Benson, Chatham, 3.
Best horse, any age—Jos. Napier, Redbank, medal.
Mare or Gelding—Harold D. Baldwin, Douglasfield, 1; J. D. Johnston, Chatham, 2.

Light Draught Horses

Mare or Gelding, 4 years—J. Frank Jardine, Chatham, 1; Geo. J. Dickson, Chatham, 2; Jas. Stothart, Ferry Road, 3.
Mare or Gelding, 3 years—R. A. Snowball, 1.
Filly or Gelding, 2 years—Hotel Dieu Farm, 1 and 2.
Filly or gelding, 1 year—R. A. Snowball, 1; Geo. J. Dickson, 2.
Matched team—R. A. Snowball, 1.

Heavy Draught Horses

Mare or gelding, 4 years—Mir. Lumber Co., 1; John M. Baldwin, Douglasfield, 2; R. A. Snowball, 3.
Mare or gelding, 3 years—R. A. Snowball, 1; Mir. Lumber Co., 2; John Irving, Douglasfield, 3.
Filly or gelding, 2 years—Mir. Lumber Co., 1.
Brood mare with foal—Mir. Lumber Co., 1 and 2.
Foal of 1919—Mir. Lumber Co., 1 and 2.
Matched team—Mir. Lumber Co., 1; R. A. Snowball, 2.
Mare and 3 of her progeny—Mir. Lumber Co., medal.

Ponies

Mare or gelding, 13-14 hands—R. A. Snowball, 1.
Mare or gelding, 12-13 hands—R. A. Snowball, 1.

CATTLE

BEEF RBEEDS

Shorthorns

Bull, 3 years—R. A. Snowball, 1.
Bull, 12 months—R. A. Snowball, 1.
Bull calf, (over 6 mos.)—R. A. Snowball, 1.
Bull calf, (under 6 mos.)—R. A. Snowball, 1 and 2.
Cow, 4 years—R. A. Snowball, 1, 2 and 3.
Cow, 3 yrs.—R. A. Snowball, 1 and 2.
Cow, 2 yrs.—R. A. Snowball, 1.
Heifer, under 2 yrs.—R. A. Snowball, 1.
Heifer, under 18 mos.—R. A. Snowball, 1.
Heifer calf under 12 mos.—R. A. Snowball, 1 and 2.
Heifer calf under 6 mos.—R. A. Snowball, 1 and 2.
Breeders' herd—R. A. Snowball, 1.
Young herd—R. A. Snowball, 1.
Bull any age—R. A. Snowball, medal.
Female any age—R. A. Snowball, medal.
Cow and 2 calves—R. A. Snowball, medal.

Polled Angus

Horne Bros. of Winsloe Station, P. E. I., won all the prizes in this class—13 firsts, 5 seconds and 4 medals.

DAIRY BREEDS

Ayrshires

There was a good showing of this favorite breed, owned by three exhibitors, McIntyre Bros., of Sussex; John Retson of Truro and George E. Fisher. All the sections were filled and the prizes awarded as follows—McIntyre Bros. 13 firsts, 9 seconds, 4 thirds, 2 fourths, 4 medals; Retson, 4 firsts, 4 seconds and 1 medal.

Jerseys—There were two exhibitors of this popular breed of cattle, J. R. Semple & Son, Truro, N. S., and R. A. Snowball, Chatham. The different sections were well filled and awards made as follows:—Semple, 6 firsts, 1 second, 1 third, 3 medals; Snowball, 3 firsts and 1 medal.

Holsteins—Five exhibitors in this class divided the awards as follows: Dickie Bros. Truro, N. S., 12 firsts, 4 seconds and 2 medals; Wm. M. Johnston, Newcastle, 1 third; P. S. Bremner & Son, Chatham, 1 second; Nelson Agricultural Society, 1 first; Hotel Dieu Farm, 3 seconds, 2 thirds and 1 fourth.

Brown Swiss—The several sections in this class were filled by herds owned by W. J. Jolley, Waterloo, Que., and Ralph H. Libby, Stanstead, Que., and the prizes divided as follows:—

Jolley—7 firsts, 8 seconds, 1 third, 4 medals.

Libbey—8 firsts, 2 seconds, 5 thirds, 2 fourths and 2 medals.

Grade Cattle

Beef Grades—In this class, two exhibitors divided the prize money, R. A. Snowball taking 3 firsts and Geo. J. Dickson, 2 firsts.

Dairy Grades—This class had six exhibitors, and prize money was awarded as follows: Hotel Dieu Farm, 2 firsts; A. G. Dickson, 2 firsts and 1 seconds; R. A. Snowball, 1 first.

Fat Cattle—No awards.

Mixed Breeds—Cow, 4 years, R. A. Snowball, 1; J. Fred Benson, 2; calf under 1 year, Geo. J. Dickson, 1; Heifer under 6 months, R. A. Snowball, 1.

Special Classes

Hackneys—Best stallion, any age, R. A. Snowball, 1.

Clydesdales—Best stallion, best female, gelding or mare, in harness, pair in harness—R. A. Snowball, 1.

Ayrshires—4 animals, get of 1 sire—McIntyre Bros., Sussex, 1 and 2.

2 animals, progeny of 1 cow—John Retson, Truro, 1 and 2; McIntyre Bros., 3 and 4.

Senior Heifer—McIntyre Bros., 1.

Junior Bull—Retson, 1; McIntyre Bros., 2.

SHEEP

Cotswolds—In this class the only exhibitor was J. Horne of Winsloe Station, P. E. I., who captured all the awards.

Leicesters—There were three exhibitors in this class and awards were made as follows: S. L. Boswall, Pounal Lot, P. E. I., 6 firsts, 4 seconds, 3 thirds; John Retson, Truro, 2 firsts, 3 seconds, 1 third.

Lincolns—All the animals in this class belonged to Albert Boswall, French Fort, P. E. I., and the judge awarded all prizes offered, viz., 7 firsts, 6 seconds and 3 thirds.

Oxford Downs—Wm. McKenzie, Lower Napan, 1 first; George L. Boswall, French Fort, 1 first, 1 second.

Shropshires—A. Ayre, Hampton, Ont.; G. L. Boswall, French Fort, P. E. I., and J. H. King & Son, Sussex, divided the money in this class as follows: 2 firsts, 1 second, 3 thirds; 4 firsts, 2 seconds, 4 thirds; 2 firsts, 5 seconds, 1 third, respectively.

South Downs—The awards were divided between A. Ayre, Hampton, Ont., and Cephas Num, Winsloe, P. E I. The former had 8 firsts, 6 seconds, 1 third and the latter 1 third.

Hampshire Downs—Cephas Num and Lorne Num of Winsloe, and G. R. Ward, West Bathurst, took all the awards as follows: 7 firsts, 2 seconds, 3 thirds; 6 seconds, 2 thirds; 1 first, respectively.

Cheviots—The exhibits of A. Ayre, Cephas Num, Geo. M. King and Robert Furness, Vernon, P. E. I., carried off all the awards in this class.

Dorset Horns—Geo. L. Boswall, 5 firsts, 5 seconds, 2 thirds; A. Ayre, 3 firsts, 2 seconds, 1 third; S. M. Smith, Bathurst, 1 second; R. A. Snowball, 1 third.

Suffolks—J. Horne and A. Horne of Winsloe took all the awards in this class.

Grades (long and medium wool)—All awards in these classes were won by R. A. Snowball, A. Ayre and Cephas Num, also being exhibitors in the medium wool class.

Fat Sheep (long wool)—R. A. Snowball, 1; A. Boswall, 2.

Fat Sheep (medium wool)—Cephas Num, 2 firsts; Bremner & Son, Chatham, 1 second, 1 third; G. Boswall, 1 second; R. A. Snowball, 1 third.

Grades—(North'd. Co.), Snowball, 3 firsts, 1 second; Bremner, 1 first; Hotel Dieu Farm, 1 second.

Wool on Fleece—Cephas Num, 2 firsts; John Retson, 1 first, 1 second; John King, 1 first, 1 second, 1 third; Geo. Ward, 1 second.

SWINE

Yorkshire—Boar over 2 yrs.—Hotel Dieu Farm, 1.
Boar, over 1 yr.—A. G. Dickson, 1; Geo. E. Fisher, 2.
Boar, under 1 yr.—Hotel Dieu Farm, 1.
Boar, under 6 mos.—James Stothart, Ferry Road, 1; A. G. Dickson, 2.
Sow, over 2 yrs.—A. G. Dickson, 1.
Sow over 1 yr.—L. Dickson, Ferry Road, 1; William Godfrey, Napan, 2; H. McEwen, Ferry Road, 3; Hotel Dieu Farm, 4.
Sow, under 1 yr.—A. G. Dickson, 1.
Sow, under 6 months—Jasper Cable, town, 1; Clarence Searle, town, 2; A. G. Dickson, 3.
Sow with litter—A. G. Dickson, 1 an 3; Geo. E. Fisher, 2.
Herd—A. G. Dickson, 1.
Chester—No entries.
Berkshire—J. R. Semple & Son, Truro, 8 firsts, 4 seconds, 1 third; Hotel Dieu Farm, 2 thirds.
Tamworth—No exhibits.
Poland China—Ralph H. Libby, Stanstead, Que., the only exhibitor, took 6 first prizes.
Duroc Jersey—No exhibits.
Fat Pigs—Fat hog, Hotel Dieu, 1 and 2; A. G. Dickson, 3.
Spring Pig—Wm. Weldon, town, 1 and 2; Geo. J. Dickson, 3.
Grades—Sow, under 1 yr.—E. F. Harper.; Chatham Head, 1; Hotel Dieu Farm, 2 and 3.
Sow, under 6 months—Geo. J. Dickson, 1; Jack Bremner, 2 and 3.
Sow with litter—A. G. Dickson, 1; Geo. E. Fisher, 2; Hotel Dieu Farm, 3.
Yorkshires—(Open to Boys Breeders' Clubs).
Sow, over 1 yr.—L. Dickson, 1; Willard Godfrey, 2; H. McEwen, 3.
Sow, under 1 year—L. Dickson, 1; Clarence Searle, 2.
Barrow, under 1 yr.—H. McEwen, 1.

POULTRY

The poultry exhibits were numerous and representative of practically all the breeds for which awards were offered. In addition to the usual large number of outside exhibitors, there were more local entries than at any previous exhibition.

The awards were: C. R. Forbes, South Devon, 12 firsts, 8 seconds; Jas. Stickles, North Devon, 8 firsts, 5 seconds, 5 thirds; W. S. Swetman, Moncton, 14 firsts; W. Bailey, Fredericton, 7 firsts, 7 seconds, 2 thirds; P. D. Morgan, Fredericton, 7 firsts, 5 seconds, 2 thirds, 1 fourth; R. H. Libbey, Stanstead, Que., 8 firsts, 4 seconds; R. P. Allen, Fredericton, 4 firsts, 3 seconds, 3 thirds; J. N. Ferguson, Fredericton, 2 firsts, 2 seconds, 2 thirds, 2 fourths: A. V. Gilson, Moncton, 4 firsts, 2 seconds; A. Boon, North Devon, 3 firsts, 1 second; L. B. Johnston, Nashwaaksis, 2 firsts, 1 second; W. Collier, Chatham, 2 firsts, 1 second, 1 third; Clarence Searle, Chatham, 2 firsts, 1 fourth; Mrs. George Danby, North Devon, 1 second, 2 thirds; Hotel Dieu Farm, 3 seconds; John Dee, Chatham, 1 third; C. A. McFay, Fredericton, 2 seconds.

Live Utility Poultry—(not exhibited in other classes)—Plymouth Rocks, barred cock, James Martin, Chatham, 1; H. McEwen, Ferry Road, 2.
Barred hen—Sadie Payne, Bathurst, 1; H. McEwen, 2; R. Pallen, 3.
White Wyandotte hen—Mrs. G. Danby, 1.
Rhode Island red cock—Fred Gibbs, 1.
Rhode Island red hen—Walter Bailey, 1 and 2.

Live Utility Poultry—Special

Charlotte Co.—Hazel Reed, 4 firsts, 1 second; Alice Lever, both of Rolling Dam, 1 first, 3 thirds.
Kings Co.—Kathleen Price, Butternut Ridge, 2 firsts.
Queens Co.—No entries.
Sunbury Co.—Letitia Patterson, Hoyt Station, 5 firsts, 1 second.
York Co.—Jesse O'Leary, 3 firsts.
Northumberland Co.—Hazel McEwen, 5 firsts; Clarence Searle, 2 seconds.
Westmorland Co.—No entries.
Carleton Co.—No entries.
Other Counties—Hattie Steeves, Elgin, 2 firsts, 2 seconds; Winifred Goggin, Elgin, first and second; Sadie Payne, Bathurst, 2 thirds, 1 fourth.
Ducks—Pekin, under 1 year, A. V. Gilson, 1 and 2.

Dressed Poultry

Mrs. Wm. Scott, Ferry Road, 1.

EGGS

Brown—J. Frank Jardine, 1; John Dee, 2; Mrs. F. Manderson, Loggieville, 3.
White—Mrs. Wm. Scott, Ferryville, 1.

DAIRY PRODUCTS

Butter—Box of 56 lbs., Farmers' Co-operative Co., Moncton, 1; C. M. Johnston, Bedeque, P. E. I., 2.
Box of prints, 20 lbs.—Johnston, 1; Co-operative Co., 2.
Tub of 15 lbs.—Milton Galloway, town, 1; Mrs. Ralph Searle, town, 2; Mrs. James Godfrey, Black River Bridge, 3; John A. McNaughton, Black River Bridge, 4; Mrs. Wm. Scott, Ferry Road, 6; Mrs. J. P. Burns, Bathurst, 7.

(Continued on page 76)

HORTICULTURE.

WINTER APPLES AND THEIR CARE

As winter apples are expensive, it is important that the buyer an consumer should, when laying in the winter's supply, obtain varieties that will be in best condition successively through the winter. He should also keep his apples so as to lose as few of them as possible from over ripeness or rotting. As soon as the fruit is received, it should be put in the coolest place available without frost. A temperature from 32 degrees to 35 degrees Fahr. is best. If there is a choice in the house, that with the moisture atmosphere, such as a cellar without a furnace, would be the better for the air is too dry for keeping apples well in many houses.

If the apples are in good condition, they may be left in the barrel or box. If, however, they show signs of rotting they should be sorted, and the unaffected specimens wrapped in tissue or newspaper which lessens the danger of any rot spreading. If the room is very dry it will be better to put them back in the barrel or box after wrapping as they will shrivel less than if more exposed to the air. It is important to keep the fruit in clean receptacles, otherwise they may absorb unpleasant flavors.

Among the best varieties of apples in good condition early in the winter are Fameuse or Snow, Ribston Pippin, Hubbardston Nonsuch, Tompkins King, Jonathan, Grimes Golden and McIntosh Red. The Fameuse and McIntosh Red are two of the most popular dessert varieties. These are both in good condition in November, but, while the Fameuse does not keep well, as a rule, much after the New Year, the McIntosh grown in some districts will keep in good condition until March. Ribston Pippin, Hubbardston and Tompkins King are three more apples of high flavor for November and December, or later. Jonathan, while not grown to any extent in Canada outside British Columbia, is shipped East in boxes. It also comes from the Western States and can be depended upon until about the New Year. It is a handsome apple of good quality. After the New Year the Northern Spy is, perhaps, the most popular apple in Canada, but as the supply is limited and they can be kept until late in the winter or spring, some of the sorts which do not keep well much after midwinter may be used first. Among such are Rhode Island Greening, Baldwin, Wagener and Esopus Spitzenburg. For late winter and spring, in addition to Northern Spy, varieties which are usually available are Golden Russet, Roxbury Russet or Nonpareil, Stark and Ben Davis, and, in boxes from the West, Yellow Newton, Stayman Winesap and Rome Beauty. Stark and Ben Davis are the least desirable for dessert purposes, and Stark is not acid enough for the best cooking. There are other good varieties.

KEEPING BIENNIAL VEGETABLES FOR SEED

By the term "biennial" vegetable is meant one which takes two seasons to produce seed, writes the Dominion Horticulturist in a leaflet giving advice on the "Selection and Wintering of Biennial Vegetables for Seed" which can be had free from the publications branch, Department of Agriculture, Ottawa. The vegetables must be stored over the first winter and replanted for seed production the following spring. Some well-known vegetables of this class are beets, cabbage, carrots, celery, parsnips, salsify and turnips. Seed from these can be easily grown in Canada if vegetables to be so used are kept in good condition over the winter. Unless a rigid selection is made each year of specimens which are true to type, it will not be long before a larger proportion of the crop will be not true to type; hence great care should be taken to select well-shaped, medium-sized roots typical of the variety of beets, carrots, parsnips, salsify and turnips, firm-headed cabbage true to type, firm stalked and disease-resistant plants of celery and firm, shapely onion bulbs. If this is done and varieties are kept far enough from others so that they will not cross the crop, Canadian grown seed should compare favorably with imported seed in regard to purity as it does in other characteristics.

The methods of wintering vegetables for seed will vary in different parts of Canada, but in most places it will be necessary to give them some protection. When possible, it is best to store them in a frost-proof cellar. But, if necessary, the vegetables may be stored outside, both in small and in large quantities, except in the case of onions, which must be kept dry, and stored in a cool place where there is little or no frost.

FALL PLOWING IN THE ORCHARD

(Experimental Farms Note)

After the apples are harvested there is generally a slack time when the orchard plowing may be done to advantage. Experience has indicated that shallow plowing is advisable in orchard practice and that it is unwise to go deeper than five to six inches and that the area close to the base of the tree should not be plowed deeper than thrree to foue inches. There is as a rule little cultivation after the first of July, and from that time on even if cover crops are not grown a natural growth of some sort will have been made. This growth when turned under affords practically as good mulch as if left on the surface, and the fact that the ground has been loosened up tends to prevent as deep freezing as if left compact, for the more compact the soil the deeper will frost penetrate it. Where root killing of trees is liable to occur, it may be wise to leave the cover crop mulch undisturbed as it assists materially in holding snow and as a result will give a better cover than if plowed in the fall. Other than this there does not appear to be any disadvantage in fall plowing as to possible winter injury from root killing. The great advantage is that a certain amount of work is out of the way for next spring, and should the spring be unfavorable for working land the discing may be delayed much longer than it would be wise to delay plowing. Early orchard cultivation is of prime importance, and as it is usually necessary to plow once to work under accumulated vegetation, this should as far as possible be done in the fall, thus facilitating early spring work and hastening bacterial activity the next spring.—W. T. Blair, Supt. Experimental Station, Kentville, N. S.

WINTER STORING VEGETABLES

Vegetables that can be stored for winter use in the fresh state are carrots, beets, parsnips, salsify, turnips, rutabages, potatoes, onions, khol-rabi,

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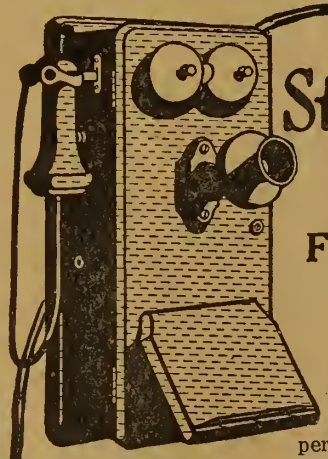

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cabbage, celery, squash, pumpkins and tomatoes.

Vegetables that are slightly immature are better for storage than those thoroughly mature as they are of better quality and keep longer. Vegetables for storage should those thoroughyly mature as they are of better quality and keep longer. Vegetables for storage should be harvested carefully to avoid bruising and should contain no diseased or rotten spots.

Proper temperature, moisture content and ventilation are essential for the successful storing of vegetables. Practically all vegetables — except squash and pumpkins should be given a low temperature. Root crops may be kept plump and fresh by covering the mwith moist sand or soil or by keeping the atmosphere moist. Celery should be planted close together in boxes containing several inches of sand or soil which should be kept moist constantly. This keeps it alive and induces the tender stalks to grow. Celery can be kept until after Christmas by this method. Parsnips and salsify roots can be left in the ground over winter to be dug early in spring.

Squash and pumpkin should have a temperature from 40 deg. to 60 deg. F. and a dry atmosphere. Tomatoes that are still green or only partly colored at the time the first frost threatens may be stored by pulling the vines, hanging them in a warm place in the cellar and picking off the tomatoes as they ripen, or by picking the tomatoes from the vine and laying them away in a cool place.

Root crops, cabbage, celery and onions will tolerate a considerable amount of frost, though they should be protected from frost as much as possible. When vegetables are frosted in the field they should not be handled till thoroughly thawed out, which should be done slowly. If frozen in storage most of these vegetables may be utilized if used promptly after being thawed out.

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If you employ this constable, and
watch his evolutions,
You'll soon attend the funeral of
fungus' dissolutions.
Six pounds of sulphate, hang in bag,
in gallons six of water;
In gallons four of water slake four
pounds quicklime for mortar.
These two concoctions then you mix—
or keep as stock solutions—
With water now dilute four times before you start ablutions.
Stir up the mixture or the stuff will be
precipitated—
This constable will work the best
when greatly agitated.

—M. G. Kains.

ARSENIC POISONS

The value of an insecticide is based on its power to kill or to repel insects. An ideal insecticide may be said to have the following qualities.

1. It must kill the insect before the latter can seriously damage the plant.
2. It must not possess any properties which will cause injury to the plant.
3. Its cost must be sufficiently low to permit its use in large quantities.
4. It must spread and stick well to the surface to which it is applied.
5. It must remain sufficiently well in suspension to permit of a uniform coating of poison on the sprayed parts.

Arsenic, the base of all important insecticides now used against chewing insects, is a substance which cannot by itself be used with safety on plants because of its tendency to burn the foliage. In combination with other substances, it acts as a poison to insects but does not cause harm to plants unless in a liberated form as arsenic oxide.

PRODUCING FINE ROSES

Most persons simply allow roses to grow from one year to another without giving them any special attention, an these people often wonder why it is some certain persons can have extra fine roses growing in their gardens.

The secret of the matter lies in the fertilizing of the rose. The soil should be made rich with the food needed to produce the best possible bloom. Early in the season it is best to dig round a rose bush that has been growing in one place for a few years, and mix with the soil some poultry manure and stable manure, with a little sand to help keep the earth from becoming too hard.

If a bed is prepared for new rose bushes, it should be made deep and very rich. Remove the earth to a depth of two feet and fill in with very rich soil as well as strong manure.

In constructing a new bed for roses, avoid the use of manure that will heat very much. Sheep manure, and leaf mold mixed with stable manure and a good quality of garden loam will produce a fine lot of roses. While the bed is being constructed it will pay to place a few old bones in among the manure.

LEAVES WORTH SAVING

In this period of general economy an of war gardening, the leaves that fall from city trees should not be burned. A pile of dry leaves makes a pretty bonfire, but the same pile of leaves put where the wind will not scatter them, weighted with a few shovels of earth over them, if that is necessary, will keep them until next spring, when fertilizers are needed for the garden. Those who intend to plant gardens next spring will do well to conserve the leaves they rake from their own lawns, or any leaves anyone will allow them to rake up and cart away.

A cork will often get pushed into a bottle while it is still full and causes no little annoyance, as it is almost impossible to get it out. An easy way out of the difficulty is to thread a button on a string and drop it inside the bottle. Pull the cork up to the neck of the bottle with the aid of a hatpin, then pull the string which is attached to the button and the cork will come out.

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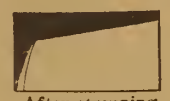
Before stropping (magnified)


After stropping (magnified)

Which blade is yours?

You shave with the first blade—unless you use an AutoStrop Razor. Shaving causes a saw-like edge to form and the blade becomes dull. Stropping re-aligns the edge and brings the blade back to original keenness. That's why men of judgment select the AutoStrop Razor; they realize that no razor can do good work without constant stropping. If you doubt this, ask a barber. Take a barber's strop from him and he'd have to close up his shop.

Why then put up with dull blades, needless expense, half-removed stubble, and a smarting sense of discomfort—penalties imposed by a non-stropping razor?

The AutoStrop Razor strops itself without removing the blade; it is cleaned without taking it apart; while the self-stropping feature makes for shaving comfort by preserving the keen edge that makes close, even shaving possible.

Drop in at your dealers the next time you're in town and ask to see the AutoStrop Razor. There is no obligation to buy; and no obligation to keep an AutoStrop Razor if it doesn't please you. Everywhere—razor, strop and 12 blades, complete, $5.00.

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It is the privilege of Canadian farmers to supply the assistance they need by taking one or more of these soldiers on their farms and giving them the benefit of their experience and advice.
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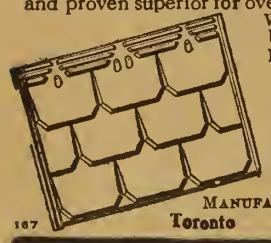

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DAIRYING

QUIET HANDLING OF DAIRY COWS PAYS

Dairy cows should be handled as quietly as possible at all times. Anything which is inclined to create excitement is very likely to decrease the flow of milk. The first thing necessary for the cow is contentment, which means plenty of the proper food to eat and an abundance of clean, fresh water to drink. When conditions are such a normal flow of milk may be assured, but as soon as these things are violated the milk decreases and the dairyman is the loser. This may be caused by various things. Some men make a practice of continually having a dog with them when they are around cows. This is a very poor practice because most cows hate dogs and are often greatly excited by them which causes them to hold all or part of their milk.

Another bad thing among a herd of cows is a noisy milkman; one who yells at the cows to stand around, chases them out of the barn with a pitchfork and more than likely to the pasture with the aid of a dog.

If a cow takes a dislike to a man she is spoiled as far as that particular man is concerned. She may show her temper by kicking him out or else simply refuse to give him her milk; if this continues any length of time she will soon be too near dry to be profitable. Every time a man loses his temper with a cow, he does so at his own expense.

Flies are another evil which cause much decrease in milk flow. They are, in summer, a constant evil which is not so easily remedied but much may be done to releive the cows of them. There are many kinds of fly dope which wil relieve them for a few hours. This is worth while for the milking period and acouple of hours longer, enabling the cow a chance to get her fill of grass before she has to fight flies. Flies stay in the light. They may be prevented a great deal in barns by darkening the windows and doors. This can be done by covering them with dark cloth or tarred paper. A curtain can be hung at the door to brush off the flies as the cow enters the door.—H.O.P.

DAIRY BULL MUST BE PREPOTENT

"I understand that 47 per cent. of the cattle in Eastern Canada are scrubs," was the remark made at the opening of the Ottawa Valley Holstein Breeders' Sale at the Central Canada Fair, by Dr. S. F. Tolmie, Minister of Agriculture for the Dominion of Canada. This is true if pure-bred cattle, as well as the grade mixtures of blood that are wasters of feed, labor and time wherever they are bred or reared. There is many a dairy bull playing his part as head of the herd of cows which would bring more profit and much less loss if he were sent to the butcher without hesitation. He may be actually engaged in lowering the production of milk and butter fat in the herd, and his owner is often none the wiser till it is too late.

Pure bred sires have long been recognized as of unquestionable value in developing profitable herds. In dairy cattle, the only true criterion of a sire's worth, is the realtive average yearly production of his daughters as compared with that of their dams. Improvement in type is usually associated with an increase in milk and butterfat production, although it does not always folow. The monetary value of introducing improved blood through the sire has been demonstrated beyond doubt on practical dairy farms.

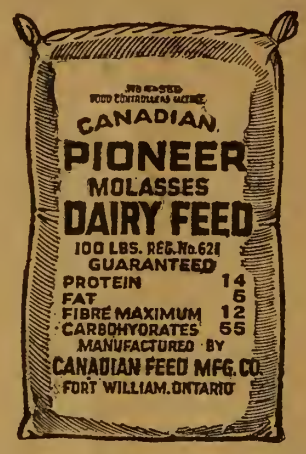
Using ordinary cows as a foundation, dairymen have been able to approximately double the production of milk and buttrefat in two generations through the use of pure bred sires. The result has been accomplished, not by using high priced sires but through the use of good individuals from yearly record dams.

In dealing with animals which are distinctly inferior to the best types in existence, fixation of heredity and rapid improvement can be carried on simultaneously . The method is grading up by th econsistent use of sires of a given strain of a given pure breed. In th eprocess of grading up scrub stock or the similar process of improving an inferior pure bred herd, pepotency of the male as a producer of high record animals is most import ont. The only method by which prepotency can be obtained is close breeding accompanied with selection, In this connection it is important to note that selection based on the progeny is more effective than selection based on individual merit. Males which are good enough to breed at all should be saved long enough to determine their prepotency.

The way to fix a type or strain to make it prepotent is by close breeding, accompanied by careful selection, and by this means inferior stock may be graded up to the level of the desired strain by the use of prepotent males. It is popularly expressed by many farmers that close breeding is not all that is claimed for it. But it entirely depends on the constitutional quality of the animals chosen for grading up, and fixing milk production in a strain by close breding, whether it will be a success or not. Such a system of breeding would lead ultimately t oa situation in which most of the breeding stock of the country would belong to closely bred strains, each strain having as its nucleus a family of highly improved pure bred animals.

But such closely bred strains cannot last, for in time fertility and constitutional vigor are apt to decline in spite of the care taken to keep it up. In order to overcome this difficulty, outcrossing with other closely bred strains has to be resorted to, and the process of grading and fixing again repeated. There is little chance that animal breding will ever settle into a rigid system. The system that produced all the great breeds was that of close breeding, and close breeding is still followed. The importance of grading up common stock is becoming more and more widely understood. Grading up pure breeds is just as necessary and is accomplished in the same way as grading up of common stock.

To grade up common stock it is just as necessary to have a well graded pure bred sire to lead the herd as it is for the owner of pure bred cows. Pure bred sires of proven prepotency are the safest investment a live stock breeder can make. Even for common cows care should be exercised to secure a bull whose ancestry are known to be good producers, not merely for seven or thirty days, but for yearly and even lifetime production. If the dairy herd is to be maintained at a high average production,selection will be found to be wellnigh indispensable. A whole herd of high producing cows cannot be secured by any other method. The pure bred prepotent sire from high producing ancestors is the sure way to own a high porducing herd.



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PROPER CARE OF THE MILKING MACHINE

In the production of pure milk with a milking machine, great care is necessary in the handling and washing of the machine. Milk that is allowed to become dry on the parts is very difficult to get off . To avoid this, as soon as the last cows are milked and the milk emptied, but while the pump is still running, cold water should be drawn through the teat cups into the can. The machines should then be removed to the dairy and dismantled. The can covers to which the pulsator is usually attached should be washed, wiped dry and hung up. The teat cups and tubes should be washed in hot water to which has been added some alkaline washing powder. This will dissolve any fats adhering to the parts. Once a day, a brush should be used on the interior of th teat cups. These parts should now be put into a sterilizing solution until next milking time. Once a week, the teat cups and attached rubbers should be taken apart and thoroughly washed in hot alkaline water with special brushes supplied for this purpose. The cans may be handled with the rest of the dairy utensils in the ordinary wya, steaming or scalding and draining in a room free from dust being important.

On taking the teat cups from the sterilizing solution for the next milking ,they should be rinsed in fresh, cold water and then be assembled. At this stage, the drawing of scalding water through the teat cups into the cans would have a beneficial effect but is liable to injure the rubber. When adjusting the milker and attaching the teat cups to the cow's teats, be careful not to draw barn air through the tubes into the can. In shifting the machine from one cow to another and changing the cans, let the milk and cans be exposed to the barn air as little as possible.

One of the best sterilizing solutions to use is composed of chlorite of lime. Use fresh chloride of lime, preferably from sealed tins, and provide an earthenware crock. Into this put one pound of chloride of lime and add a gallon of cold water. Break up the lumps, stir thoroughly, and then allow to settle. Cover and keep in a cool place. This is a stock solution and only the clear liquid off the top is to be used. In making up the solution for the teat cups, use one pint of this solution to every ten gallons of water. As the sterilizing action gradually decreases, add another half pint of the stock solution every three or four days as long as this solution is kept in use. The old solution should be emptied out and a new solution made as often as is necessary to keep it clean. A new stock solution should be made at least every two weeks.

The keeping of the outside metal parts of the teat cups and pails bright is not so important, but improves the appearance of the machines. For this purpose such polishing substances as Bon Ami, Dutch Cleanser, etc., may be used.

THE STORY OF THE DAIRY COW

Making milk is quite a complex process with th cow and while she is going forward with it from day to day she must be gently treated or her nervous system is deranged, and as a result, she cuts down th milk flow and you will notice the loss in the milk pail. Every comfort must be given her in the way of handling and stabling, pastruing, in season, and to do her utmost and stand up under the strain she must not want for the smallest thing her appetite or bodily comfort craves. If she is stabled on a board floor without bedding, is irregularly fed, knocked on the rump with a milk stool, whipped and yelled at until she is so nervous she wants to jump into the manger or through the stanchion—if these things are forced upon her she is going to make her owner pay well for the privileges he enjoys. Just take yourself into the barn of any first-class dairyman and look about for yourself. You will see cows contented and peaceful, chewing their cud, resting, apparently doing nothing—except making milk. Especially among highbred cattle, will harshness shown them be seen to result in a lessened milk supply. A heavy milker is always one that is highly strung in nervous temperament. She is just as hardy, as strong and as willing as the loafing cow that takes your rough treatment. A cow that has to lie down on a cold, unbedded floor runs chances of injuring her udder by the cold. She soon learns to stand rather than lie down and be quiet as she should be. Then she becomes restless and shifts about and may step on the udder of the cow lying next to her. Many a cow has been injured in just this way.

Regular feeding is very important. When feeding time approaches a good cow begins to move about in her stall or stanchion and look for the feed. If she is kept worrying about it she will not give the greatest amount of milk, because the demand of her digestive organs is not responded to with food. Habit has much to do with this also. Let a feeder who does not care when he feeds and milks, take charge of a herd which has had punctual attention, and right away the flow of milk runs down and unless the owner finds out the reason the flow is never recovered.

Force the cows out on a raw day in late winter or early spring and make them stand, humped up in the wind, or go foraging down the lane and into the woods and take a good, soaking, cold rain or two and you'll get no milk. An abundance of unchilled water in winter and cool in summer is one of the very important cow comforts. Salting regularly is another. A cow is a very peculiar factory into which is taken the raw stuff and from which she turns out a highly finished product. Everything she needs to make the most output is an important cog in the wheel and if omitter she fails to do perfect work, just like a machine does with a broken cog. Don't forget this or your milk check will show it.

ONE CHEESE THAT WEIGHS 31,964 POUNDS

What is reported as the largest chese ever manufactured n the world was recently completed for Armour & Company, of Chicago, for exhibition at the National Dairy Show to be held at Chicago Oct. 6 to 12, 1919. The cheese is 8 feet high, 10½ ft. in diameter, 33 feet in circumference, and weighs 31,964 pounds. It required 357,000 lbs. of milk 800 pounds of salt, 1,251 ounces of rennet, $260 worth of bandages, and is valued at $16,000. The curd was furnished by 59 factories, was made by 73 cheese makers, and the milk was drawn from 12,000 cows on 1,800 farms. Motion pictures have been taken of the cheese, as well as the process of manufacture, and they will be shown throughout the world.

Foresight is better than hindsight, is ever so much cheaper in the long run, and causes les sick headaches.

The Basis of Profitable Dairying

The influence of feed on the production of milk is striking. No matter how good the individual dairy cow is, the quantity of milk she yields is, within wide limits, directly dependent upon the feed she receives.

If a cow is subjected to feed of poor quality, unpalatable and indigestible, no matter how much she may be fed, she is sure to go away down in her production and will not yield any profits. Such a cow becomes a "boarder"—that is why our experts have compounded a mixed feed, properly balanced according to the needs of the dairy cow, rich in milk-producing nutrients, with a high percentage of these nutrients in digestible form.

Monarch Dairy Feed

a rich feed, but not too concentrated to feed alone and when fed liberally to dairy cows it will get the highest production possible with the least cost. There is no wastage in Monarch Dairy Feed—every pound has milk-producing value in it and more of it goes to the actual production of milk than of other feeds because such a high percentage of it is digestible.

Monarch Dairy Feed is composed of Oil Cake Meal, Cotton-seed Meal along with Bran, Barley feed and Corn feed. The mixture of Oil Cake and Cotton-seed Meals counteracts the constipation that would be caused by Cotton-seed Meal if fed alone.

Give Monarch Dairy Feed a trial and if the dealer in your district does not handle it, send us his name and we will see that you get it. By ordering early you will assure delivery when needed.

The Campbell Flour Mills Co., Ltd., Toronto, Peterboro, Pickering

Canada Food Board Licenses Nos. 6, 7 and 8. 52

LIVE STOCK.

CALF RAISING, HOW DONE MOST ECONOMICALLY

Calves which are so reared as to attain ample size, constitution and capacity are most valuable. Hence economical rearing is the attainment of these desired characterists at the least possible cost. No matter how good the calves are at birth they may be stunted and ruined as future producers, or else reared at a loss, if not most carefully.

The following basic principles in calf rearing are well proven:—

1. The only sure way of herd improvement is to rear the best calves which are sired by a good pure bred sire.
2. Poor calves of poor breeding are not worth rearing.
3. Calves inheriting size, vigor and constitution are reared most cheaply.
4. The safest way of keeping a herd free from tuberculosis and abortion is to rear it.
5. The calf reared on its dam costs 25 to 50 per cent more than the pail-fed, whole-milk calf unless land and pasture are very cheap.
6. Whole-milk, pail-fed calves cost two or three times as much at six months of age as calves fed skim-milk, butter milk, whey or calf meal.
7. Skim-milk is the best single substitute for mother's milk, but if not available may be replaced with buttermilk, whey, or a good calf meal.

Feeding the Young Calf

Dairy calves had better be taken away from the cow at birth and not allowed to suckle unless weak, unable to drink, or if the cow's udder is very severely inflamed. It is essential that the calves receive their mother's milk for the first four days, at the rate of eight to ten pounds, divided into three or four feeds. Continue the whole milk for three weeks, at which time start replacing a part of the same with skim-milk so that when the calf is six weeks of age it may be receiving 12 to 14 pounds of skim-milk with two ounces of the flaxseed jelly or a good calf meal which is a cream substitute.

When calves are three weeks of age, start feeding a small quantity of whole oats in the manger, also commence feeding a small quantity of fine clover hay and give them an opportunity to drink clean cold water at least twice per day.

The whole oats fed dry in the manger should be replaced at the end of two weeks' feeding with a grain mixture composed of equal parts bran and crushed oats, or bran, crushed oats and ground corn. This dry grain should be fed to calves five weeks of age at the rate of one-eighth pound per day, increased gradually to one and one-half pounds per day.

If skim-milk is scarce, it may be taken out of the ration at four months. Gruel feeding with or without whole milk, skim-milk, buttermilk or whey may generally be stopped after the calf is five months of age. The best calves are raised on milk products and a good meal, but fair calves may be raised by discontinuing milk or milk products after three weeks.

If spring-dropped calves, do not expose to heat and flies, but keep in a dark, cool stall until four months of age. after which they may have a quiet paddock. If fall-dropped calves, keep in a clean, bright, comfortably warm box stall. The latter should receive a limited ration of roots (turnips or mangels), or a mixture of roots and ensilage. Salt should be regularly fed either mixed with the dry meal or with the roughage or in the shape of rock salt. The amount the best young stock. Fine clover of roughage fed depends on the age of the calf. Roots are essential to the most economical development of the best young stock. Fine clover or alfalfa hay will give the best results. Calves from two to three months of age will consume, daily, three pounds of turnips and ensilage (equal parts) and one and one-half pounds of clover hay. Calves from four to six months of age will consume, daily, 10 pounds of roots and ensilage and two pounds of hay. Calves from seven to eleven months of age wil consume 16 to 18 pounds of roots and ensilage and three pounds of hay.

Feeding of Senior Calves

Fall-born calves from 6 to 12 months of age should during their first summer be provided with a good grass paddock. During the intense heat they should be allowed out during nights only. It may often be found profitable to continue a grain ration composed of two parts of bran, two parts of oats, and one part corn. However, after the calf is six months old, if well developed, the grain ration may be made secondary to the roughage ration, providing a good quality of roughage is available. The calf should never be allowed to lose weight but always be kept gaining.

To Have Better Calves

1. Give suitable feeds—what the calf likes—and avoid over-feeding.
2. Feed regularly—make all changes gradually.
3. The light, cheerful pen in winter and the dark- cool pen in summer give best results. Both must be clean, well bedded, well ventilated, and free from draughts.
4. Feedgin gruel too hot blisters the mouth and muzzle, feeding too cold may scour the calf. Keep the temperature uniform.
5. Don't forget the regular salting and fresh drinking water.
6. Remember that variety and palatability in nourishing feeds make to ward successful feeding.
7. Destroy worms, ringworm and licce.
8. Proper quarters and clean feed will largely prevent infectious diseases.

E. S. ARCHIBALD,
Dominion Animal Husbandman.

SALT NECESSARY FOR YOUNG STOCK

There appears to be an impression abroad among many live stock farmers that young cattle, dry cows or colts on pasture do not require any salt during the summer months. Unforunately that is an erroneous idea, and although it is not held by most successful stockmen, yet there are a surprisingly large number of farmers who still adhere to that belief and practice it every year. Why they should is hard to say, but nevertheless the fact stands out that cattle and horses crave for salt unless it is given to them regularly. Possibly the idea that salt is not required by dry animals is due to the fact that on the British Isles no salt is fed to the cattle, and also because most of the experiments along scientific feeding have been carried on without it in Europe. However, although salt is not required in Britain that is no argument against its use in Canada, as the difference in the climate is responsible. The damp atmosphere of the British Isles is laden with salt because of the nearness to the ocean, and although salt is not given to the animals as in Canada, they have a continuous supply, and the very air they breathe is laden with fluid salt. In Canada that is not the case, and if the animals are to get any salt they must be handfed.

It is true that animals can and have lived through a whole summer and sometimes longer without even a taste of salt, but they were not any better off by so doing . Salt is just as great an appetizer to animals as it is to human beings and the mere fact that milch cows always decrease their flow when salt is withheld should be sufficient proof as to its value. It is just as valuable and necesary growing cattle and horses as it is for milch cows and no farmer would think of allowing his milking herd to go without salt at any time. The value of salt as a food has seldom been worked out chemically, but experiments carried on in a practical way have proven beyond doubt that salt has considerable feeding value, and that it also aids digestion, which is a decidedly important item in feeding live stock. Therefore, with these facts in view a warning is sounded to live stock farmers who have their young animals away on pasture, often where they are not seen regularly, that no matter how far away they are or how good the pasture, they should not be forced to get along without salt. It is just as tasty to them as to the human family and because they are unable to reach it themselves is no reason why they should not have it. Salting at regular intervals, say once a week or so, does not take long, and if rock salt can be had and placed in a few boxes around the pasture it is much mor convenient, as one trip per month or even less will be sufficient to keep the animals supplied. At any rate, do not neglect the young animals, as they are the future of the

Blatchford's

NOW MANUFACTURED IN CANADA

Raise more calves at less cost

Its use assures you greater profit

Blatchford's Calf Meal

The original milk substitute

Canada's farmers and dairymen may rest assured that the supreme quality which has always characterized Blatchford's Calf Meal will be zealously maintained in its manufacture in Canada. It is, always has been and will continue to be the most efficient calf meal on the market.

We invite your inquiries regarding Blatchford's Calf Meal, Blatchford's Pig Meal, Blatchford's Milk Mash and Blatchford's Egg Mash, all of which will be manufactured at our Canadian plant. Full particulars and name of nearest distributor on request.

Blatchford's Calf Meal Company of Canada, Limited

200 PELHAM AVENUE TORONTO, ONT.

Established in Leicester, England in 1800; in the United States in 1880 and in Canada in 1919.

Shorthorns

The Breed For You

Shorthorn steers hold the high-price record for a carload on the open market in Canada. They also hold the high-price record for carlots of heavy steers, yearlings and feeders on the American open markets. They are money makers.

Write the Secretary for free publications.

Dominion Shorthorn Breeders' Association

W. A. DRYDEN, *President*, Brooklin, Ont.
G. E. DAY, *Secretary*, Box 285, Guelph, Ont.

22

herds and flocks, and in reality the most valuable stock around the farm, and as such are deserving of the best care possible.

THE FEEDING VALUE OF MANGELS

Since the introduction of the silo, corn has become the premier crop throughout the Dominion for the production of winter succulent forage. And justly so, for there is no crop, year in and year out, that can equal it in yield of dry matter per acre or that can compete with it on the score of cost in the production of a palatable, nutritious roughage.

Nevertheless, the growing of field roots (among which mangels occupy an important place) ought not to be neglected, even in good corn districts, since experienced stockmen recognize the value of roots in the ration. In districts in which climatic conditions are not wholly favorable to the growth of corn the importance of roots is still further emphasized.

Some of the reasons which give mangels a high value in the ration of farm stock may be enumerated as follows: They are succulent and palatable, highly digestible and appetizing and, further, they possess certain qualities of a medicinal character (probably due to their potash compound) which contribute to the maintenance of good health and thrift of the stock. They enable dry roughages (hay and straw) of an inferior quality to be utilized more completely and profitably.

It has been urged that, compared with many other forage crops, mangles in nutritive value do not rank very high. It is true that they contain only from 10 per cent, to 12 per cent. dry matter but it must be remembered that this "dry matter" is entirely digestible and consists largely of sugar, one of the most valuable of the nutrients for energy, heat and fat production.

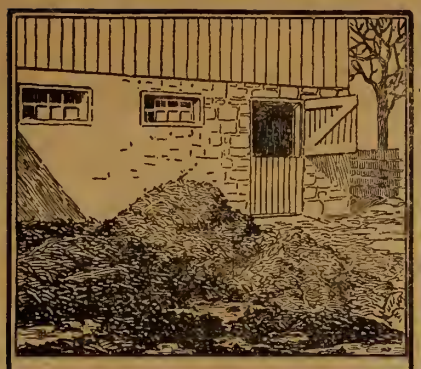
Yield, keeping qualities and ease of harvesting, are the factors usually considered by the farmer in his selection of varieties. The investigation carried on by the Division of Chemistry has shown that there is another and important factor that should not be overlooked. It has been conclusively proven that, measured by dry matter and sugar content, the several varieties offered for sale differ considerably in nutritive value. Reference to the Annual Reports of the Division will show that this difference may in certain cases amount to nearlyly 100 per cent. in feeding value.

To illustrate this fact we may compare the analysis of two well known varieties, Gate Post and Giant Yellow Globe, selected seventeen years ago to represent two wll known and distinct types of mangel. Since 1900 these two varieties have been grown side by side annually at the Central Farm, Ottawa, and analysed. Though from year to year differences in dry matter and sugar content, due to seasonal influences, have been observed the Gate Post variety has invariably and without a single exception proved the richer root. Avraging the results for the 18 seasons we obtain the following data:—

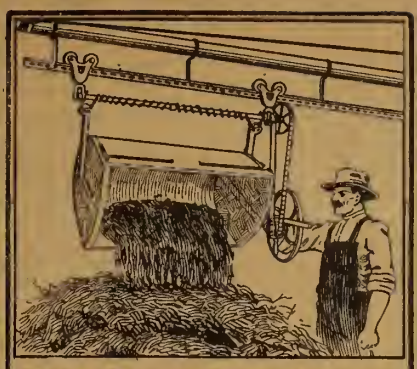
Variety	Dry Mat.	Sugar in juice	Av. Wt. in one root
Gate Post..	11.71	6.11	3 lb. 1 oz.
Giant Yellow Globe	9.56	4.62	3 lb. 1 oz.

Last seasoni in this investigation 31 varieties of mangel were analysed; the best contained 17.28 per cent, dry matter with 11.5 per cent. sugar, the poorst 8.72 per cent dry matter with 3.86 per cent. sugar. The average of all varieties was 12.64 per cent. dry matter and 6.72 per cent. sugar, results decidedly higher than usually obtained, the season being exceptionally favorable for the root crop.

For the best returns mangels require deep and rich loam. They make a large draft on the available plant food in the soil and therefore the land should be liberally manured. If the supply of manure is limited and the land is poor it will be profitable to supplement by an application of 350 to 500 pounds per acre of a well balanced fertilizer. Cultivation should be frequent and fairly deep in the early part of the season to keep down weeds and render the soil more retentive moisture. As the mangels grow late into the fall their harvesting may be deferred until there is danger of frost, and the best storage is a dry, well ventilated root-cellar, safe from frost but moderately cool. —Frank T. Shutt, Dominion Chemist.



A cow produces about $30.00 worth of manure a year. If that valuable manure is left spread all over the yard it will drain away, leach and freeze. The fertilizing value will be lost. You cannot pile it compactly with a wheelbarrow or stoneboat.



With a Manure Carrier this waste is saved. You can dump a big 800 lb. load right on the centre of the pile. The pile will be compact and solid.

Another great advantage of the BT Carrier is that you can dump it right into a wagon or spreader. Only one handling is necessary. Just fill your carrier in the barn, run out over the spreader and pull the tripping latch. You can then take the manure right off to the field.

The winter months will soon be here. The barnyard will be filled with snow drifts but the stable must be cleaned. Don't go through this winter cleaning out with a wheelbarrow. This means the drudgery of shovelling a passage through the snow when you want to get the manure away from the barn.

With a BT Manure Carrier you need not bother about the drifts. The overhead track runs away above them.
Let us send you our catalogue describing the BT Carrier. It will cost you nothing to investigate. The coupon will bring it by return mail without cost or obligation of any kind.

FREE COUPON

BEATTY BROS. LIMITED
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FERGUS, ONT.

Please send me a copy of your illustrated catalogue on Manure Carriers. I have answered your questions below.

Are you thinking of putting in a Manure Carrier.....
If so, when.....
How many cows have you?.....
Your name.....
P. O. .....
R. R. No. ..... Province .....

THE FINANCIAL REWARD FROM SHEEP

It is only within recent years that practical sheep owners have come to realize that a sense of relationship exists between feed consumed by sheep and their wool production. It is generally recognized today, however, that a well-fed sheep produces both a heavier fleece than an underfed one. When sheep are well nourished and thrifty, the wool fibre pushes out strong and full, and there is a sufficient flow of oil from the root to keep it bright and smooth. When sheep are poorly nourished, on the other hand, the wool fibre is poorly nourished also, and it is thin, weak and dull. The man, therefore, who wants to produce either much wool or good wool must keep his sheep well fed all the time. Even a flock going without water for several days in hot, dry weather has been known to cause a "break" in the staple.

The climate also affects wool. Constant wetting and drying makes it tender, the brilliancy and lustre are lost and the fibre is dry and dead, owing to the continual washing away of its usual protector, the natural oil, which coats the fibre in healthy sheep under normal conditions. The wool of sickly sheep is generally not only finer than that of healthy sheep of the same breed, but it possesses this tender quality.

Age has much effect in deteriorating the fleece. The yolk lessens in quantity after the sheep, and especially the ewe, is six years old. And, to the decrease of the yolk, there soon follows a hard, inelastic, unyielding character of the wool that renders it useless for several purposes for which the younger, and especially the wether wool, is bought, "it dies in the bowl," it sinks in the water in which it is washed, and acquires there a shriveled and dead-like appearance. It is difficult to spin and it materially injures the fabric in which it is employed.

The wool often becomes considerably injured by felting while it is on the back of the sheep. This is principally seen in the heavy breeds, especially those that are neglected and half starved. It generally begins in the winter season when the coat has been completely saturated and it increases until shearing time, unless the coat separates from the wool beneath and drops off. The cotting of wool is only an injurious extension of the process of felting. The wool forms into a hard, thick knot that can scarcely ever be unraveled. Some breeds are more subject than others to this defect.

Wool is sometimes injured by keeping it in grease for a long time. It will probably increase a little in weight for a few months, especially if kept in a damp place, but after that it will become light until a very considerable loss will be sustained. This, however, is not the worst of the case, for except when very great care is taken the moth may get into the bundle and injure and destroy the staple, and that which remains untouched by it will become considerably harsher and less pliable.

Soundness in wool is a characteristic which concerns every wool grower in every part of the world, it mattering not if it be a Lincoln or Merino staple. Wool may be good and satisfactory in quality of nice length and well put up for the market, but theer is the inevitable break and when the weakness of staple occurs it always means that the value of the clip is depreciated. When wool is tender and mushy users know that it will mean increased cost of working, hence no one will pay as much for wool lacking in strength as they will for wool that is well grown and sound.

MILK VALUES

Are we on the right track when milk value is based on amount of butter fat contained?

As butter fat varies with the same cow so may the bone, muscle, flesh and nerve qualities vary, and while milk is the one perfect food it must be milk with properly balanced values.

Unless the food given an animal is thoroughly assimilater balanced results cannot be obtained. And there is nothing on the market that has been as successful as Herbageum in securing thorough assimilation of food stuffs and consequent balanced values.

Herbageum is 25c pr lb., but would be cheap at 40c. per lb., with present values of farm produce, as one pound is sufficient for a cow or a horse or a hog for one month. For sheep and calves about one-third the quantity is required.

Herbageum is the product of the Beaver Manufacturing Co., Ltd., Galt, Ont., and was registered with the Department of Agriculture at Ottawa in May 1887, and it has an untarnished reputation during over thirty-two years.

Its regular use is economical with all farm stock and it has no equal for poultry. Advt.

The Expenditure of $610,000,000

How the last Victory Loan was spent

BEFORE buying Victory Bonds again you may want to know how Canada used the money you loaned her last year

Canada borrowed the money to carry on the war and to provide credits for Great Britain and our Allies

CONSIDERABLY more than one-half of the Victory Loan 1918 was spent on our soldiers This included $312,900,000 for paying them feeding them bringing them home, separation allowances to their dependents maintenance of medical services and vocational training schools

For Demobilization

$59,000,000 of the Victory Loan 1918 was paid on account of authorized Soldiers' gratuities

$9,000,000 was spent at Halifax for relief and reconstruction after the disaster

✦ ✦ ✦ ✦ ✦ ✦ ✦

Other disbursements were not, strictly speaking expenditures but National Re-investments

For Trade Extension

To Great Britain for example:

$173,500,000 was loaned for the purchase of our wheat and cereals.
$9,000,000 for our fish.
$30,000,000 for other Foodstuffs.
$2,900,000 for Canadian built ships
$5,500,000 to pay other British obligations in Canada.

Making in all $220,900,000 advanced to Great Britain

To our Allies we loaned $8,200,000 for the purchase of Canadian foodstuffs raw material and manufactured products

The Re-investments will be paid back to Canada in due time, with interest

These credits were absolutely necessary to secure the orders for Canada because cash purchases were impossible

They have had the effect of tremendously helping agricultural and industrial workers to tide over the depression that would have followed the Armistice, had we not made these credit loans

As far as money is concerned 1919 has been, and is still—just as much a war year as 1918. Our main expenditures for war cannot be completed until well on into 1920. Thus another Victory Loan is necessary—*Get ready to buy.*

Victory Loan 1919

"Every Dollar Spent in Canada"

Issued by Canada's Victory Loan Committee in co-operation with the Minister of Finance of the Dominion of Canada.

Back of Canada's Victory Bonds

WHEN you loan money you make sure the borrower is able to repay the loan and that he will pay you the interest regularly as it falls due.

When you loan money to Canada you know your money is absolutely safe.

Back of Canada's Victory Bonds is the entire wealth that Canada possesses—all her industries and all her resources in minerals, fisheries, forests and lands.

Canada has one-third of the area of the whole British Empire; she is larger than thirty United Kingdoms; twice the size of India; eighteen times as large as France. She is practically as large as all of the European countries put together.

Canada is larger than the United States including Alaska (Canada, 3,729,665 square miles; United States and Alaska, 3,617,673 square miles).

Canada has over 440,000,000 acres of farm lands—and only one-eighth of it is yet under cultivation.

Canada has the most extensive and best stocked fisheries in the world—232,000 square miles of fishing waters.

Canada has over 225,000,000 acres of commercial timber—she is the great forest resource of the Empire.

Canada's mineral deposits have scarcely been scratched—yet her mines yielded $210,204,970 last year.

Canada's field crops have doubled in five years—from $552,771,500 to $1,367,909,970.

Canada's people have increased their cash balances in Banks and Post Offices nearly seventy per cent. In five years—from $1,086,013,704 to $1,740,462,509.

Canada's trade has more than doubled in five years—from $1,085,175,572 to $2,564,462,215. Canada emerges from the war one of the world's greatest and strongest nations—her natural wealth equals $2,000 for each man, woman and child of her population.

Canada's Victory Bonds are the finest possible investment where safety is the chief consideration.

Moreover, when you loan your money to Canada you know that the interest will be paid every six months—all you have to do is to go to the nearest Bank and get it.

Canadians will soon be given another opportunity to buy Victory Bonds. This will probably be the last time you will be able to purchase Canada's bonds on such favorable terms.

Prepare to buy—All Canada is Your Security.

Victory Loan 1919

"Every Dollar Spent in Canada"

Issued by Canada's Victory Loan Committee, in co-operation with the Minister of Finance of the Dominion of Canada.

THE BEST LINIMENT
OR PAIN KILLER FOR THE HUMAN BODY
Gombault's
Caustic Balsam
IT HAS NO EQUAL
For the Human Body —It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils Corns and Bunions, CAUSTIC BALSAM has no equal as a Liniment.
We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.
A Perfectly Safe and Reliable Remedy for
Sore Throat
Chest Cold
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Sprains
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Lumbago
Diphtheria
Sore Lungs
Rheumatism and
all Stiff Joints
REMOVES THE SORENESS—STRENGTHENS MUSCLES
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER
Price 3 1 75 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.
The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

THE HORSE

ABORTION IN MARES AND JOINT-ILL IN FOALS ARE HORSE BREEDER'S SCOURGES

Abortion and joint ill are the two diseases that are conducive to greater losses in horse breeding circles, than perhaps all other causes put together. Unfortunately they are diseases that cannot be treated with any surety of success. It is easier to prevent disease than to treat it, and if this is true of all diseases, it is doubly true with abortion in the mare, or joint ill with the foal. The whole trend of live stock management with the best stockmen is now towards preventative measures rather than curative ones.

The Causes of Abortion

Abortion is, strictly speaking, the expulsion of the foetus at any period from the time of impregnation until the foal can survive out of the womb. If the foal is advanced enough to live, it is premature parturition. This may occur in the mare as early as the tenth month of pregnancy and the foal live. The mare may abort from any cause that disturbs the system, as for instance inflammation of the internal organs, profuse diarrhoea whether occurring from the reckless use of purgatives, the consumption of irritants in food, or a simple indigestion with gas formation in the intestines. Irritating drugs, which many horsemen give to horses in any indiscriminating manner, are dangerous to their general health, but are more so to the pregnant mare. They act quickly on the genguative systems, in just the same way as ergot of rye, and the injurious fungi or moulds found on fodder, especially in the springtime in badly ventilated barns. Frosted feeds are an additional cause, and the temptation to give mares an early bite of grass is often followed by a case of abortion.

The Symptoms of Abortion

All the symptoms of abortion in a mare vary, each depending upon the stage of pregnancy. In the first month or two of pregnancy, the mare may miscarry without observing symptoms. If the occurrence is somewhat later in the gestation period, the mare will give evidence of it by neighing and general nervous excitement, and the body of the foetus when expelled being small, is not very often seen at this stage. Abortion during the later stages of pregnancy is attended with greater constitutional disturbances, the process resembling normal parturition.

In any general illness in a pregnant mare, the closest examination should be made regarding any mucus discharge, and the filling of the udder. In some cases of abortion observed by the writer, milk was seen to drip from the udder some hours previous to the parturition, but these cases happened during the latter months of the gestation period. In the earlier stages where the symptoms are not so easily detected, and where any suspicion that something is amiss with a pregnant mare, she should be separated from all othe ranimals and placed in a quiet dark place. This is about all that one can do to stave off the disease other than calling in a veterinary.

Inquiry as to its Cause

Contagious abortion in the mare has never assumed the serious proportions in Britain which it has done in Canada and the States. Some years ago as many as 75 per cent. of the mares in some of the states, aborted. This disease still leaves considerable room for inquiry; very little systematic inqiury into its nature and cause has been carried out. It appears to be quite clear, however, that the bacillus which is responsible for abortion in cows is not even a common cause of naturally contracted abortion in the mare, although, under experimental conditions, the injection of the bovine bacillus into pregnant mares will cause them to cast their foals.

Joint Ill a Common Disease of the Foal

The most common disease of the foal is joint-ill. The reverse conditions hold with this disease, it being more rampant in Britain than in Canada, but there is a large mortality among foals in this country due to joint ill. The disease is due to an infection which occurs at birth, the navel coming in contact with infected soil or bedding, causing a diseased condition of the umbilical vessel, followed by pus infection. The symptoms are manifested by loss of appetite and fever. From start to finish the patient is listless and gaunt. In the more advanced stage, the first noticeable symptom is that of lameness, with swelling of one or more joints. Where only one joint is affected, it shows perhaps only symptoms of injury. The swollen navel cord, will in most cases unveil the true identity of the trouble. The patient lies down most of the time and is unable to bear weight on the affected leg. Pus formation takes place in the joints followed by death. The disease occurs in many cases of leaky navel, where the duct from the bladder fails to close at birth. The duration of the disease is from several days to several weeks.

The Preventative Measures

Mares bred so that they can foal on clean grass pastures where there is plenty of sunlight have little trouble of this kind. Germs of joint ill, like those of all other diseases, are destroyed by the direct rays of the sun; they grow best in shady, and filthy places. Hence, owners and caretakers, should provide open air and sunshine to prevent the disease. Mares that are bred to foal early in spring or in the fall, should be put up in stalls previously cleaned and disinfected. This disease diminishes with sanitary stables and barns. Any colts that survive have enlarged joints and are stunted in growth and continue to be sickly.

Inquiry into the cause of the spread of this disease is now undergoing an organized campaign in Britain by the Clydesdale Horse Breeders Association there, and the coming report of their investigations, covering three years work, will be an interesting contribution to the welfare of the farm horse.

WHAT CAN A TRACTOR PULL?

By V. L. Meagher

It is an undoubted fact that horse farmers do not overload. I am speaking of course of fair to good farmers which are the only ones that any conclusion can be drawn from. When a horse is overloaded his heaving and panting is very soon noticed by his driver who puts another horse on his plow or else does not pull it so deep, not because he wants to drive one more horse or because he wants to plow shallower, but because he knows that if he continues overloading his horses they will very soon fall in their tracks. Observe the same man when he buys a tractor.

He has some hazy idea in the back of his head that because the tractor is made of steel and iron there is no limit to its strength and endurance. The principal reason for this idea is that the average farmer takes it for granted that a tractor giving 10 h.p. on the drawbar will pull the same load without overloading as 10 good Clydesdales. This is not so for the following reason:

1 mechanical H.P. = 33,000 ft. lb. per min. An average horse exerts a pull of 200 lbs. walking at 2 miles per hour.

200 lbs. X 10560 ft. (2 miles) = 2,112,000 ft. lbs. in 1 hour.

2,112,000 ÷ 60 = 34,200 ft. lbs. in 1 min.

Therefore a horse pulling 200 lbs. is developing 3.63% more power than 1 mechanical H.P. Therefore 10 horses would develop each pulling 200 lbs., 36.3% more power than a tractor with 10 H.P. on the drawbar.

Suppose you are plowing wheat stubble with 14-in. plows 6 inches deep with an average resistance of 5 lbs. per square inch.

This gives a pull for one plow of 14 × 6 = 84 square inches cross section. Average resistance = 84 × 5 = 420 lbs. per plow. Two plows would pull 420 × 2 = 840 lbs. One horse exerts 200 lbs. a little over one H.P. If he only exerted 188 lbs. he would pull exactly one H.P. 840 ÷ 188 = practically 4½ H.P. Thus we find that it takes over 4 mechanical H.P. to pull two 14-inch bottoms 6 inches deep on level ground. If, however, the bottoms strike a root or a stretch of hard pan the resistance goes up to 1200-1500 lbs. or 8 H.P. A horse can pull up to 5 H.P. for short periods. It is this that enables it to get through the tough places. You can readily see that a tractor must have the same reserve power.

If 4½ H.P. will pull the load you must have another 4½ H.P. in reserve to pull you through the bad places. Farmers would be inclined to think that this extra 4½ H.P. would be a large fuel consumer and only delivering power a few times a day. This is not so. All good tractors nowadays are throttle governed. Throttle governed engines only use fuel in proportion to the load, therefore a 10 H.P. tractor with a 5 H.P. load uses about the same amount of fuel as a 5 H.P. tractor under the same load. It is easy to see from the foregoing that the common practice of pulling 3 plows with a 2 plow tractor is a foolish policy. The farmer who does this gains very little in extra work done because his engine does not hold its rated speed and he also lays up for himself numerous mechanical troubles.

Another very common practice on the part of tractor owners, is, when they hit a bad spot, to disengage their clutch, let their engine speed up, then re-engage their clutch and let the momentum of the flywheels carry them through. This is a very bad proceeding as the enormous power of the flywheels throws a far greater strain on the driving mechanism than it was ever built to stand.

Something gives way sooner or later, generally sooner.

Farmers must always consider that a tractor is designed to do heavy work to the limit of its rated power all the time. It has very little reserve power to pull itself out of bad spots. When a manufacturer sends out his tractor he expects it will receive proper consideration as regards the loads it will pull. If you overload persistently you have absolutely no cause for complaint if you find that you only get half the service from your tractor that you would have got if you had treated it right.

DISEASE AND ILL-HEALTH OF HORSES CAUSED BY "OUT OF CONDITION" BARNS

When a horse is out of condition the first duty of the horseman is to find out the cause. Without a full knowledge of the conditions that give rise to sickness among horses, no successful attempt can be made at a cure. The general conclusion, with the average farmer, is that medicines and condition powders are the cure-all for any disease, but these are of no use while the surroundings and conditions exist that give rise to the trouble. Besides the nature and practices adopted in feeding, there are a number of conditions in the barn, and on the farm, that affect the general health of the horse. It is only when these are set in a manner to convey some more of nature's way in fitting surroundings

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to the life of the horse, that healthy and cheap motive power can be had on the farm.

The "Out of Condition" Barn

In many barns there is a great neglect of proper ventilation. The air in the stalls in the morning is close, hot and foul. Consequently, the animals easily take colds, sore throats, and recover slowly. Fresh and pure air is one of the greatest safeguards to the health of lower animals, as of man, and often attention to this alone will do away with the need of tonics and condition powders.

In this connection it may not be considered a digression to make reference to the fact that the spread of tuberculosis among cattle is largely due to the general barn conditions on Canadian farms. There can be no healthy life where the air in the inside of a building is not as pure as the sunlit air of the field. Influenza amongst horses, and the consequent complications that this prevalent disease sets up, is almost entirely due to poorly ventilated barns. It is safe to say that the poorly ventilated barn where horses are confined is the root of most of the ills amongst horses, and the most approved skill of the veterinarian will fail utterly, if the principles of hygiene and sanitation are neglected.

Disinfectants are a good medium for keeping down disease, but without proper ventilation, disinfectants will fail to keep the stable free from the ravages of disease.

First have good ventilation and plenty opportunity for the sunlight to get in and around every angle of the interior. A sunbath is superior to any disinfectant that can be applied. Ventilation by open doors and windows, however, should not be practised, as there is danger, especially at night of cold air striking the animal, and chilling it to a dangerous degree.

Disinfectants to Use

Disinfection, in whatever class of stable or barn a farmer may have, should never be neglected. The walls should be frequently white washed, and the discharges from a sick animal should be deodorized by the use of sulphate of iron (copperas) which is a cheap and efficient agent for the purpose. A handful may be dissolved in a bucket of water and thrown into the drain or stable gutter. Permanganate of potash is also a good disisfectant for this purpose, and a few crystals dissolved in a bucket of water will prove equally as effective.

In contagious cases it is of the first importance that the infecting germs be destroyed as soon as they are produced and before they have had a chance to spread the contagion. The attendants on such cases should not handle or approach healthy animals, when it is possible to avoid it.

Carbolic acid in its impure liquid form can conveniently be applied with a brush over the doors, walls and mangers. Rugs or blankets may be wet with a weak solution of it and hung around, to attract and destroy any disease germs floating in the atmosphere. It has also the advantage of being disagreeable to flies, which in summer time are sure to attack and annoy a sick animal, and are a ready medium in the spread of many diseases.

The value of disinfection is now readily recognized. It has been proved beyond controversy that over and over again malignant maladies have been stayed in their ravages and have been prevented from extending by a free, constant, wise use of potent agests.

A useful preparation, that will keep the atmosphere of the stable free from germs is made as follows: Common salt, two lbs.; oil of vitriol, one pint. Pour the oil of vitriol slowly in the salt, and muriatic gas will be evolved, which is a powerful disinfectant. Be careful in handling the oil of vitriol as it will burn the hands or clothes if it comes in contact with them. Use an old metal pot or pan, and have a cover for it, so that it can be covered up when enough of the gas has permeated the atmosphere in the barn, which can be gauged largely by the smarting effect in the nose when inhaled. It will keep the ies away and the atmosphere pure.

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GREASE HEEL IN GRAPY STAGE

I have a mare which has grease heel in its grape ystage. The leg is covered with bunches from the size of a bean to that of a walnut. There is not much swelling at present. I have been using the following once a day: 1 quart spirits of turpentine, 2 ounces of corrosive sublimate, and 2 ounces of camphor gum. I also am putting on once a day vaseline and burnt alum. The fungoid growths extend from the hoof up one-third of the way to the hock. They do not bleed as easily as they did, but there is still an offensive odor.—J.A.C.

Reply.—The measures you are adopting are not drastic enough to remove the grapes form your mare's legs. After cleansing and drying the skin the "grapes" should b removed by means of a thermo-cautery. If they are numerous do this wok at several operations; do not remove all at one time, as the treatment would be too severe. The old-fashioned method of removing such grapes was to wet a littl eshovel such as the blacksmith uses for his forge fire, lay it upon the sound skin with one edge close to a grape, then cut off the grape by means of the edge of another shovel of the same kind made a cherry red hot. The wet shovel protects the sound skin from burning. Dissolve one can of concentrated lye in two quarts of soft water and cork tightly. Mix 2 ounces of this in a small bucketful of soft water and twice daily thoroughly bathe the affected leg. Gradually make the bathing solution stronger, if that proves necesary. Let the mare live on grass, hay, fodder, roots and bran, without grain. Night and morning give her a tablespoonful of Fowler's solution of arsenic for a week, then increase to three such doses a day. Gradually discontinue the medicine when no longer needed, taking at least ten days to the process.

The mare should be well exercised daily or left to run on the pasture.

Those whose ambition leads toward becoming a master breeder should study his lessons well. If he but consider wisely the methods that have brought success to breeders of years gone by he will find sign-boards aplenty pointing the way he should advance.

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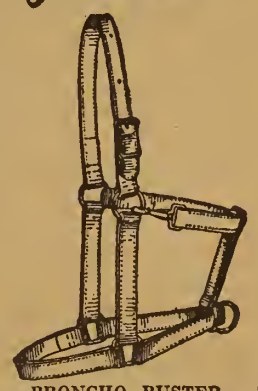

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POULTRY.

MORE EGGS IN WINTER MONTHS

Among the little odd jobs waiting to be done on the average farm along in the fall of the year is that of fixing up the hen house. Poultry do not like wet feet so it is well to see that the floors will be well above high water mark and clean and dry for the winter. The hens do not like draughts of cold air with sleet or snow beating in upon them and it is a matter of profit to see that the roof and sides are ship shape in that respect. Sunlight is the great warmth and health-producing agent and it is a good plan to arrange for windows in the south to admit of all sun possible during the sunny days when snow lies deep. The average farmer is coming to believe that poultry pays well for its keep during the winter if the keep is even fair and extra well for the few little items that go to make the keep a little above the average.

It isn't always the finest equipped house that produces the better winter layers. About all we can expect of the average henhouse is that it be well ventilated at the proper spaces and dry inside with plenty of space for the size of the flock as a few hens with plenty of space is far better than many in an overly crowded area. Crowding promotes disease for the fowls do not get the necessary exercise to keep them in good condition.

It is well to have the roosting quarters and scratching sheds separated where possible, but with limited space dropping boards may be provided and the ground space under the roosts thus utilized for litter and feeding room.

Many hen houses are so situated on rather low ground or wet soil that much litter and other material is necessary at times during the winter to keep the place sanitary and dry under foot. We believe a hard clay floor is about the best flooring available for the poultry house and the cheapest even though concrete is far more lasting and easily cleaned. Concrete is cold during the winter and the hard clay filler on the present soil after being wet and tamped is not to be despised. During the slack season after threshing one may go to any fair-sized creek in the dry days and get all the gravel and clay desired for nothing but the labor involved. This bed clay and gravel of the stream makes an excellent flooring material in the stock sheds, as well, if one does not have the cement type in use.

Window glass is high and of poor quality as a rule these days and the muslin sacks that contain the various ground feeds we buy make excellent substitutes. These sacks when ripped open and stretched tightly over a sliding frame may well serve the purpose of windows. They admit of a good light and yet check the draughts effectually. We find this material does admit the air, but that cold biting edge of the wind has been eliminated as well as the sleet and snow. Fresh air is one big item with the poultry anyway and glass windows are apt to create too much heat on the warmer days. The close stuffy hen house causes a mopy, drowsy condition of the flock and plenty of fresh air, even though it be a little cold, only tends to heep the hens scratching to keep healthy and warm.

The sides of the hen house may have become badly weather checked and wide cracks have resulted perhaps through which the raw wind whistles on the stormy days. A cheap grade of tar paper over the worst places will help much. A cheaper method still of stopping these cracks is found in taking narrow strips of sacking and tacking these over the places then painting over with roof and metal paint. It is inexpensive and shuts out all draughts as well as the snow and sleet and rain. W. L. H.

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Shoes

THE DUST BATH FOR POULTRY

It is generally agreed that a good dusting bath is one of the best things that the poultryman can provide for the hens, especially during the winter months. It affords exercise which is greatly enjoyed and it serves to keep down lice and vermin in a way that nature intended. During the winter months, lice are especially apt to get a foothold in the laying flock because there is no opportunity for the hens to fight them in the natural way.

One of the best ways to handle this situation is to save a barrel or two of road dust in the fall and store it in the barn or a corner of the poultry house. You will then have plenty of available material for the dusting bath throughout the winter. Twelve-inch boards placed on end and under a sunny window will serve to keep the litter out of the dusting material and to make it especially inviting to the hens. Where dust or garden loam was not saved before frost made it impossible, good material may oftentimes be obtained under the floor of a warm barn or crib. If it is impossible to get any soil, ashes may be used, although they are more desirable when mixed with good dirt.

Where hens have a good dust bath throughout the winter they will be unusually contented and healthy. The presence or possibility of vermin getting a foothold in the flock is greatly lessened, all of which is reflected in greater egg yields.

Another very good plan is to make a box of whatever size desired and to place it on legs immediately under a sunny window. This absolutely prevents any litter or other rubbish getting into the dusting bath and it makes it warm and cozy throughout the day for the hens. The effectiveness of any dust bath may be greatly increased by mixing a good insect powder in it. In this way the hens will be encouraged to perform the unpleasant task of dusting themselves with it.

The dusting bath does not require a great deal of attention and it will cost only a few minutes' time, but it is one of the little things that make winter eggs possible. C. S.

POULTRY RAISING ON LARGE SCALE

Possibilities of the poultry business conducted on a big scale are receiving a thorough tryout at M. J. O'-Brien's Barrydale Farm, in Renfrew county, under the supervision of G. W. Miller. Although this enterprise is scarcely one year old, a great deal has already been accomplished and operations are in full swing. A great deal hinges upon the success or failure of the scheme as it is understood that if this first venture proves to be a success, it is the intention of the owner to establish several others like it.

The start was made in the spring of 1918, and it could hardly be called starting in a small way either as the first purchases amounted to nine thousand day-old chicks, mostly white Leghorns. These were reared by the colony house method, the houses used being of the ordinary type and about thirteen feet square.

Later in the season the question of winter laying quarters was solved by the erection of three laying houses, 160 feet by 20 feet. In order to avoid any possible trouble from dampness the laying houses were built on posts between two to three feet above ground level. The houses face south, and plenty of window space is provided at this side. Partitions at intervals of 15 feet divide up the interior of the laying houses into a series of small pens. Good ventilation has been provided for by the installation of the Shannon system; this consists of having two shutters—two feet square—in each of the pens or compartments, and these are always left open.

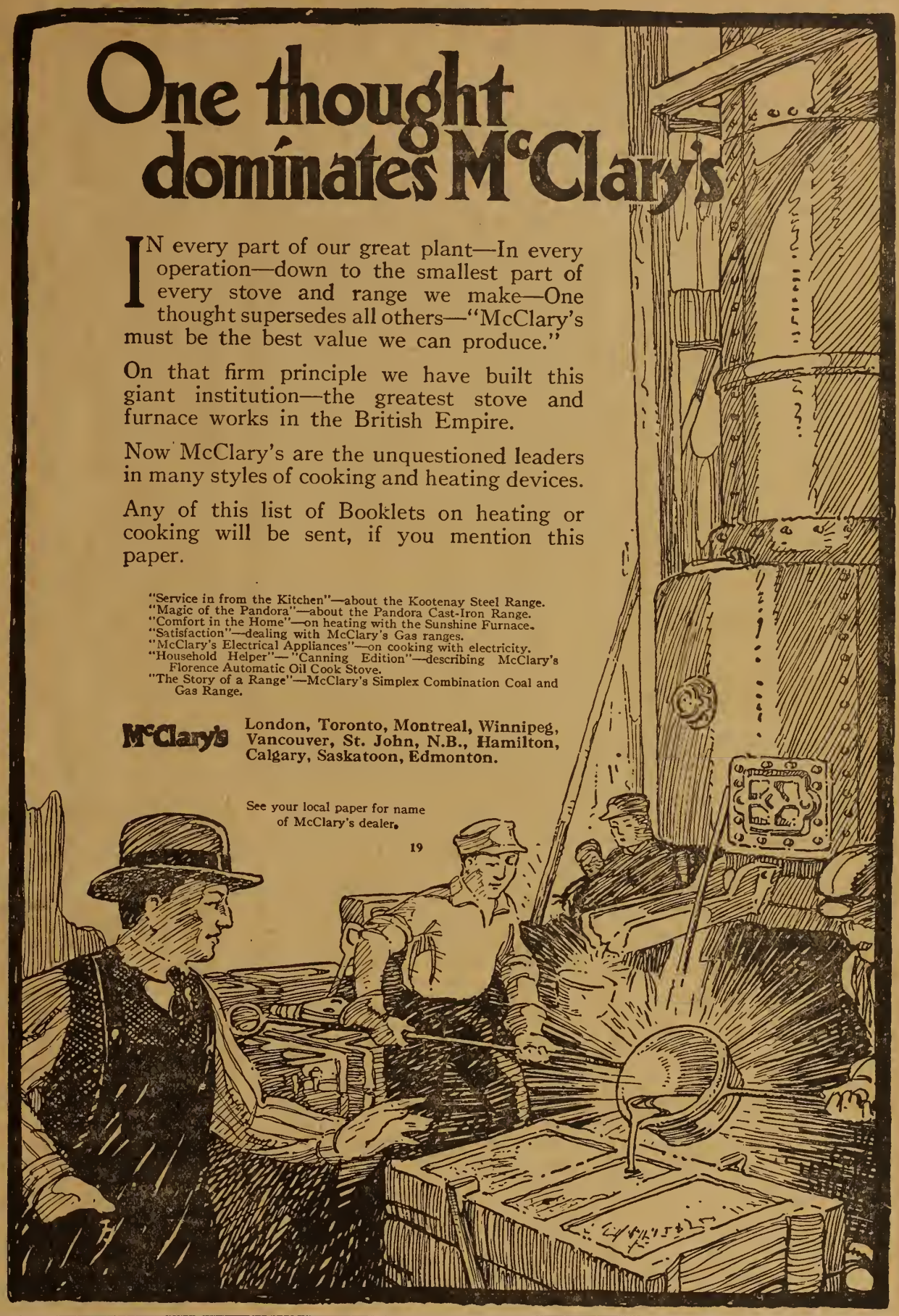
Some thirty-six hundred White Leghorn pullets were kept through the winter and very satisfactory results as to egg production were and still are being obtained. The Journal was informed that as high as two thousand eggs per day have been gathered, and at the time of writing the daily output is said to average fifteen hundred eggs daily—certainly a creditable record for the first season. Artificial light is being used to stimulate egg production.

As to the question of feeds the fowl have access at all times to water, grit, and a dry mash. Grain is fed three times a day.

The hatching is being done on the farm this year, and for this purpose a 6,000 egg size hot water incubator has been installed and judging from reports is giving good satisfaction. No pains are being spared in an effort to get hatching eggs from the very best strains, and as high as 40c each has been paid for hatching eggs of American strains of White Leghorns by the management of the Barrydale Farm.

The marketing system followed is in brief as follows: the young cockerels are turned off as broilers; a large part of the egg output is sold to private customers, while a large firm in Montreal handle the surplus.

Mr. O'Brien is a patron of the Maritime Winter Fair.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W. A .HAGERMAN.

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

THE ISLAND OF DISILLUSION

(By Berton Braley)

"I never loved a lady yet
But what some other guy would come
And try to steal away my pet
And put my courtship on the bum,"

Merkle chanted, unhappily.

"'Smatter now-" queried Heineman, his roommate, "'nother girl? Kind of foolish to ask, because you never bust into poetry unless it is over a girl."

"Yes, it's another girl," admitted Merkle, "and the same old story of hard luck. I used to fall for the full blown rose kind of a girl; you know the sort of dame who has a bunch of fellows buzzing around her all the time, but I found I wasn't much when it come to meeting so much competition. So I made up my mind I'd go and look up some nice little kid who didn't know many people sort of pick up a modest violet, you know,—and I did, but I hadn't any more than got nicely started with her when every man in my acquaintance discovered that he was strong for violets, too. And so, I'm out in the cold, cold, world—more or less—again."

"The only thing for you to do," observed Heineman, "is to get marooned on a desert island with the lady. That might give you the chance you want."

"Huh!" snorted Merkle, "people don't get m arooned on desert islands any more. But if we did there'd be some Robinson Srusoe to pop up and cut me out, anyhow.

"I wish I lived in the cave-man days
When they wooed with a lusty vim,
When they hit the lady ovet rhe head
With a knotted hickory limb,
And dragged her off to their dusky cave
To lighten its glimmering gloam,—
I think if I lived when they wooed like that
PERHAPS I could win a home!"

Merkle accompanied this bit if immortal verse with a slow dance in which he pantomimed the style of wooing at which he believed he might be successful and brandished an umbrello over the head of the phlegmatic Heineman. He was just starting to compose another verse, when there was a knock on the door.

"Happen to have any bread and butter in the place?" asked a tall and lanky young man with a pleasant, crooked smile, as he entered in response to Heineman's "Come in."

"Sorry," replied Merkle, "but our last barrel has just run out. Will a book on the war do just as well? Sit down, Franklin."

"Presently, presently," promised Franklin, "but I gotta phone to the delicatessen store for home bread and butter. You know me, Al,, I just gotta have bread and butter, I do."

"Yes, I know," said Heineman, "time after time I've seen you come reeling out of a bakery, actually overcome with bread and butter—and with a package of hellish stuff under your arm. Ah, Franklin, can't the pleas of morality turn you from this dread habit which holds you in its tentacles. Is there no chance of saving you, no hope of exorcising this evil demon of wheat which owns you, body and soul, blood and gray matter?"

"None," grinned Franklin. "So, if you'll excuse me while I go out in the hall and phone for some, I'll be back and listen again to the story of Merkle's sad young life."

He returned in a minute or two, disposed his lank carcass on the couch, and said:

"Now Merkle, unhhappy victim of the great god Eros, spill the wail!"

"How did you know I had a wail?"

"Because you looked it. And ever since I've been rooming here I've picked you as one of the fair haired boys whose main worry in life is girls. And being as how I'm one of the best little repairers and cementers of broken hearts, and a regular 'Advice to the Lovelorn' column for young men, I'm the guy to confide in. Shoot!"

The crooked smile and the bantering but sympathetic voice were irresistible. Merkle capitulated immediately.

"All right," he said, 'here's the dope. I'm willing, anxious, even eager to be married. But every time I meet a really attractive girl she's surrounded by other men and I'm not much on competition. So this last time I met a little dame who was as nice and attractive as they make 'em, but who was not yet supplied with a bunch of cavaliers. And I intended to make it a case of Marry, but I no sooner began to take her out than my acquaintances took a fancy to her and commenced to cut in on my dates. And there I am up against the same old situation. I might have a chance if I didn't always have a battle with a mob!"

"The trouble is," Franklin commented, "that you've been sticking around in town too much until you're a monomaniac. You ought to take a vacation and go out in the woods somewhere and forget this dame—and the mob around her."

"Is that the best advice you can give?" snorted Merkle, his eyes bulging, his mouth agap.

"Now I have a friend," Franklin continued calmly, "who owns a lovely little island up in the lakes. It's forty miles or more from anywhere, but it has hunting and fishing and swimming and there's a bully bungalow and an ice box and plenty of stored things to eat, and a nice old black mammy who can't do a thing but cook. My friend usually spends the summer there with his family, but he's gone to South America this year and he has turned it over to me to use as I see fit.

"Well, I'm making up a little party to go there—and I'd like to have you join it. I can't start, myself, for a week or more, but you could go right away. And you need it. You need ozone and sunshine and blue water. The fare up to the island isn't much and the living won't cost you a cent. There'll be a nice party when you arrive and I'm sure you'l lenjoy the vacation. I'll join you after a few days."

"I hate to leave Fred," demurred Merkle.

"Heineman is welcome — later—" replied Franklin, "but just now there's room for only one man, and that's you . I'll have Heineman go up aftef you return, perhaps. How about it?"

"Why, why, I'll go," said Merkle, "if the boss will let me off."

"Who is your boss?"

"Peterson, the General Superintendent of the Acme Carbureter Co. Do you know him?'

"Slightly, as it happens," said Franklin; "you ask him if you can go in the next few days. I'm sure he'll be reasonable. I'll call hm up."

"Well, I'll ask him. But when do you want me to start?"

"The exact moment," Franklin informed him, "I shall have to communicate later. But I think it will be soon.—Hah, I hear the delicatessen boy clumping up the stairs—me for the insidious bread and butter!" He rushel out of the room.

"That's darn nice of him," said Merkle, "seeing as how we're almost strangers. Wonder why he took such a shine to me?"

"Just sympathy for all bereavement," Heineman offered. "He told me it made his heart ache to see so young, so promising and so ingenuous a man wasting away in his anguish and he believed the balmy breath of nature would aid in banishing your woe."

The launch from which Merkle had stepped on the tiny pier chugged away, leaving him alone with suitcase in his hand. He surveyed the island—so much of it as was visible. He saw a clean, white, sandy beach, a pretty cottage several hundred feet back, and he sniffed the fragrance of the pines. The breeze was cool. On the porch of the bungalow he caught the flicker of a white skirt. From the chimney came a wisp of smoke. He suddenly remembered that he was very hungry. Evidently no one intended to met him, so he walked up the path and mounted the steps of the porch.

The young lady in the deep chair rose to her feet, and Merkle dropped the suitcase with a bang, dropped his hat and ejaculated. "You!"

And the girl's exclamation was also —"You!"

It was the girl he had been worrying over.

"How in the world," he demanded, "do you come to be here?"

"How do you come to be here?" she asked, with equal fervor.

"I came at the sugestion and invitation of a man friend of mine,' he explained.

"Ond, I," elucidated, "at the invitation and sugestion of a woman friend of mine . She said there was to be a nice big party. Where is the party?"

"He said there was to be a nice little party. Where is that party?"

"It isn't here," she said.

"It didn't come with me, he returned.

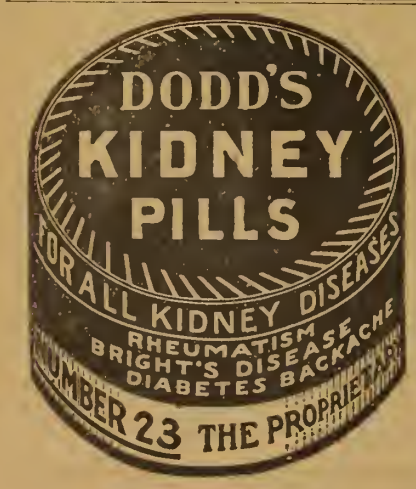
"I know!" she cried, "you're the nice big party!"

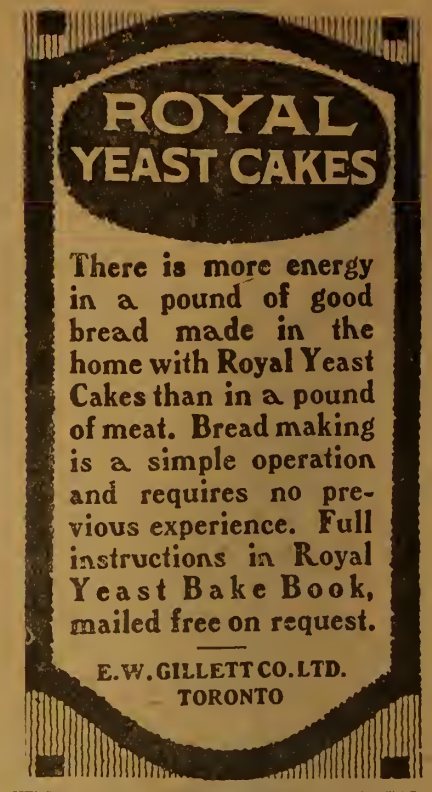
"And you," he approved, "are the nice little party."

"With only the old mammy for chaperone," she twinkled, "isn't it shocking?"

"Isn't it delightful?" he corrected her. "We're sort of a Swiss Family Robinson—and dinner is ready," as the black mammy appeared in the doorway.

Merkle smiled happily as he considered his stupendous luck—for he thought it was just luck. Here was the fulfilment of his dreams, his desert island and the girl his to monopolize for a day or so, anyway, until the others came. He beamed at her across the table, and thought how wonderful it would be to sit at the

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opposite side of the table from her for all the rest of the meals of his life.

That evening they canoed about the shore together and she sang him sweet old songs in a soft throaty voice and when he bade her goodnight and returned to his own big, roomy chamber with its cool, comfortable bed, he fell asleep thinking of that desirable time when he could have a little flat—and Her to be the divinity on his wondrous little desert island amid the city's whirl.

Breakfast was a marvelous meal, for the girl looked ineffably fresh and sweet and radiant from her early dip in the lake, and Merkle vowed aloud that he would get up the next morning and go in with her himself.

All morning they strolled about together, and shied pebbles into the water, and in the afternoon they went swimming again, and in the evening they canoed once more—a pair in Arcady, for the night birds sang, the wind barely rustled the leaves of the trees, the water gurgled about the bows, and the moonlight spread its silver magi cover the waters and all was romance—though Merkle yawned once or twice and there were periods when the dead silence lay heavy and cold over their companionship.

Of course, it was sheer imagination, Merkle thought and a girl couldn't always appear at her best, but when they came in from their swim the following morning, her hair seemed not quite so pretty as it had always looked before, and even after she had changed from her wet bathng suit to a charming lacy dress, something of her allure was gone. He found that his eyes kept returning to a tiny mole on her chin, and viewing it with vague distaste. It had seemed rather a beauty spot until now, but it began to assume the proportions of a disfigurement. Also he wished she wouldn't play with the pendant to her necklace so much. It made him nervous. And pink ribbons in a girl's hair irritated him. Why would she wear them?

Mammy's meals were masterpieces however, and, after a good breakfast he decided that he had merely had a grouch, for the girl did look attractive and it was with a return of his old enthusiasm that he suggested she go hunting with him.

"This is a private preserve, you know," he explained, "and we can hunt all we choose. Or at least it ought to be a preserve, and I'm going to take the risk of shooting a bit.'

After several hours he decided that a woman was his idea of nobody to take on a hunt. She hindered a man, she made noises at inopportune times, she had to be helped over things, she got in the way, and she made a most ridiculous fuss over anything you killed. They came back from the hunt much sooner than Murkle had planned, and for the rest of the day Merkle took the canoe and paddled miles out into the lake, while the girl wrote letters—or that was the duty she pleaded in refusing to go boating with him that day.

Dinner was rather a trial, because neither of them seemed to have anything to say, and after a dismal attempt to play cribbage they both pleaded guilty to sleepiness and went to their roms at nine o'clock where they both heaved deep sighs of relief, turned up their lamps and read far into the night.

Merkle got up earlier the next morning, nevertheless, for he wanted to take his swim alone. Miss Ellis had, however made the same decision so of course they met on the beach. Their swim did not last long, and breakfast, this time, was a direful bore. Only courtesy kept Merkle from reading a two weeks' old paper he had found in the living room.

Miss Ellisc escaped to the kitchen and hung about Mammy all the morning and Merkle went fishing. He stayed until diner time and on his return, when he caught a glimpse of Miss Ellis in the big porch chair, no glad glow lighted his eyes.

"Oh, Lord!' he groaned, "I've got to eat with her again!"

Miss Ellis saw him coming up the path and sighed deeply.

"Heavens," she sighed to herself, "but I wish somebody else would come to this place."

But it was nearly a week before anyone else came. And when the launch hove in view Miss Ellis and Merkle were on the pier together to welcome it. They scarcely spoke to each other. And when Franklin and Miss Carruth stepped off that launch Miss Ellis embraced Miss Carruth with immense fervor and shook Franklin's hand with tremendous eagerness, while Merkle almost fell on Franklin's neck in his relief at the sight of his host.

"Well," Franklin asked, "'how do you like my little island?"

"Your island?" queried Merkle.

"Oh , yes, it's mine,' Franklin said. "That stuff about my friend's island was a bit of fiction.

"Your island is fine," Merkle answered, "but you don't know how glad I am to see you. We too people have been simply bored to extinction alone here with each other.

"Then the desert island treatment didn't really work, after all?" laughed Franklin.

Merkle, startled, stared at his host.

"Oho!' he said, "so that's the way it happened, eh? No, I'm afraid it didn't. But listen, like a friend, How about all this—how'd it happen? Who's who and what's what and why?"

Franklin extracted a piece of bread and butter from the lunch basket he had brought in the launch and took several big bites esctatically before replied. Then:

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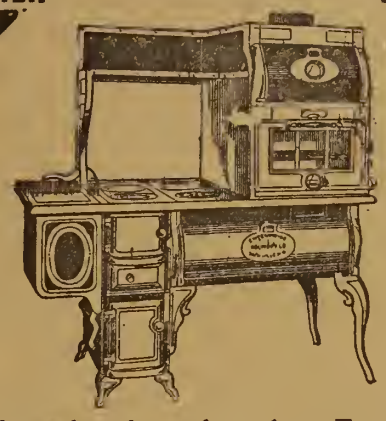

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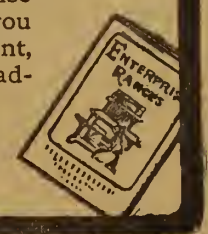

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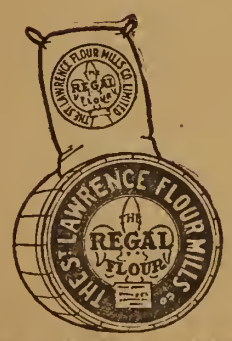

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If some unscrupulous druggist tries to talk you into taking some other preparation when you ask for "Dr Fowler's" refuse to take it, as these no-name, no-reputation substitutes may be dangerous to your health. The price of the genuine is 35c a bottle, and put up only by The T. Milburn Co., Limited, Toronto, Ont.

"You see," he said, "I'm a malefactor of great wealth and I'm always trying to play fairy godfather to somebody. It's my main amusement in life. I'm fairly successful as it, too, but ocacsionally I fall down—as in this instance . The modus operandi in your case was simple enough.

"Heineman told me who this girl you thought you wanted was. I worked through friends of mine to find friends of hers and arranged to give her a vacation on this island. I gave you the fairy tale about my friend in South America and then put you two folks up here together to give you a chance at your desert island theory. So there you are, and here you are, and 'there ain't no romance.' So the joke's on me. Miss Carruth and I came out to se how things had worked. And now we can send for Heineman and the rest of the party."

Merkle thought the dinner that evening, with four people instead of two, the most delightful meal of which he had ever partaken. It was so wonderful not to have only Miss Ellis to look at. That's too negative a way to put it; it was, rather, wonderful to have Miss Carruth to look at.

The rest of the party, four or five young men and as many young women, all tired city workers whom Franklin had come to know through his propensity to live, incognito, at various commonplace boarding houses and apartments, arived soon, and for the next week or so the island was festive. Franklin, ruminating over his eternal slice of bread and butter, presided as high priest of all high jinks. But Merkle was seldom in these assemblies. He was canoeing or hunting or swimming or cozy cornering with Miss Carruth, and he was somewhat surprised to find that though he saw her twice as often as he had seen Miss Ellis he never grew bored. Nor did she. Which gives, perhaps, an idea that Merkle, at last, was progressing.

As for Miss Ellis—there was a young lawyer in the party, a struggling young lawyer, who won this case without a struggle.

"Thanks for the time of my life," said Merkle to Franklin, when, his vacation over, he stood on the pier and bade the millionaire good-by,—"and for more than that. Miss Carruth and I. you know——"

"Yes, I know," replied Franklin. "Blesings on you, my children. Better ask Peterson for a raise when you get back, you'll find it handy to get maried on."

"By the way," puzzled Merkle, handing Miss Carruth into the launch, "I never knew Peterson to be so jolly about letting anybody go as he was with me when I started on this trip. You must have put in a strong talk."

"Yes, I spoke to him about it, Merkle," smiled the millionaire, "and he seemed willing. You see," he went on, "I own the Acme Carburetor Company. So don't forget to ask Peterson for that raise!"

He waved his piece of bread and butter in the air as the boat chugged off leaving him alone on the pier.

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ORIGIN OF WOMEN'S INSTITUTES IN THE UNITED KINGDOM

Negotiations are now on to establish an alliance between the Women's Institutes of Great Britain and the Federated Women's Institutes of Canada.

Mrs. Alfred Watt, Chief Organizer of Women's Institutes in England and Wales, and Mrs. Gogman, District Organizer of Women's Institutes in England, are in Canada now and will meet with the Board of Directors of the Federated Women's Institutes of Canada early in November to conplete arrangements for this alliance. Moreover, women of New Brunswick, an opportunity will be given you at the Annual Provincial Convention of the New Brunswick Women's Institutes held in St. John during the last week of October to hear Mrs. Gogan explain the conduct of Women's Institute work in the Motherland and to catch with her a glimpse of future developments for this representative organization.

Note the following article taken from the Journal of the Board of Agriculture, London, England:—

In 1913, Mrs. Alfred Watt, M.A., Secretary of the Women's Institute Advisory Committee to the British Columbia Department of Agriculture, came to England. She spoke on Canadian Women's Institutes at different gatherings and shortly after war broke out issued a leaflet showing how the establishment of women's institutes in villages would help towards an increased food supply. In 1915, Mrs. Watt, who had for many years been connected with the Women's Institutes of British Columbia, discussed the matter with Mr. Nugent Harris, then General Secretary of the Agricultural Organization Society, and after further investigation and reports the A.O.S. at its annual meeting on 23rd June, 1915, passed the following resolution:—"That this meeting is of the opinion that the Women's Institutes movement, which is filling so important a part in the rural life of Canada, could be adapted and made equally suitable to English rural conditions, and that the body re-organize it in this country as the Agricultural Organization Society, and that it be a recommendation from this meeting to the Governors of the Society that they should be responsible for the work."

This resolution was approved by the Governors, who appointed a small sub-comittee to carry out the work.

The first districts visited by Mrs. Watt were North Wales, where the first Institute was formed at Llanfairpwll in September, 1915, and East Dorset, where the first English institute was formed at Wallisdown in November of the same year.

By December, 1916, 50 institutes were in existence and the number increased steadily. By October, 1917, there were 137 institutes in England and Wales, and the importance of the work they were doing with respect to increasing and preserving the food supply had become so evident that the Board of Agriculture, with the approval of the A.O.S. offered to assist in their formation by creating a special Women's Institute Section under the Women's Branch of the Food Production Department to undertake propaganda in close co-operation with the Women's County War Agricultural Committees. Representatives of all existing institutes were summoned to a general meeting in London, and they, (a) decided to accept the offer of the Board and to transfer to them all work in connection with the formation of new institutes; and (b) elected an Executive Committee to continue and develop the work hitherto carried on by the A.O.S., of assiting and strengthening existing institutes. The Executive consisted of Lady Debman, Assistant Director of the Women's Branch of the Food Production Department of the Board of Agriculture; representative members of various institutes; four members nominated by the A.O.S.; two members nominated by the Board of Agriculture (Women's Branch), two by the Board of Eudcation, and one by the National Union of Women's Workers—Mrs. Watt as the Chief Outside Organizer, and Mrs. Harris as Head of the W. I. Section attending ex officio.

So rapid was the growth of the institutes and so vigorous was the desire to co-operate and to break new ground, that it soon became advisable to strengthen the organization by forming federations to link together the institutes in each county and to asist in the establishment of co-operative industries. At the present time (October 1918) there are 700 institutes in England and Wales, and

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262

18 County Federation—including the North Wales Union.

Nor has the movement been confined to England and Wales. In the spring of 1916 Mrs. Blair of Hiprigg Mains ,Gladsmuir, and Mrs. Gooch of Torcastle, Banavie (who had seen something of the working of Institutes in England) independently approached the Scottish Board of Agriculture to ask whether they would give favorable consideration to the formation of Women's Institutes. Moreover, in April, 1917 (at the suggestion of Mrs. Blair) the Scottish Council of Agriculture passed a resolution that women's institutes on the lines of those in England should be established.

A deputation to the Secretary for Scotland was favorably receeived and Mrs. Watt was invited to address public meetings organized in the North Scotland by Mrs. Gooch, and in the south by Mrs. Blair. An Advisory Committee to the Board of Agriculture for Scotland was set up, and they appointed Miss A. Campbell as Organizer for the period of two years. By August, 1918, 35 institutes had been formed, with a membership of 1,391.

In Ireland, the work done by the United Irishwomen on similar lines is bearing excellent fruit. The aim of this association, which was started in 1910, is to raise the standard of health and living, and to press into the service of their country all classes and all sects among women whose homes and interests lie outside the township areas. Such women have often felt that their talents are somewhat wasted and their opportunities of assisting in public work have been too few to be worth considering. The "United Iirishwomen" offers all women an opportunity to assist in the regeneration of their country at a time when the assistance of every man and woman is required as it has never been wanted before. "The aim of the Women's Institutes movement is precisely the same, and the two are in close touch with each other.

When it is considered that the women's institutes have come into existence at a time when everybody was already more than fully occupied with other affairs, when difficulties of transit placed almost insuperable obstacles in the way of holding meetings, and difficulties of food made a somewhat dismal solemnity of social functions, when money was so easily—and rightly—raised for war charities that it was almost impossible to raise it for anything else, and most of the women who would naturally have been the leaders or organizers of such a movement were absent from home, nursing in hospitals or driving motor ambulances in France, the rapidity of its growth and the fact of its becoming so widespread speak much both for its vitality and for its sutability. In war time we cannot do with superfluous calls upon our energy; time becomes a thing to use, not to pass, and that a large and ever-increasing number of shrewd country women choose to use it in this way shows that they find the institutes of practical value. Nor have they a value for women only; one sex cannot benefit without its reacting on the other, and the whole of rural life must necessarily be affected by such a movement. In the words of Sir Daniel Hall, Permanent Secretary to the Board of Agriculture and Fisheries, in a circular dated May 1918, addressed to the Local Education Authorities in England and Wales:—

"Of the many new enterprises in rural development which the war has stimulated, there are few, in Mr. Prothero's opinion, which are so full of promise for the future as the active association of women with agriculture and the prominent share which they have taken in the food prosecution campaign. Women's Institutes, where established, should provide a means of preserving the new spirit, as well as of extending it in fresh directions; but it is a potential stimulus to the education of the men and boys engaged in agriculture, as well as the women and girls, that Mr. Prothero thinks they particularly deserve the support and sympathy of Education Authorities."

The new spirit to which he refers is one which bids fair to set agriculture in its proper place as the true aristocrat of industry: "We may take what we please of Lillies and Lions Rampant, and Spread Eagles in Fields d'Or or d'Argent; but if Heraldty were guided by Reason, a Plough in a Field Arable would be the most Noble and Antient Armes," and these arms the promoters of the movement look to see borne in triumph by the land army of the future.

LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

A MESSAGE TO WOMEN!!

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.

Mrs. M. Summers, Box 309 Windsor, Ont.

THE FEDERATED WOMEN'S INSTITUTES OF CANADA

For some time there has been a feeling among Women's Institutes and similar organizations throughout Canada that a closer co-ordination of the work being done by these organizations in the different provinces would be both desirable and beneficial not only in the unification of the work but even of greater importonce, the unification of the people.

The idea of such a Federation having been endorsed at the different Provincial Conventions, steps were taken to bring about its inauguration.

Accordingly a conference was held in Winnipeg, Man., in February of this year, resulting in the formation of the Federated Women's Institutes of Canada.

The Federation shall include, the Women's Institutes of Canada, the Home Makers Clubs of Saskatchewan, the Home Economics Societies of Manitoba, the Homemakers Clubs and the Cercles de Fermiers of Quebec. The largest women's organizations, strictly non-partizan, non-sectarian, in Canada. The motto of this organization is "For Home and Country."

The administrative body of the Federation shall be a Board of Directors consisting of a President, Corresponding Secretary, two members from each Province, Superintendents of the Provincial Women's Institutes and Convenors of all Standing Committees.

The Executive of the Federation shall consist of a President, a First Vice-President, a Second Vice-President, a Treasurer, a Corresponding Secretary and three other members and one additional member for each Province which hereafter joins the Federation, but not more than one representative shall eb appointed from each Province.

Superintendents of Provincial Women's Institutes shall be ex officio members of the Executive, the Presidency shall alternate between Eastern and Western Canada.

There shall be a Federal Convention held every two years—this convention alternating between Eastern and Western Canada.

The First Federal Convention as mentioned in the previous issue, will be held in Toronto in November and at this Convention not only Dominion affairs will be dealt with but also the proposed alliance with the Women's Institutes of Great Britain.

New Brunswick representatives on the Board of Directors of the Federated Women's Institutes of Canada are Miss Eliza Campbell, Lower Kingsclear, York Co.; Mrs. J. W. V. Lawlor, St. John, and Miss Hazel McCain, Supervisor of New Brunswick Women' Institutes.

The Executive of the Federated Womens Institutes of Canada is as follows: President, Mrs. Arthur Murphy, Edmonton, Alta.; 1st Vice-President, Mrs. Tood, Orilla, Ont.; 2nd Vice-President, appointment from Cercles des Fermiers, Que.; Treasurer, Miss Eliza Compbell, Lower Kingsclear, N. B.; three other members, one each from Manitoba, Saskatchewan, British Columbia; Corresponding Secretary, Mrs. J. F. Price, Cal-

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gary, Alta.

Provision was made for the securing of the following honorary officers: Patroness, Her Excellency the Duchess of Devonshire; Honorary Presidents, the wife of the Premier of Canada and the wife of the Leader of the Opposition; Honorary Vice-Presidents, the wives of the Lieutenant-Governors of the Provinces included in the Federation.

To facilitate and make more efficient the work of the organization certain standing committees were named. These with their convenors are as follows: Education,Mrs. George Putnam, Toronto, Ont.; Home Economics, Miss Anita Hill, MacDonald College, Que.; Public Health and Child Welfare, Dr. Margaret Patterson, Toronto, Ont.; Immigration, Mrs. Chas. Robson, Winnipeg, Man.; Legislation, Mrs. Ralph Smith, Victoria, B. C.; and Publicity, Mrs. Nellie McClung, Edmonton, Alta.

Associated with these Convenors are representatives of the Women's Institutes and similar organi-ations included in the Federation from the different provinces.

New Brunsick representatives are as follows: Education, Mrs. Chas. Comben, Woodstock; Home Economics, Mrs. Pos. Royer, Petit Rocher; Public Health and Child Welfare, Miss Katherine Stewart, Fredericton; Immigration, Mrs. H. Lawrence, St. John; Legislation, Mrs. C. J. Osman, Hillsboro; Publicity, yet to be appointed.

The establishment of a Dominion Official Organ to be entirely under the control of the Federated Women's Institutes of Canada was unanimously decided upon at the Federation Conference.

A representative of the Federated Women's Institutes of Canada, also of the Cercles des Fermiers, Que., will address the Annual Provincial Convention of New Brunswick Women's Institutes held in St. John the last week of October.

Speaking of the Federation of Women's Institutes, the Editor of a Vancouver paper says: "In the Federation of Women's Institutes there has arisen a mighty force for good whose influence knows no bounds."

The Winnipeg Free Press says: "It is too soon to adopt the role of prophet and forthwith tell what a mighty force this organization is going to wield in the affairs of the Dominion. It can only wield that force if the whole is vitalized by the interests of the Provincial Organizations.

KNOW YOUR CHILD'S TEACHER

By Rhena Anita Pugsley

When Bobby, all washed and combed and nicely dressed, goes whistling off to school in the morning, do you ever give a thought to his going, beyond the thankful one: "Well, I know where he is for the next five hours?" Do you ever wish that you could know his teacher and hear more about his school life? Sometimes you do—and then you wonder how it can be accomplished.

Do mothers ever try to know the women who teach their children? Some of them do, but the majority overlook entirely the importance of this duty.

A perfunctory question or two at the opening of school, about how Bobby likes his teacher asd what he is studying now, is as far as many parents ever get. All too often the teacher is weighed in the balance and found wanting in some such way as this:

"Why were you late home from school to-day, Robert?" "Aw—the teacher kept me in." "Well, what did you do?" "Didn't do a thing. She's always picking on me; she don't like me, anyhow."

A little later, when Bobby produces a report card bearing three C's and two D's, the mother is convinced that the teacher probably does "Pick on" her boy. And Bobby's failure to be promoted at the middle of the year clinches this conclusion beyond all question.

But undoubtedly you belong among the more conscientious mothers. So you spur yourself to the effort of visiting the school some monring, while your Bobby writhes in his seat, shamefacedly conspicuous before the other boys. Possibly he is called forward and put through his paces, at which you beam your delight if he happens to acquit himself with credit. A handshake and the exchange of a few polite expressions end the interview, and you go home with a complacent feeling that you have "shown a great interest. Thank goodness, it's done for this year!"

Establishing Personol Relations

The significant point is that there has been no establishment of personal relations with the teacher, and no attempt at any either then or later. On her side the teacher forces herself to

Spanking Doesn't Cure!

Don't think children can be cured of bed-wetting by spanking them. The trouble is constitutional, the child cannot help it. I will send **FREE** to any mother my successful home treatment, with full instructions. If your children trouble you in this way, send no money, but write me to-day. My treatment is highly recommended to adults troubled with urine difficulties by day or night. Write for free trial treatment.

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make a few obviously "duty calls" upon the mothers of her "worst cases." After the nerve-exhausting hours in the schoolroom, she is not overanxious to spend the time of relaxation in the same atmosphere. But she goes.

Naturally on such an errand the position of parent and teacher is not lost sight of for an instant.

No matter how tactful she may be, the mother knows that the teacher has come to complain and this alone "raises a barrier between them and throws the mother on the defensive." The teacher departs with a sigh of undisguised relief and feels that she has done all that can be expected of her.

Where is the difficulty and what can mothers do to bring about a better understanding?

If you will stop to consider, you will realize how great a difference it makes from what angle your various children are approached. Remember that the teacher generally has anywhere from forty to sixty pupils. In her mind they classify themselves as bright, quick and intelligent or dull and stupid, with a further subdivision into orderly, mischievous and troublesome in various degrees.

What a help to that teacher if she could know that your Mary over there in the third seat, who seems to her exasperatingly slow, is really a shy, self-conscious child, needing a lot of encouragement to bring out the best of which she is capable. And what a benefit to Mary if that knowledge meant a special personal effort to develop her latent possibilities! The teacher is honestly trying to do her best, but she is too busy to find out such things by herself, and unless she happens to stumble upon the clue, Mary will have to get along as best she can.

Charles, on the other hand, is brimming with life and energy, always in mischief and absolutely irrepressible. What the teacher has failed to discover is that, though he can not be driven, a little coaxing will lead him almost anywhere. She has him firmly tagged as a source of annoyance which she is trying faithfully to subdue by sternness and severity.

Ask Miss Blank to come and see you

And yet all that misdirected energy might be turned to good account if only she held the key.

The practical result for Charles is that he will surely hate the teacher and he may come to hate school as well. He will get discouraged and disgusted, and the next thing you know he will be wanting to "drop out and go to work." And all because there was no point of contact between the boy's teacher and his home.

Now suppose that, at the end of your visit to our school that morning, you had said to the teacher: "Miss Blank, we have a good deal in common through that boy of mine. I want to know you better and I am going to try to." Suppose you had followed up this advance by a call, treating Miss Blank exactly as you would any other lady whose acquaintance you wished to cultivate.

Teachers neither wish nor expect to stand on ceremony, but certainly they are entitled to the civilities of ordinary social usage. Suppose that the calls are followed by an invitation to dinner or tea. The teacher is glad to accept, for she is really much interested in knowing you. Professionally she sees in it a definite opportunity, and personally it is a pleasure. So you meet in a friendly way, with no suggestion of patronage or condescension on either side. You enjoy each other's society and possibly have an opportunity for a confidential chat.

Beyond a question, the teacher by her very contact with your home will carry away a keener understanding of the proper way to help your particular child, and a more sympathetic attitude in dealing with him. He stands out from the crowd now.

What is more important, as mother and teacher you are at last working together upon your joint problem of training and development! After all is said, that is the real end to be gained. The teacher finds in you a valuable ally, who is willing to talk things iver and who can be depended on for advice and co-operation. And, rather to your surprise, you learn that you can go to the teacher with questions, suggestions and even protests, and be sure of a cordial reception.

A Real Friendship May Result

The main thing for you is to see that the acquaintance does not stop with the first visit, nor yet with the second. Once you have opened the way, there is no reason why it should not ripen into a real friendship, rich in possibilities for you both, as well as for the children in whom you are mutually interested.

No longer will the name of "teacher" mean to them only some one who has charge of them during school hours and hears their lessons and makes them behave properly if she can. Miss Blank will be a dearly loved friend and companion, associated in their minds just as much with mother and home and pleasure as with school and lessons and punishment.

No doubt the parent-teacher associations, where they exist, have helped in this direction to some extent. Nevertheless, the fact remains that here mother and teacher meet officially, and not at all as friends who have a common interest which they can further by personal contact and sympathy. Only in the home can such a relation grow up. The responsibility for bringing it about rests solely with the mother. The initiative must come from her, and it will come when she realizes the significasce of the opportunity within her grasp. She must make the effost no matter how troublesome it may seem; and, once made, she will be surprised at the greatness of her reward.

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HINTS FOR MOTORISTS

by ALBERT L. CLOUGH

Editor Motor Service Bureau Review of Reviews...

EMERGENCY ELECTRICAL EXPEDIMENTS

A Temporary Substitute for the Discharged Storage Battery

Not very long ago every first class car was equipped with two distinct sources of ignition current and many were fitted with two complete and entirely separate ignition systems, one of which could be used in event of the failure of the other. Since then, ignition apparatus has so improved as to reliability, that dual and double equipments are a thing of the past and, on the whole, this change is a wise one, as the chances of failure of a modern ignition system hardly warrants the extra expenditure and complication, which an auxiliary system entails. However, there s a slight feeling of lack of security resulting from the present practice. An engine can be cranked by hand, on a pinch; a car can crawl along with an inoperative horn; it can be "put to bed with the chickens," if the lights won't work and cigars can still be ignited with matches, but the charges in the cylinders can be ignited only by the elusive "juice." It is a perfect marvel and a striking testimonial to the electrical designer, that the much abused and overworked storage battery so seldom "falls down on the job," considering that it has to do the cranking, lighting (of lamps and smokables) the horn blowing, carburetor warming and driver's hand warming. Surely "many eggs" are entrusted to this little "basket" of lead junk, and it is not strange that occasionally and occasionally only it "goes flat" under the burden of its many responsibilities. When this does occur, the first consideration is to restore ignition by supplying a source of sparking current and when this is accomplished and the engine is running, the whole trouble may be ended, for the time being. A set of good, lively dry cells, usually five in number, is what is needed and fortunately they are procurable at almost any roadside auto supply station. The cells are connected as a battery by fastening one end of a short piece of bared wire to the center connection of one and its other end to the outside connection of the next cell, continuing until all cells are hitched together. This leaves the battery with a free center (carbon) connection at one end and a free outside (zinc) connection at the other and it is these points to which the wires of the car's ignition system are to be attached. Some recommend regularly carrying a set of dry cells on a car, but this is hardly necessary as they are so readily obtainable and dry cells which have been kept for a lon gtime become "extra dry" and useless.

Every owner of an electrically equipped car should take the following precaution: He should find out exactly how to connect a battery of dry cells so that they will furnish current to the ignition system, should the storage battery fail. No general rule for this can be given, as electrical systems differ so much among themselves and the ignition switch frequently performs other functions than closing the ignition circuit. The cells are always to be so connected that the current from them can flow nowhere except through the primary circuit of the ignition coil and timer and one side of the dry battery is grounded while the other is connected to the ungrounded or live connection of the ignition devices. The wiring diagram of the particular car in question should be studied and the best method of making the connection exactly determined, in detail, as to the exact points where the dry battery connections are to be attached; what wires if any are to be disconnected; where the dry battery can be carried and whether the regular ignition switch can be utilized. At the service station of the particular system used, they can tell an owner how to make the connections, if the owner cannot figure it out, but it is not safe to depend upon the ordinary garage man to determine the method in a hurry for no human being can be expected to keep in mind the details of the numerous electrical systems in use. Almost all auto electricians very

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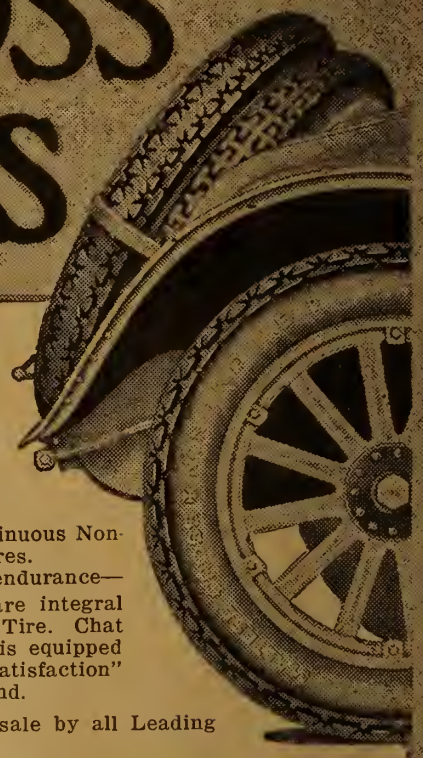

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properly depend upon diagrams of connections and, unless the diagram relating to the particular system and installation in question is available, much useless investigation is required to ascertain the correct method. A set of good, snappy dry cells will furnish ignition for many miles, if they are not needlessly exhausted by allowing the engine to stop without breaking the circuit. While the possibility is remote that the horn should fail to work, when the engine is running, dry cells will operate it and it is well to know how to connect it to the emergency source of current. Even the necessary lights can be maintained for a short period of time on the current from a dry battery, which should be a separate one from that used for ignition, but the probability of such an expediment being required is remote, the main use of emergency dry cells being to get the engine started and the generator at work.

THE CHOKER MUFFLER

Avoid the Oily Exhaust and Overrich Mixture

This defect is rare with modern cars, but if the engine is "logy" and overheats and shows greatly increased power when the muffler cut out is opened or the muffler detached, it is evidently the cause of the trouble. The motorist is usually the only one to blame for an obstructed muffler, for the clogging is due to an altogether excessive amount of oil vapor and gasoline soot having been discharged with the exhaust for a long period and this can only be the result of carelessness and neglect in the matters of carburation and lubrication—the use of inordinately rich mixtures, lack of tightness of the pistons in their cylinders and the employment of inferior oil or too much of it. If a muffler is "plugged up," power is lost because the burnt gas does not "move out" in time to allow a full charge of fresh fuel to take its place, and because the exhaust actually has to be pushed out of the cylinders by engine power. Unfortunately when muffler passages are stopped up with hard baked deposits, the only effective way of cleaning them out is to take the muffler apart, scrape the surfaces and restore passages to their normal size. Tapping the muffler shell all over with a hammer may dislodge some of the deposit and permit it to be blown out, but a perfect job cannot be done in any such easy way.

PECULIAR REAR AXLE TROUBLE

..J. D. writes: After having a new driving pinion put into my car, I took it out and before I had gone 15 miles, the car stopped, but the engine kept running. Upon investigation, I found

one axle shaft broken and the other twisted around over one-half inch. What caused this? Could the gears have been put in wrong?

Answer: We can only speculate, but it seems evident that something in the rear axle locked and that the momentum if the car, acting through the rear wheels, broke one and twisted the other axle shaft. Such a locking action might conceivably be caused by the stripping of drive gear teeth and the catching of the broken teeth in the gears, but you do not state that these gears have been damaged. If there had been any permanent locking action, the engine would not have kept on running, as you state it did and the only explanation we can offer is that the gears exerted a locking effect only long enough to cause the axle shaft injury and not long enough to stall the engine unless, of course, the transmission gears jumped out of mesh or something else let go, when the rear end trouble occurred and thus permitted the engine to keep turning over. If there was breakage of the drive gears we should sooner expect that they were defective than that there was an error in putting them in, but there is a possibility that the pinion came loose on its shaft and jammed the ring gear.

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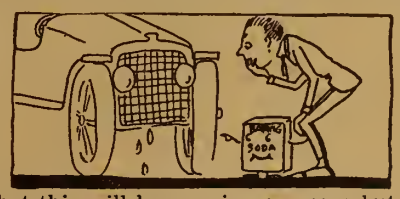
RADIATOR LEAKS AFTER CLEANING

W. S. D. writes: I cleaned out my radiator with washing soda, as I was recommended to do and several small leaks commenced, although it had been perfectly tight before. Does this mean that the soda ate through the metal and did permanent damage? What had I better do about this?

Answer: This occurrence is quite common. The soda did not harm the radiator core, but simply removed scale, which had previously closed existing defects, thus "showing them up." Very often such leaks again fill up with foreign matter contained in the watter used and it is quite likely



that this will happen in your case but, of course, the best thing to do is to have the weak spots repaired by soldering.

ENRICHING MIXTURE BY CHOKING CARBURETOR AIR

E. Q. writes: For the sake of economy, I try to run my car on as thin a mixture as possible, but I find that this reduces its hill climbing power. It is all right to keep my carburetor

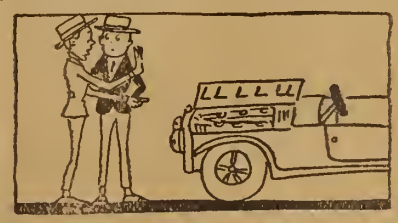
set as it is and use the "choker," when a little stronger mixture is needed, as when a hard hill is to be climbed?

Answer: There is no harm in doing this, but it can hardly give you the best results. The choker is not a sufficiently delicate means of regulating the mixture and has the disadvantage that a different degree of "choke" is required at each speed and trottle opening to produce a certain result. Very expert judgment would be required to secure the mixture proportions desired. The greatest objection, however, lies in the fact that thus choking the carburetor, while it causes enrichment, also throttles down the engine and prevents the cylinders from taking full weight charges, just at the time when maximum power is needed. Some kind of dash adjustment of the needle valve or auxiliary air is what you should have.

SPRUNG CRANK SHAFT

C. M. C. writes: After having serious bearing trouble in my engine I had a mechanic take it apart and he reports that the crank-shaft has been bent out of true. Is it practical to have this straightened?

Answer: It can often be accomplished, but it is a very "ticklish" job, requiring the services of an expert mach-



inist and a suitable screw press, with which to bend the shaft back into line again. As your shaft is no good as it is, you may as well attempt to have it straightened.

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(Continued from page 50)

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Carrots, red, long—1, David Burtt; 2, R. Smith.

Carrots, short—1, S. T. Gallagher; 2, J. Dougherty; 3, A. R. Hawkins.

Cabbage—1, H. Weade; 2, A. R. Hawkins; 3, D. Burtt.

Tomatoes, green—1, A. R. Hawkins; 2, C. Sullivan; 3, S. T. Gallagher.

Tomatoes, ripe—1, A. R. Hawkins; 2, W. Page; 3, A. T. Gallagher.

Pumpkins—1, G. F. Briggs; 2, C. P. Palmer; 3, D. Burtt.

Pumpkins, sugar—1, A. R. Hawkins; 2, C. Sullivan; 3, A. J. Lee.

Squash, marrow—1, D. Burtt.

Squash, Hubbard—1, A. J. Lee; 2, Mrs. T. A. Jones; 3, S. Niles.

Citrons—1, H. Weade; 2, D. Burtt; 3, Mrs. E. Burpee.

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Onions, stes—1, C. Sullivan; 2, S. T. Gallagher; 3, A. Downey.

Onions, Potato—1, J. Savage; 2, A. J. Lee; 3, Mrs. William Reid.

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Turnips, white—1, A. A. H. Margison.

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Turnips, Purple tops—1, D. Burtt; 2, W. A. McDonald; 3, W. Page.

Potatoes, large—1, F. Page; 2, A. R. Hawkins; 3, D. Burtt.

Cucumbers—1, Mrs. W. Reid; 2, W. Page; 3, Beecher Clark.

Mangels—1, H. Estey; 2, C. Sullivan.

Squash, large—1, C. Sullivan.

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Imperial Double High Oven Range

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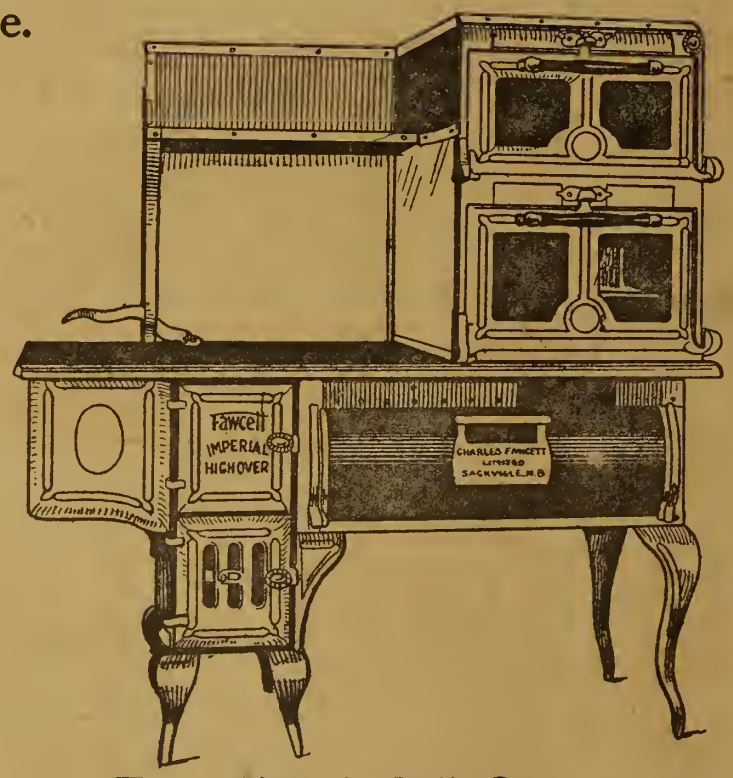

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Oats, Ligowa—1, E. Reid; 2, H. Estey.
Oats, Russian—1, G. R. Williams; 2, E. Reid.
Oats, Swede—1, A. A. H. Margison.
Oats, any variety—1, C. P. Palmer; 2, D. Burtt.
Barley—1, C. P. Palmer; 2, A. A. H. Margison; 3, A. R. Hawkins.
Barley, O. A. C. No. 21—1, A. A. H. Margison.
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Beans, Purple eye—1, C. Sullivan; 2, A. G. Gibson; 3, Mrs. W. Reid.
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Comb Honey—1, M. Weade; 2, Mrs. T. A. Jones; 3, A. R. Hawkins.
Bees Wax—1, Miller Bros.
Extracted Honey—1, Mrs. T. A. Jones; 2, A. R. Hawkins; 3, Miller Bros.
Super Bees Honey—1, H. Weade.

FRUIT

American Russet—1, G. A. Lamoreaux; 2, Harley Margison.
St. Lawrence—1, G. A. Lamoreaux; 2, R. McKay.
Crimson Beauty—1, L. R. Margison; 2, A. A. H. Margison; 3, J. Savage.
Duchess—1, G. F. Williams; 2, W. Bramley; 3, E. W. McLeary.
Yellow Transparent—1, W. Page; 2, L. R. Margison; 3, H. Weade.
Dudley Winters—1, L. R. Margison; 2, A. A. H. Margison; 3, E. Reid.
McIntosh Red—1, Mrs. E. Burpee; 2, E. Reid.
Alexanders—1, H. Weade; 2, C. A. Simonds; 3, Harley Margison.
Fameuse—1, G. P. Williams; 2, W. Bramley; 3, R. McKay.
Wealthy—1, A. Lister; 2, L. R. Margison; 3, H. Estey.
Peabody Greenings—1, H. Weade.
Ben Davis—1, Mrs. T. A. Jones.
Wolf River—1, J. Savage; 2, L. R. Margison; 3, A. A. H. Margison.
Baldwin, Canadian—1, P. Simonds.
Baldwin, American—1, L. R. Margison; 2, A. A. H. Margison.
Crabs, Golden—1, G. A. Lamoreaux; 2, H. Estey; 3, E. W. McLeary.
Crabs, Transparent—1, G. A. Lamoreaux; 2, L. R. Margison.
Winter Dows—1, R. Orchard.
Natural—1, J. Savage; 2, Beecher Clark.

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Cooking utensils, Graniteware, Aluminum, Enamelledware, Tin, Copper, Brass, Iron, etc. Easy to use, no tools required. ready for use in 2 minutes. Saves a pot for ⅔ a cent. 15 cents at your Dealer, or postpaid by Vol-Peek- B.Co., Box 2024, Montreal

Munroe Sweet—1, L. R. Margison; 2, A. Lister; 3, H. Weade.
Woodstock Bloom—1, H. Weade.
Sops of Wine—1, Mrs. T. A. Jones; 2, H. Weade.
Northern Golden Sweet—1, H. Weade.
Longfields—1, L. R. Margison; 2, A. A. H. Margison.
Gideons—1, L. R. Margison; 2, J. Savage; 3, A. A. H. Margison.
Golden Beauty—1, G. F. Briggs.
Milwaukee—1, G. F. Briggs.
Peerless—1, G. F. Briggs.
N. B. Seedlings—1, G. F. Briggs
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Greenings—1, Harley Margison.
Blue Damson Plum—1, Harley Margison.
Summer Harvey—, L. R. Margison; 2, A. A. H. Margison.
Crab, Martha—1, L. R. Margison.
Best Display of Preserved Fruit—1, Mrs. E. Burpee; 2, Mrs. A. Downey; 3, Mrs. A. R. Hawkins.
Best Display of Apples—1, L. R. Margison; 2, H. Weade; 3, R. McKay.
Best Display Canned Vegetables—1, Mrs. E. Burpee; 2, Mrs. T. Coleridge; 3, Mrs. Amos Downey.
Best Display of Pickles—1, Mrs. H. Estabrooks.

—its term of life depends largely upon the character of its exterior covering.

BRITISH COLUMBIA
RED CEDAR
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Are unequalled for Roofing and Siding

Maximum protection—minimum maintenance—unexcelled artistic effect—highest degree of comfort under any weather conditions.

LONGEST LIFE AT LOWEST COST

Milk is 87% Water

Your cows must have water regularly, and plenty of it—cannot produce milk without it—need four gallons of water for every five gallons of milk—cannot drink enough ice cold water to guarantee full milk yield.

THE LOGICAL WAY TO WATER YOUR MILK

is with Louden SIMPLEX water bowls—will increase your milk production 25 per cent.—will pay for themselves in six months' use.
Made for wood or steel stalls—in one piece only—no valves, springs, washers or any other contraptions to get out of order—simple self regulating galvanized tank keeps water at proper level—water always there—at proper temperature—cows drink more—bowls cannot overflow—nothing to get out of order—easy to install—no plumber needed—do it yourself—pipe wrench only needed—extremely simple.

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..... Calves .....
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My Name .....
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CHATHAM EXHIBITION PRIZE WINNERS

(Continued from page 53)

Box of prints, 10 lbs.—Mrs. J. P. Burns, 1; G. R. Ward, Bathurst, 2; W. M. Johnston, 3; Geo. J. Dickson, 4; Mrs. Ralph Searle, 5.

Fancy display—A. G. Dickson, 1; Mrs. Frank Manderson, Loggieville, 2; W. M. Johnston, 3; Mrs. Robt. Bell, town, 4; Milton Galloway, 5; Mrs. Wm. Scott, 6.

Cheese—35 lbs., J. A. Northrup, Millstream, 2 firsts; Bliss Fawcett, Killams Mills, 2 seconds; Helen McQuarrie Summerside, 2 thirds.

FIELD GRAINS

Wheat—White Fife, Harold Baldwin, 1; Henry Gordon, 3; G. E. Fisher, 4.

Red Fife—Hotel Dieu Farm, 1; G. J. Dickson, 2; Henry Gordon, 3; G. E. Fisher, 4.

White Russian—Henry Goron, 1; Ralph Searle, 2.

A. O. V. white—Geo. E. Fisher, 1.

A. O. V. Red—McIntyre Bros. Sussex, 1; Lester Loggie, Lower Napan, 2; Wm. M. Loggie, Lower Napan, 3; Geo. J. Dickson, 4.

Oats—Banner, Henry Goron, 1; G. J. Dickson, 2; Wm. Loggie, 3; Ralph Searle, 4.

Abundance—Henry Gordon, 1; Wm. Scott, 2; G. E. Fisher, 3; Hotel Dieu Farm, 4.

A. O. V. White—Henry Gordon, 1; Wm. Johnston, 2; Leslie Loggie, 3; Harold Baldwin, 4.

Oats, black—McIntyre Bros., 1.

Barley, 2 row—Wm. Main, Rexton, 1.

Beardless—G. J. Dickson, 1.

Buckwheat, rough—McIntyre Bros. 1; Ralph Searle, 2; Harold Baldwin, 3; G. J. Sproul, 1.

Flaxseed—F. E. Fisher, 1.

Field Peas—Henry Gordon, 1.

Beans, colored—G. J. Sproul, 1.

Timothy Seed—McIntyre Bros., 1; Ralph Searle, Wm. Main, 3.

Sheaf Grain.

Wheat—White, Herny Gordon, 1; Leslie Loggie, 1; Wm. Loggie, 3.

Red—Leslie Loggie, 1; Wm. Loggie, 2; Henry Gordon, 3; Ralph Searle, 4.

Oats—White, Wm. Loggie, 1; Leslie Loggie, 2; Henry Gordon, 3; Ralph Searle, 4.

Potatoes, Field Roots, etc.

Green Mountain or Delaware—Hotel Dieu Farm, 1; Wm. Scott, 2; Henry Gordon, 3; Ralph Searle, 4; F. L. Trear, 5; A. G. Dickson, 6.

Irish Cobbler—Wm. Scott, 1; G. J. Dickson, 2; McIntyre Bros., 3; Henry Goron, 4; F. L. Traer, 5; Albert Traer, 6.

White—McIntyre Bros., 1; Hotel Dieu Farm, 2; Henry Gordon, 3; G. E. Fisher, 4.

Rose—Wm. Scott, 1; Henry Gordon, 2; G. J. Dickson, 3; Leslie Loggie, 4.

Red—Alex. Godfrey, 1; G. J. Dickson, 2; Henry Gordon, 3; Albert Traer, 4.

Dark Skin—Leslie Loggie, 1; Henry Gordon, 2; G. J. Sproul, 3; F. L. Traer, 4.

Swedes—G. J. Dickson, 1; Ralph Searle, 2; Henry Gordon, 3; Wm. Scott, 4.

Turnips—G. E. Fisher, 1.

Mangels—F. L. Traer, 1; Ralph Searle, 2; G. E. Fisher, 3.

Sugar Mangels—Albert Traer, 1; R. A. Snowball, 2; Henry Gordon, 3; F. L. Traer, 4.

Carrots—Red, Albert Traer, 1; F. L. Traer, 2; Henry Gordon, 3; G. E. Fisher, 4.

Carrots, white—Hotel Dieu Farm, 1; F. L. Traer, 2; G. E. Fisher, 3.

Pumpkins—Jos. Moran, town, 1; F. L. Traer, 2; Albert Traer, 3; G. E. Fisher, 4.

Sheaf Fodder Corn—R. A. Snowball, 1; Henry Gordon, 2.

Best Collection—G. E. Fisher, 1; F L. Traer, 2; Henry Gordon, 3; D. Baldwin, 4.

FARMERS

A LARGE part of the business of this Bank is transacted with farmers, and it is our desire to assist you in every way possible—whether it be the granting of credit to enable you to operate your farm more efficiently or providing a secure place for your savings. Do not hesitate to discuss your financial problems, however small, with your banker.

THE CANADIAN BANK OF COMMERCE

HEAD OFFICE -- TORONTO

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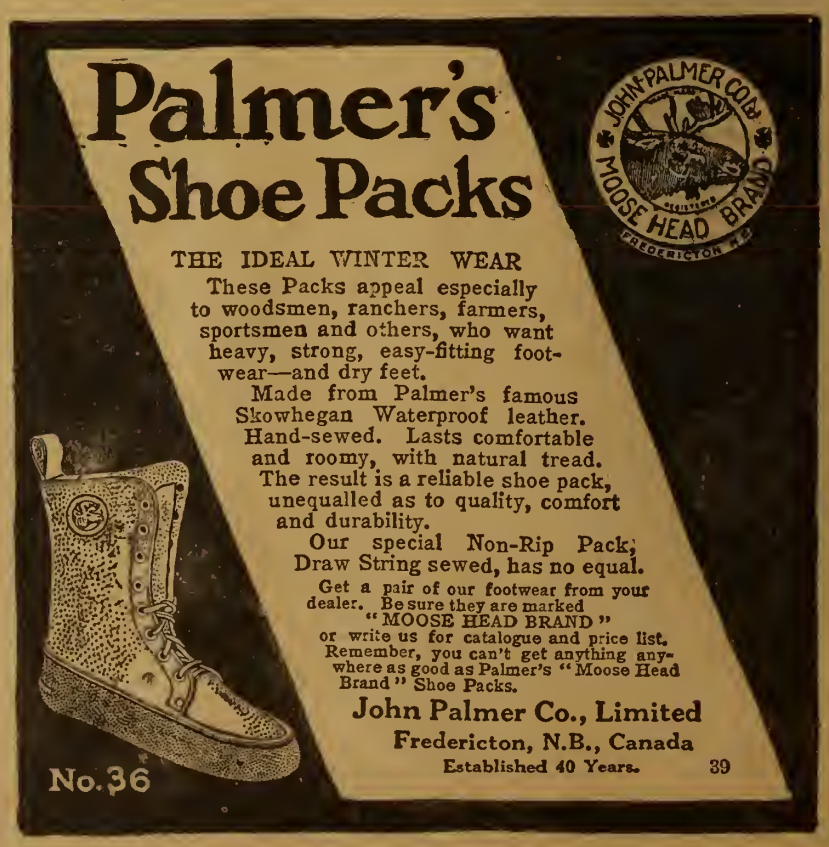
27A

It is the low producing, unprofitable cow that depresses the price in dairy products, and, in years gone by, has made dairy products relatively cheaper than other farm products. There is not only a direct loss in keeping the low producing cow but she helps to lessen the profit of the good cow by cheapening her product.

Sow no clover seed on acid soils or on a poorly prepared seed bed and expect good results. Test the soil and if acid apply lime in some form.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THE IDEAL WINTER WEAR
These Packs appeal especially to woodsmen, ranchers, farmers, sportsmen and others, who want heavy, strong, easy-fitting footwear—and dry feet.
Made from Palmer's famous Skowhegan Waterproof leather. Hand-sewed. Lasts comfortable and roomy, with natural tread. The result is a reliable shoe pack, unequalled as to quality, comfort and durability.
Our special Non-Rip Pack; Draw String sewed, has no equal.
Get a pair of our footwear from your dealer. Be sure they are marked "MOOSE HEAD BRAND" or write us for catalogue and price list. Remember, you can't get anything anywhere as good as Palmer's "Moose Head Brand" Shoe Packs.
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Established 40 Years.
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39

Brantford "Ideal" Kerosene Engines

An engine for every need. Also operated on Gas and Gasoline.

Maple Leaf Grain Grinders. 6 to 15 in.

Kerosene Light Tractors

WINDMILLS,

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Agents wanted in unrepresented territory.

GOOLD, SHAPLEY & MUIR CO., Limited

BRANTFORD, CANADA

Finishes the Job

MANY tractors that do a fair job of plowing are not suited for work on soft plowed ground and fitting the seed bed.

But plowing quickly and well done, is not the end of the Cletrac's service. Because it travels on its own track, on top of the soil, you can disc, harrow, seed, harvest with a Cletrac.

20 h.p. on the belt pulley takes care of belt work—silo-filling, sawing wood, mixing cement, chopping feed. At every season of the year you can reduce costs and increase production with a Cletrac Tank-Type Tractor.

If you want to make more money out of farming, see the Cletrac. Write for our book "Selecting Your Tractor." It's free.

I made arrangements to see what a Cletrac Tractor could do under very bad conditions. We had found it was very little use of attempting it with horses. The little caterpillar tractor arrived at the field at 10 a.m. and began operations, stopped one hour at noon for lunch and worked till 5.30. Altogether being on the land for seven and a half hours which included hitching and adjusting the plow, filling with kerosene and oil, also making detours around trees and boulders to avoid breaking the plow. It had plowed 8 acres of sod.

Yours truly,
J. H. Winters.
Manager Canadian Flax Co.

Cletrac TANK-TYPE TRACTOR

The Cleveland Tractor Co. of Canada Limited
Windsor - Ontario

Every Young Farmer in the Maritime Provinces

SHOULD WRITE TO TRURO FOR A

FREE Copy of the Calendar of Agricultural College, Truro, N. S.

The College opens Nov. 4th next. Tuition is Free

A complete course is offered in all branches of Agriculture and the related sciences as well as English, Mathematics, etc.

An ordinary school education, plus farm experience qualifies for entrance. The age of former students varies from 16 to 35.

The course lasts two years at the conclusion of which students are awarded the Associate Diploma of the College. Graduates may complete their B.S.A. course at Guelph or MacDonald Colleges. Previous graduates have from year to year stood at the head of their classes at these institutions.

For further information write

M. CUMMING, Principal,
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Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on. as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue which will always be found on the editorial page of the proceeding issle. No hlack faced type or display of any kind will be allowed under this head, thus making a small add as noticeahle as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex N. B.

FOR SALE—Pure bred registered Leicester ewes and ewe lambs. A. B. EAGLES, Box 34, Windsor, Hants Co., N. S.

FOR SALE—At a bargain two (2) Apply KEYES CO., Elmsdale, Hants Co., N. S.

FOR SALE—Pure Bred Barred Rock Cockerels from pedigreed and bred-to-lay stock. $2.50 each for delivery before November 1st.—GUS LANGELIER, Supt. Experimental Farm, Cap Rouge, Que.

SHROPSHIRE RAMS FOR SALE.—One ram, two years old; two yearling rams and a number of ram lambs. These sheep are all pure bred and have been marked two star by a government inspector.—JOSEPH T. BARNES, Sussex, N. B.

LADIES WANTED—To do plain and light sewing at home; whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING COMPAMY, Montreal.

GREAT WHITE LIGHT BURNERS—The lamp burner that doubles the light you get from your oil lamps. We bave a few dozen to offer at 18c eacb, postpaid. They are a big investment for any person using oil lamps. In large size only. —THE MARITIME FARMER, Sussex, N. B.

THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and other premises. Price $3.50 per 100 lbs. Apply by mail to "NAILS," care of Office Maritime Farmer, Sussex, N. B.

SHROPSHIRE RAMS FOR SALE—One ram two years old, two yearling rams, and a number of ram lambs. These sheep are all pure hred, and have been marked two star hy a government inspector.—JOSEPH T. BARNES, Sussex, N. B.

Meadowlands Stock Farm
GAGETOWN, N. B.

We are offering a number of choice young Shorthorn bulls from six to fifteen months old. They are a splendid lot. We have also several exceptionally good cows and heifers priced right for quick sale.

For particulars phone or write

MORRIS SCOVIL & SONS

Chester White Pigs for Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

FOR SALE !

Three Registered Dual purpose Shorthorn Bulls. One 2½ years old, one 1 year, and a six months calf. Reds and Roans. Best milking qualities behind them. Priced for immediate sale.

SHAW BROS.

Hartland, R. R. No. 3 Carleton Co., N. B.

Brown Swiss Cattle !

If it's a Bull you want I can supply you. and if it's a heifer, well, maybe I can do that too. Write for prices.

RALPH H. LIBBY

STANSTEAD, - - - QUE.

Sec. of Canadian Brown Swiss Asso.

Advertise in the Farmer

THE MARITIME WINTER FAIR

To crown this exceptionally good show year the Maritime Winter Fair returns to life at Amherst, December 15-18. The last Fair took place in 1915. Since then the buildings have been in the rands of the Militia Department. It is a pleasure to announce that they have now been returned, and in greatly improved condition, having been practically finished inside with sheathing and paper. Sufficient money has been paid by way of making good all wear and tear to enable the Fair Commission to put the whole plant in ship shape for this season's show. For the accommodation of visitors the ladies of the Amherst Hospital Aid Society are having their rooms fitted up, and will be able to cater to the public in the same satisfactory manner as in former years.

A new feature appears in this year's program—a model Dairy in daily operation, to handle the products of the cows in the Dairy competitions. The prize lists have been revised, enlarged and otherwise improved. From present indications everything points to a very successful show, with keen interest and an unusually large number of entries. It will be borne in mind, of course, that the interventing years, with their interest diverted from exhibitions, have had a tendency to reduce the number of animals kept primarily for show purposes. But if these special specimens are not so much in evidence, the great utility classes have had more attention than ever. Dairy cattle, sheep, hogs and poultry are of a higher standard in the Maritime Provinces than ever before. Prize lists and entry forms may be had from Mr. F. L. Fuller, College of Agriculture, Truro.

COLLEGE HOLSTEIN HERD STRENGTHENED

Those who have been in any way in touch with the farming activities of the N. S. Agricultural College know somethign of the magnificent Holstein herd there. They will also be interested to know that a new head for the herd has recently arrived. His name will be suggestive to any who follow the royal purple among cattle, Pontiac Keyes Raymondale. He was sired by Pontiac Korndyke Het Loo, a bull with a remarkably consistent record as a sire, and one of whose daughters recently made the world's three-year-old record for milk and butter production. She has been sold of late, by the way, for $12,500. The new College bull is therefore a half brother of this world's champion.

His dam is Trenton Keyes Hermes. She has an official recod of 24.76 lbs. of butter and 470 pounds of milk a week at two years old. An outstanding quality of the dam appears in the fact that during her last lactation period her average butter test was 4.5%, which is a very high test for a Holstein.

If Pontiac junior succeeds in transmtting to his progenuy the milk production of his ancestry, combined with the high butter fat test, he will be an invaluable acquisition to the Dairy interests of Nova Scotia. He was bred by Mr. D. Raymond, proprietor of the Queen Hotel, Montreal, on his farm at Vaudreuil, Quebec.

Old hose supporter hooks make the best of hangers for laundry-bags, slipper-bags, holders, etc. Sew one or two on each bag. The legs of old hose covered with washable material may be used for holders, and a hose-supporter hook fastened on one corner for hanging up.

Two or three tablespoons of kerosene used in the wash boiler will remove stains and help to whiten the clothes.

SUNNYSIDE STOCK FARM
Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,

Phone 111. - - - - Sussex, N. B.

HIGHLAND LAKE HOLSTEINS

Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.

We have young bulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yonge St. Radial) JEFFERSON, ONT

BELLEVUE STOCK FARM
Shorthorn Cattle and Shropshire Sheep

The early maturing and good doing sort—bred from Show stock in every cross. Offering thirty ewe lambs and shearling ewes to avoid crowding winter quarters. Also a few ram lambs not booked yet.

C. A. ARCHIBALD, Bellevue, Clifton, N. S.

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for sale calves of both sexes, sired by Dutchland Pieterje Count, a bull of splendid size and type, whose four nearest dams bave records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Johanna Lad, who bas 101 A. R. O. daughters, 4 over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice, come and see these calves or write for furtber particulars.

We will also book orders for young Yorkshire pigs for next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 montbs of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewbere

C. C. H. EATON, - - - CANARD, N. S.

COBEQUID FARM HOLSTEINS

We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

BULL'S CREEK FARM
R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows bave in turn been bred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter each in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a beifer calf or two. Get your orders in quick, tbey won't be bere long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

WISH-TON-WISH STOCK FARM
Breeders of Big, Smooth, Heavy Producing Holsteins

The kind that fill big pails the year through. Can sell a few good bulls fit for service and some choice Bull Calves; also some Heifers and Cows due to freshen soon. Write or 'phone for description and prices.

HARDING BROS., Proprietors, WELSFORD, New Brunswick.

FOR SALE !

Our Shorthorns are about ready for the block. Parties wishing to start a herd can do so at reasonable prices from us. If not sold for breeding purposes, will go for beef. Both sexes, all ages. Come and see them before buying.

A few very nice Berks for sale.

L. M. ANDERSON, Sackville, N. B.

A PROFITABLE BUSINESS OPENING FOR YOU

I want an energetic man, with a little time to spare, to handle a high class line of Cream Separators, in your locality. Machines fully guaranteed, prices and terms to purchasers right, and a paying business for the dealer.

Write for particulars.

W. C. ROTHWELL
General Agent
11 WATED ST. ST. JOHN, N. B.

Willow Glen Shorthorns !

Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

A. N. GRIFFIN,
New Mines - - - N. S.

COSSAR STOCK FARM
Lower Gagetown, N. B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

Orders now booked for EWE and RAM LAMBS for fall delivery, several extra good animals for sale out of Ewes clipping 10 to 12 lbs. and sired by an Imported Ram weighing about 400 lbs. with a clip of 18 lbs.

BREED LEICESTERS the Sheep with THE HEAVY FLEECE.

G. C. Cossar, Proprietor. J. Melklejohn, Agent.

GUERNSEYS !

For Sale—Registered stock. Male or female.

T. D. BLAIKIE,
Great Village, N. S.

ELMHURST FARM

Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $2.00 per 15.

R. R. BLACK, Proprietor
Oxford Junction, N. S.

Elmwood Stock Farm
OFFERS FOR SALE:

Two choice young Holstein Bulls, 15 and 19 months old, sired by Dutchland Pieterje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad, "the world's greatest bull," 101 A.R.O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

Clearing Sale of Shorthorn Cattle

Am offering for sale my herd of pure bred registered Shorthorn cattle. These cattle range in age from 7 years to 3 years, or a little less, with one bull calf two weeks old, and are all fine in type and color.

I have also exceptionally good grade cattle of various ages for sale. All will be sold at a reasonable price and offer an unusual opportunity to anyone desiring to start a herd of choice stock or to renew an old herd.

J. E. HETHERINGTON, - Codys, N. B.

Springbrook Farm Ayrshires !

Females, all ages. Also a number of bull calves ranging from one month to eight months. Sired by the prize winning bulls "Morton Mains Amanth" Imp. and "Cherry Bank Cicero."

McINTYRE BROS.
SUSSEX CORNER, - - N. B.

AYRSHIRE CATTLE. KARAKULE-ARABI SHEEP

We are offering two Ayrshire Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

For particulars and prices write

THE EASTERN KARAKULE-ARABI SHEEP CO., LTD. WINDSOR, N. S.

FOR SALE

Two yearling Gurnsey bulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

SARAH E. M. SMITH,
Woodwards Cove, Grand Manan, N. B.

Firshade Farm
Dual Purpose Shorthorns

P. R. L. FAIRWEATHER
Rothesay, N. B.

Lawndale Stock Farm
Jerseys and Shorthorns (Pure Bred)

Jersey Offerings for the Summer of 1919—

A few registered mature cows due to fresben the coming fall and winter.

Several yearlings, bred and not bred, registered and grades.

Several pure bred and grade calves, male and female.

Shorthorn Offerings for Summer of 1919—

Two yearling heifers, very thrifty.

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E. Cbaldecott, Monkham's Farm, West Merigornisb, Pictou Co,, N. S.
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John H. Hughes, Petitcodiac, N. B.
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YORKSHIRE PIGS

E. Chaldecott, Monkham's Farm, West Merigornisb, Pictou Co., N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
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Holstein-Friesian Cows

1. The Holstein-Friesian is a large vigorous cow, full of energy and abounding in vitality.
2. Her physical organization and digestive capacity are such that she is able to turn to the best advantage the roughage of the farm, converting the same into merchantable products.
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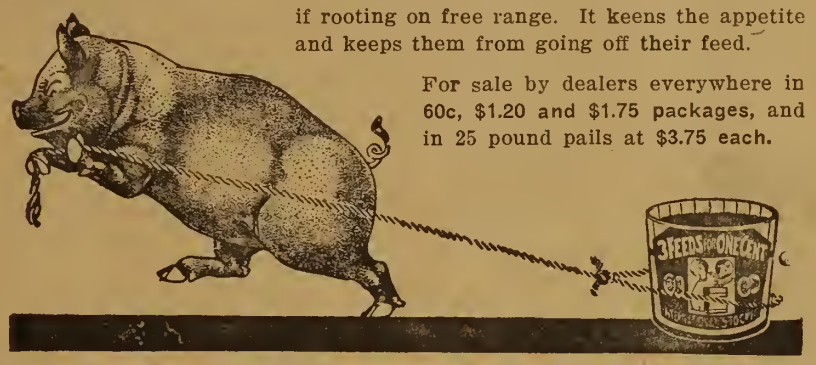

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We have an exceptionally fine litter of 13 (living) of our large Berks for sale @ $12.00, four to 6 weeks old. Ready first of June.

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Our herd bull Homestead Hengrueld Rooker is also for sale after September. These cattle are all from stock backed by official records,

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One Oxford grown Ram and a number of grade Ewe Lambs.

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We are offering males and females, all ages. Have some good cows to freshen soon. Am booking orders for ram lambs for fall delivery. Write or phone for prices and description.

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From good milking strain. All fit for service.

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We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S.

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REGISTERED TRADEMARK

Published Twice-a-month in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., NOVEMBER 11, 1919 No 3.

"Wabasso Cottons replaced with good advantage all imported lines during the war. Let Canadians buy Wabasso Cottons in preference to Imported Lines now that the war is over."

Our Principal Lines are :

Good as Gold White as Snow
WABASSO

Lawns—Nainsooks—Madapolams—
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Slips and Circular Pillow
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The Wabasso Cotton Company Ltd.
Three Rivers, Quebec

Wanted—

a man to represent in his home-territory and in his spare time, the world's largest cream separator manufacturer

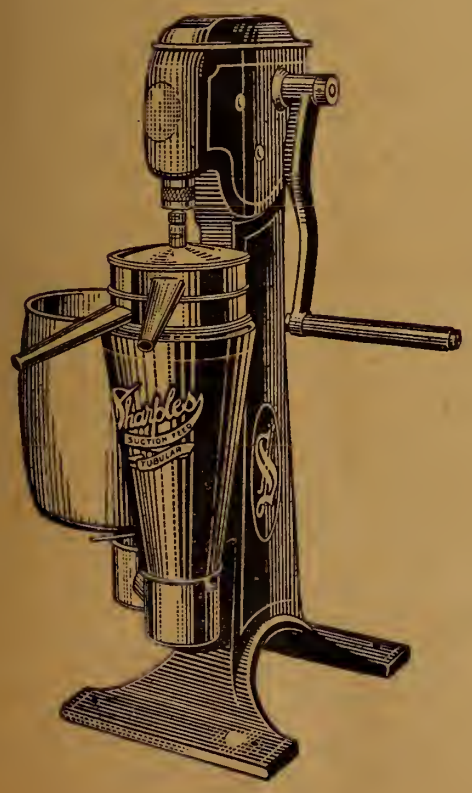
The Sharples Separator Company, the world's largest manufacturers of Cream Separators, Emulsifiers, Clarifiers, Whey Separators and Factory Separators, is about to enlarge its selling force.

The success of Sharples representatives in the territories that are now covered. insures an excellent opportunity in the new field for the right man.

The man we want is a capable successful farmer—who knows his neighbors and whose judgment is respected by them. If he is a Sharples owner so much the better.

He may devote to his work for us as much or as little of his time as he may elect. His territory will be his own.

He will find that the Sharples Suction-feed Separator has convincing and demonstrable selling points (skims clean at any speed, knee-low supply tank, no discs to wash, less than $2 a year guaranteed for oil repairs, etc.), that are not even **claimed** for any other separator.



He will find a host of Sharples users who will be glad to offer proof of Sharples' superiority in actual usage.

He will find that farmers already know of Sharples Separators through our extensive national advertising.

We want such a man in your territory. You can make this opportunity mean much to you if you will. Write today for exclusive contract and prices.

THE SHARPLES SEPARATOR COMPANY

TORONTO, Ontario

All shipments made from St. John, N. B.

P—81

Which are you going to have $45 or $82.50

IF you have $100 in the Savings Bank it will pay you 3 per cent. interest, or in fifteen years, $45.00.

IF you take that money out of the Savings Bank and invest it in Victory Bonds, Canada will pay you 5 1-2 per cent. interest on it, or in the same time, $82.50.

BUY

VICTORY BONDS

and get more interest

Issued by Canada's Victory Loan Committee in co-operation with the Minister of Finance of the Dominion of Canada.

Extra Years of Close-Skimming

THE Renfrew is the only separator in which the gearing and spindles work only during the time of actual separation. The moment you stop turning the handle all wear and tear on the running parts of the Renfrew ceases. Think of what this means to the life of the machine! If you want your separator to give you extra years of service be sure that you choose the

Renfrew
CREAM SEPARATOR

On other separators the clutch is on the crank and the parts continue working while the machine runs down. In the Renfrew the clutch is on the spindle. While the Renfrew bowl runs down the running parts are *idle*.

While the parts of other separators run, say thirty minutes a day, those of the Renfrew only run twenty minutes to do the same skimming—thus saving a third of the running time.

No wonder the Renfrew keeps on skimming close for years after other machines are ready for the scrap heap! This means that the farmer who has a Renfrew does not have to replace it with a new one for at least one-third of the time after an ordinary separator is worn out.

Every extra year of service means skimming at a lower rate of cost per year.

Another feature is the Renfrew's exclusive interchangeable capacity, by which, when your herd grows in size, you do not have to buy a bigger machine—you simply get a larger bowl and spindle. Besides, it saves you lots of money.

Remember, the Renfrew is the closest of close-skimmers. It gets 99.99% of the butter-fat, while other machines often lose up to a whole pound. Will it not pay you handsomely to have the machine that will give you the most years of close-skimming?

Write to-day for illustrated literature and name of nearest Renfrew dealer.

The Renfrew Machinery Co., Limited
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Agencies almost everywhere in Canada.
Eastern Branch, Sussex, N.B. Quebec Branch, Montreal, Que.

Other lines: Renfrew Handy two-wheel Truck Scale—Happy Farmer Tractor.

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DOMINION EDUCATIONAL BUTTER SCORING CONTEST

A representative from New Brunswick attended the Butter Graders meeting in Montreal on Oct. 22nd and 23rd when the final scores were made of the 200 odd samples of creamery butter in connection with the Education Butter scoring contest, which is being conducted under the direction of the Dairy and Cold Storage Commissioner, Ottawa. Thirty-six creameries, four from each province have taken part, each having sent in a 14 lb. box of butter monthly from May to October inclusive. These samples on arrival in Montreal are subjected to various tests, scored by three expert judges, and are re-examined each month when particular attention is paid to the flavor and keeping qualities. Each box is accompanied by a statement covering in detail the method of manufacture and noting the condition of the cream from which the butter was made . A full record of the initial and succeeding score is kept and copies thereof forwarded to all interested parties.

The object of the contest is to establish a satisfactory uniform standard for Canadian Creamery butter and to discover the method of manufacture which will produce the desired article.

From time to time butter graders and dairy instructors have been invited to attend the scoring of these samples with the result that a very wide spread and important interest has been aroused. At the meeting referred to above, representatives were present from nearly every province in Canada and were keenly interested in the examination of the samples and the accompanying reports.

The outstanding lesson learned from this conference was that many of the samples from Western Canadian Creameries were of a uniform high grade.

There were, however, sufficient exceptions to this to prove that high grade butter can be manufactured in the east as well as in the west. Some samples from N. B. had very good initial score but quickly deteriorated in quality owing largely to the quality of cream or to the lack of proper pasteurization. On the other hand the uniformly high scores from Western Canadian creameries were due very largely to an efficient system of cream and butter grading, coupled with effective pasteurization.

It is to be hoped that this contest will be continued over another season and that a scheme will be devised whereby the information resulting therefrom will be brought more directly home to the creamery men and dairymen throughout Canada.

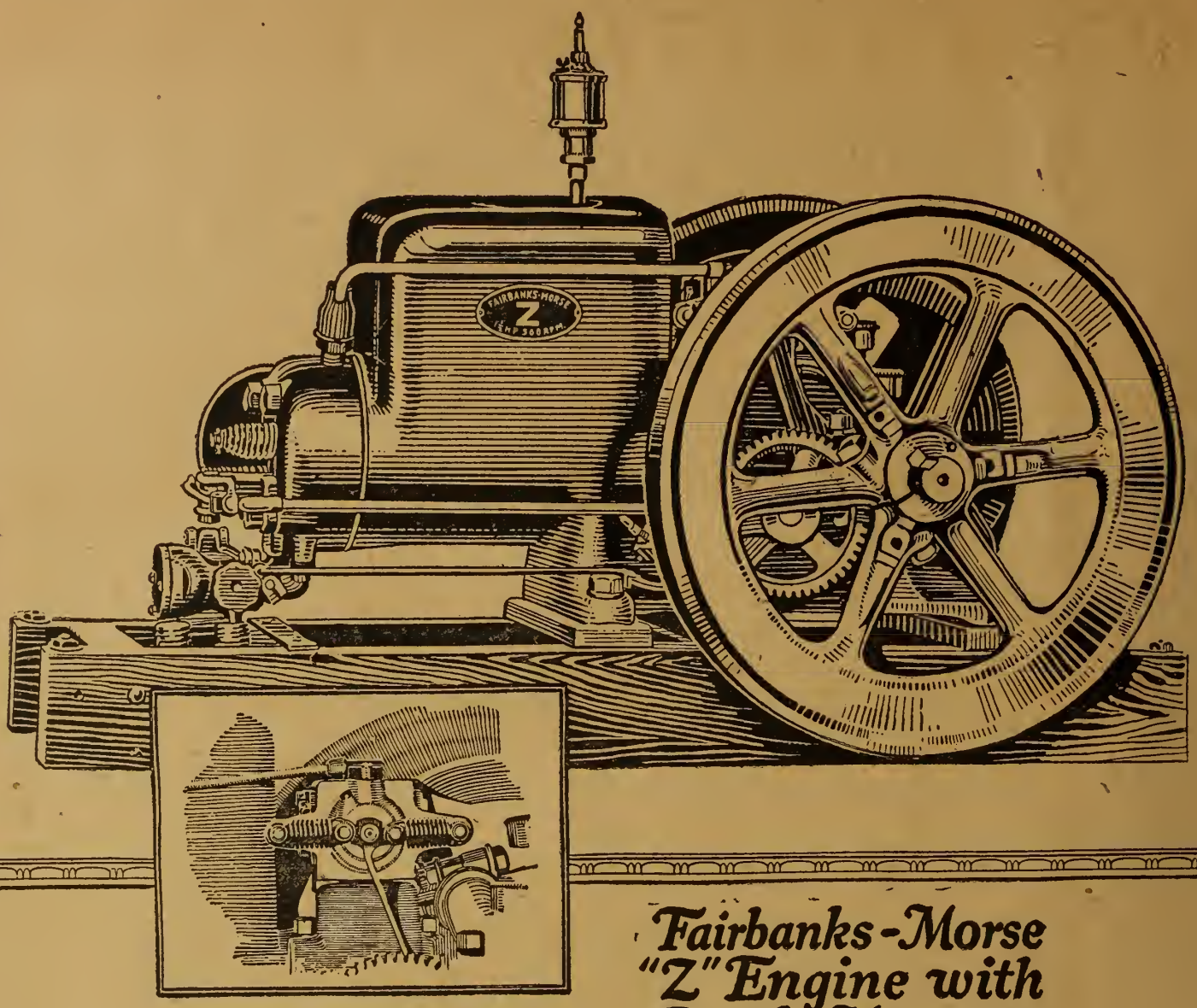
New Brunswick Creamerymen will be pleased to know that representative samples are to be selected from this contest and will be on exhibit at the Convention and Dairy Show to be held in Sussex on December 3rd and 4th, 1919. One of the official scorers will also be on hand to deal with the lessons learned from the season's work in connection with this interesting and profitable contest.

The New Brunswck Creameries entered in the contest were:

Sussex Cheese & Butter Co.
Farmers Co-operative Creamery, Moncton.
Victoria Mills.
Madawaska Creamery Co.

G. S.—I have a two-year-old heifer that freshened lately that has very little milk in the two front teats, about a teacupful in each is all I can get. Will the milk come if I continue to milk her?

Ans.—There is no better way of bringing your heifer to milk than by keeping on milking three or four times during each twenty-four hours. If this fails the only other alternative to get the most out of her is to fatten and sell her as beef . But the fact that some milk was got from them gives encouragement for you to proceed with milking, and these teats may yet develop under the manipulation.



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Fairbanks-Morse

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Volume 25. SUSSEX, NEW BRUNSWICK, NOVEMBER 11, 1919. Number 3.

Seventh Annual Convention of New Brunswick Women's Institutes

The Seventh Annual Convention of New Brunswick Womens Institutes opened Tuesday morning, Oct. 28th, in the Women's Institute Rooms, Union Street, St. John, N. B., and although the weather was very unfavorable, there being a steady downpour of rain, it was gratifying to note that this did not deter the ladies from turning out in large numbers, which was surely a good sign of the real interest felt by the women.

Miss Hazel McCain, Supervisor of Women's Institutes for New Brunswick, was in the chair, and the meeting opened by a violin solo beautifully rendered by Miss Lynch of St. John, after which she led the audience in the singing of "'O Canada."

Miss McCain then introduced His Worship Mayor Hayes, who in behalf of the city of St. John, extended a hearty welcome to all and congratulated the ladies on the new status they have attained, that of taking their places along side the men in looking after the affairs of the country.

Mrs. David Martin of St. Leonards replied very gracefully to the address of welcome. She said we are now in the period of unrest and discontent following the war, and we as a body of women are here to discuss the present and the future, our wish being to help in this time of need to adjust these present conditions. In union there is strength, "For Home and Country" is our motto and we offer the best we have in us.

His Honor Premier Foster was then called upon and welcomed the delegates most cordially to St. John, the Metropolitan city of the Province. Premier Foster told of his great interest in the work of the Women's Institutes and his pleasure as he noted the progress made by them. This was his first opportunity he said, to thank the women personally for the splendid way in which they had assisted in the greater production campaign during the war, their aid to the fathers and brothers and their teaching of the people the way to preserve and care for our food, added materially to the success of the Allies, and this fact of how the women assumed the duties and responsibilities in this great crisis, constituted a large factor in their receiving the franchise.

But there is a great work yet to be done. We have now the period of reconstruction and in that the institutes can help to a large extent.

Premier Foster reminded them that their organization stood for no class nor creed, and hoped that never would these questions be allowed to creep in. It is well to know the policies of the government asd read their criticisms, to know both sides of the questions, let every women acquaint herself with these matters, but never on any consideration discuss politics in the Women's Institutes. The scope of Women's Institutes in this reconstruction period may be enlarged to a considerable extent, there is need of the sympathy and aid of the women, that there may be more moderation in things throughout the country. There is also the Victory Loan to discharge our debts to the soldiers who so ably defended us, the Women's Institutes should use their influence for the success of this Loan.

Premier Foster closed his remarks with the earnest hope that the influence of Women's Institutes would spread as it is a power to promote a better community spirit which is greatly needed throughout the country.

We are sure that it was most gratifying to the members of the New Brunswick Women's Institutes to be personally assured of the sincere interest which Premier Foster undoubtedly has in the organization, and it is a regretable fact that through the tactlessness of one member the question of both politics and creed, later in the session, were carried into the discussion when they had Premier Foster's sound advice never under any circumstanses to allow these questions to creep in as Women's Institutes know no class, no creed.

Mrs. J. W. V. Lawlor, President of the St. John branch of Women's Institutes, then brought a hearty and sincere welcome from their local organization, after which she addressed a few words of welcome to the French speaking delegates of our province in their own tongue, thereby making it a more personal welcome, one which was much appreciated.

Miss McCain then read her report as Supervisor, of work done during the year. 21 new branches had been organized, making a total membership of 5,000 included in 132 branches. From 87 of these the sum of $14,341.30 had been received. Expenses during the year July, 1918-19 being $10,800.67.

Miss McCain told of the splendid work which they were able to do through united effort during the influenza epidemic of the short courses held in the towns of Woodstock, Edmunston, Fredericton, Newcastle, Bathurst and St. John, which were well attended and created much interest. Also of similar classes conducted by Miss Micaud in the French speaking districts of St. Quentin, Caraquet and Mt. Carmel, as large a number as 135 students being enrolled at some of these courses held.

Right here we might say that throughout the reports given by the delegates of the various sections of the province, the appreciation of the work done by Miss McCain's able assistants Miss Nutter, Miss Michaud and Miss Roach and others in the short courses and demonstrations conducted throughout the year, was very noticeable, hardly a report being read without an expression of sincere thanks for the untiring efforts of these capable young women.

Miss McCain referred to the address on Milk given at the Conventios of last year by Prof. Frank Hearn, and as a result of the interest awakened by that address, demonstrations were conducted during the summer months, teaching the composition and food value of milk, and that now a Bulletin on milk, prepared by the Dept., was ready for the Press, and would soon be available. Also a very comprehensive one on the preservation of food, including the canning, preserving, drying, storing, etc., of fruits and vegetables.

Miss McCain then told of the conference held in Winnipeg on February last, which resulted in the Federation of Women's Institutes, and the drawing up of the constitution. One greatly appreciated clause of that constitution being the one which provides that all provinces shall have equal representation. The first Dominion Convention to be held in Toronto early in November, Mrs. Alfred Watt and Mrs. Tyrel Godman from Great Britain, to be at that convention, and it is hoped that in the near future that this great Federation may be a National instead of Dominion one, an organization whose influence my be a power for giod hroughout the whole world.

Miss McCain's report was followed by the Roll Call and appointment of Resolution and Credential Committees, these committees being appointed by the chair.

Miss McCain read a letter from His Honor Lieutenant-Governor Pugsley, expressing regret at his inability to be present at this the opening session.

A message was then read from Her Excellency the Duchess of Devonshire, patroness of the Dominion Organization of Women's Institutes, conveying her best wishes for a successful convention. After which the meeting adjourned.

Tuesday, 2.00 p. m.

In the absence of Mrs. H. W. Reid, of Stonehaven, who was to have occupied the chair, Miss McCain again presided.

Reports of Institutes were called for in alphabetical order. These reports throughout the session, were given in a bright concise manner by the delegates, a manner that clearly demonstrated the helpfulness of Women's Institutes in developing the executive ability of her women.

These reports throughout showed a wonderful growth of a healthy community spirit, which was highly commendable, several of the Institutes working for a Community Hall, a number improving the sanitary conditions of their school houses, some improving the appearance of the cemetaries of their community, erecting fences around them, etc., two or three having purchased fire equipment for their districts, others working for their hospitals, some buying pianos for their halls, thereby making their meetings more interesting, all showing the real community welfare odne by the Women's Institutes of this province.

A tremendous amount of war work had been done during the closing months of the year, one institute alone having knit iver 1,000 pairs of socks. Many of the reports showed original and clever ways of raising money for the carrying on of their work.

After a few of the reports had been given, Mrs. J. W. V. Lawlor gave a short talk on "Flax Industry in New Brunswick." Mrs. Lawlor, in the bright, interesting manner in which she always presents her subject, told of the flax industry so well known in the Western Provinces, and showed what might be done in New Brunswick along that line as well. In the past flax was grown and used in this province, but gradually, machinery being introduced this industry was pushed out of business except in a few of the French districts, notably in the Caraquet shore, where the women still raise and spin their flax.

With the price of linen soaring there is no reason why there should not be more of this industry. The seed is provided by the Department of Agriculture, and the raising of it being attended with no great labor, being raised much as hay is raised. Mrs. Lawlor then told of the methods of raising, breaking, combing and spinning of the flax and exhibited some beautiful work made by one of the French women of the Caraquet shore, which showed what might be done by the women of New Brunswick if they were to revive this industry.

Miss Louise Anderson of St. John, accompanied by Miss Agnes Anderson, then rendered the Rosary in a most feeling manner, and received hearty applause.

Mrs. Jean Muldrew of Ottawa, who is no stranger to New Brunswick audiences, next addressed the meeting on "Rehabilitation into Civilian Life"

Mrs. Muldrew touched on the great work done during the war and paid a warm tribute to St. John for the work done for the returning men entering their port. But after the welcome what then? All are interested in bringing back conditions as they were before the war, and bettering those conditions. Trouble has already arisen by not being able to quickly enough re-establish these men and jobs for these men, is not only a national and a municipal business but an individual business as well.

Because of work we succeeded in delegating a common enemy and work must solve this present problem.

Because of War we have 10,000 widows, 17,000 fatherless children and 1,788 orphans in our Dominion, they should be cared for by the women who were protected by these men. Child

crime was prevalent during the war. The mothers must be helped with these children, or we may have our institutions filled with criminals in the years to come. As yet the G. W. V. A. are to the most extent caring for these cases, but is it fair that these men who have protected us should come back and have this added burden on their shoulders?

Mrs. Muldrew then explained the work of the Soldiers Civil Reestablishment Board and the Soldiers Settlement Board, the first aiding the disabled soldiers and second putting those desirous on the land. They had met with a splendid response in this work from the Western farmers. This problem being so closely related to the Home, a Home Branch was established with Mrs. Muldrew in charge, and she was now largely working through the various organizations, such as Women's Institutes, Daughters of the Empire, etc., making the appeal for help in the shape of warm clothing, stockings, etc., for the children and wives of these soldiers again trying to re-establish themselves.

We have so many British women with us now, here lonely and friendless, some are good, some indifferent, just as the varied collection of men that were sent over to their country, but in the most part they are a distinct asset, but need encouragement.

The unrest in Canada is largely due to idleness. We can see the glory, but we are too near the War to measure the permanent results. We have not only to heal the wounds of the war, but pay the bill also. France paid her debt to Germany in the past by the Thrift, Industry and Frugality of her women. Thrift, Industry and Frugality, these words must be held high. Waste is increasing 75 per cent since the war, this does not look like thrift. There is a great wave of laziness in Canada. It is the struggle that counts in life. The spirit "I don't want Johnnie to work as hard as his father" never does any good. All must work. And then education—education and industry are closely related. Ignorance is a liability, education an asset. To have a voice in this federation and we need more education and we must to have the franchise is opportune, but see that our educational laws are observed.

After a few more words in reference to the Soldiers Reestablishment Board, showing what is being done for the disabled soldier by the Canadian Government, and advising the Institute members to acquaint themselves with this great work and to always remember that the chastisement of our place was upon them and by their stripes we were healed. This concluded Mrs. Muldrew's address.

Miss Valde Fenton of St. John then delighted the audience with two charmingly rendered solos, after which the names of the committees on Credentials and Resolutions were read being as follows:

Credentials:

Mrs. Frank Moore, Moore's Mills;
South Tetegouche;
[illegible]ge, Upper Sackville;
Mrs. Frank Plummer, Hartland;
Mrs. David Martin, St. Leonards;
Mrs. H. Lawrence, St. John.

Resolutions

Mrs. Paul Doyle, Jacquet River;
Mrs. LeBlanc, Buctouche;
Mrs. Robert Thompson, Chance Harbor;
Mrs. Geo. Reid, Glassville;
Mrs. Jamer, Andover;
Mrs. Lawlor, St. John.

The afternoon session closed with a demonstration of the work done by the soldiers of the city hospitals under the instruction of Miss Jean Smith and Miss Eileen Keefe. Miss Smith gave an interesting explanation of the small portable looms which are used by the men. A display of beautiful work done by the soldiers was exhibited on side tables, which found many purchasers. The soldiers in charge of the demonstration were Mr. Joseph, at the loom. Mr. Young, bead work and Mr. Jeffries raffia weaving.

Meeting adjourned.

Tuesday, 8 P. M.

Meeting opened with Mrs. Chas. Comber of Woodstock in the chair. After a musical selection by the ladies orchestra, composed of the Misses Lynch and Hogen, Mrs. Comber called on Miss Helen McDougall, Supervisor of Women's Institutes of Nova Scotia, to address the meeting on "The Federated Women's Institutes of Canada."

Miss McDougall told of her recent appointment in Nova Scotia, for although a Nova Scotian she had been for some time employed by the Government of Manitoba as Supt. of Home Economics. She spoke of the growth of the Women's Institutes, how at first a handful of women would gather to discuss the homely every day questions, but how that few had grown until in a very few weeks now it would in all probability be international. She told of the object of the Federaton and of the thought and care exercised in the drawing up of the constitution and of the benefits to be derived from concentrated and united effort.

The West needs the East, the East needs the West, the spirit of adventure of the great West and the staunch steady spirit of the East, being a good combination, a solardity of women.

Miss McDougall spoke of the home building, the material, and then the spiritual and mental side pertaining to it.

Lloyd George has said: "The wealth of a nation is dependent on the health and purity of its men, women and children.

Home making is a national question, the progress and wealth of the country depend on what our homes are. We need a revision of thought in a great many lines in regard to home, it has been proved that even in our choice of food our lives are affected not only physically but morally.

Miss McDougall dwelt on the splendid spirit which prevailed at the Federation in Winnipeg, the sinking of personal opinions for the sake of the greater good. We have the franchise, now we must realize that citizenship is a duty and the responsibility should not be shirked.

Miss McDougall was listened to with great interest and by her charm of manner won the hearty approval of those present. Nova Scotit is to be congratulated on her good fortune in securing the services of Miss McDougall.

Miss Kathryn Gallivan of St. John then sang two pleasing selections, followed by two very much appreciated readings by Mrs. A. W. Wilson, St. John.

Mrs. F. T. Godman of Sussex, Eng., then addressed the meeting on Women's Institutes in Great Britain.

Mrs. Godman in a simple, pleasing manner told of the organization of Women's Institutes in England, Wales and Scotland. Mrs. Alfred Watt being the originator of this movement. She told of the difficulties met with at first, the general attitude being that it was splendid for Canada, but impossible for England. Then finally the starting of one in Amstye and again in Sussex, Eng., until now the Institutes throughout England and Wales number over 2,000, all instituted since 1914. The great difficulty at first was to find capable women for organizing but finally Mrs. Watt conceived the idea of Women Institute Training Schools, educating those who wished to take up the work. Then there was the difficulty of getting the different classes in England to mix harmoniously, teaching the poorer women "not to be chilled by the rustle of silks of their aristocratic sisters." But now the women love the Women's Institutes and schools are held in almost every County. The poorer women being of great assistance, spreading the knowledge of housecraft, which before was only practiced in their homes, reviving many industries and developing new ones, many of which were found to be successful and remunerative. A great feature was the making of dolls and toy making. They also took up basket making, banner making, gloves from the skins of rabbits, besides all kinds of beautiful needle work, including lace making, conducted economy demonstrations and by plays and entertainments kept the interest of the young.

Mrs. Godman said that Canadian Institutes had unconsciously helped the women of England, for which they are more than grateful, and said in closing that she hoped earnestly for the Federation of the Institutes of England, Canada and United States.

Greetings were then brought from the Young Women's Patriotic Association of St. John, by Miss Alice Fairweather.

Miss McCain then read a letter from Lady Tilley, conveying greetings from the Red Cross Society and thanking them for all the aid given to the Red Cross in the days of War.

She also read a communication from Miss M. Harrison, sending warm greetings and good wishes from the Canadian Club.

Miss McCain then extended an invitation to the delegates and visitors on behalf of Mrs. Foster, wife of the Premier of New Brunswick, to a luncheon to be given for their pleasure at the Manor House the next day.

Miss McCain expressed thanks to Miss McDougall and Mrs. Godman for their splendid addresses, after which Mrs. Godman invited the ladies to a closer inspection of the handicraft which she had displayed on tables, work that had all been done by the girls and women of the British Institutes, and which reflected great credit in skill and ingenuity.

Meeting adjourned.

Wednesday, 10 a. m.

Meeting opened by Miss Annie Smith, Hoyt Station. The morning being bright and clear there was a splendid attendance of delegates, also many visitors from throughout the city.

Reports of Institutes were continued from the previous day.

Report of New Brunswick Representatives of Federated Women's Institute Standing Committees.

Miss Stewart then told of the splenthe report on "Child Welfare."

She spoke of her early experience in this work in Scotland, before coming to Canada, and how much had been accomplished through perservering effort, notably the obtaining of child labor law, the inspection of dairies and farm yards, and the fixing of a higher standard for milk. The teaching of the mothers the ordinary rules of hygiene, etc., that should be observed in the home, and a better knowledge of how to take care of their babies.

Miss tSewart then told of the splendid work accomplished in Halifax and Fredericton during the influenza epidemic, and urged the need of district and school nursing, and the protection from disease and evil influence which is the right of every child. There are too many children that know more about the "movies" than they do about the use of a tooth brush. It is the duty of the state to see its children are protected and helped to become better citizens.

Mrs. Chas. Comben, Woodstock gave the report of the committee on Education. She said their policy was not outlined yet, but something definite would soon be settled on. Mrs. Comben told of the Vocational School opened this week in the town of Woodstock, where the girls of the community are to be instructed in dressmaking and millinery; this came through the efforts of the Women's Institutes. Mrs. Comben suggested many ways in which the Institutes could help the schools of the rural districts, such as installing a circulating library, and in choosing books and magazines for this library, not to forget those which would interest the boy as well as the girls. For instance, the Popular Mechanic Magazine, which is both interesting and instructive for the boys.

Then the Insttutes might develop greater taste for nature amang the young through "hikes" in the country, accompanied by some one who would be able to bring the practical side of this before them.

Also the teaching of music in the schools, should receive more attention; the Institutes could help materially along this line and also in placing a little equipment in the rural districts which would make Domestic Science possible in their schools.

Mrs. Comben went on to cite many ways in which the Institute may be of incalculable help in improving sanitary conditions of the school rooms, through school gardens, hot lunches for the younger pupils and in reference to the latter, read a letter from Mr. Putman, educational representative in Ontario, telling how the scheme was developing there and also how well it was working out in some American cities where it has been in force for some time.

Mrs. Osman of Hillsboro, then gave the report of the Committee on Legislation.

Mrs. Osman spoke of the honor confered on the women by the Legislature, an honor to them and to the men who gave it. She said it was now the duty of the women to acquaint themselves with the laws, especially those pertaining to Women's Property, Street laws and the Child Labor law, and advised that the test when any question arises on which the women should vote, would be, is it good for my neighbor or will he suffer by it, and then seeing that these laws were enforced. It is not the laws enacted that make a good country, but the observation of these laws.

Report of the Immigration Committee was given by Mrs. H. Lawrence of St. John. She told of 10,000 immigrant women passing through the port of St. John during the past year, and of the great work to be done for them, many of them being a distinct asset to the country, although there is a diversity of opinion in regard to the Immigration question, some claiming it should be suspended throughout Canada for a period of two or three years, others that no matter what present cinditions are we cannot afford to stand still. But there is work to be done and the Women's Institutes hope to be able to render much assistance along this line.

The reports from the different committees of the Federated Women's Institutes being finished, Mrs. J. W. V. Lawlor then took the chair and gave a demonstration of a Model Institute meeting. It was regretted that this had to be carried through in a hurried manner owing to the lateness of the hour.

Perhaps the most interesting address of the convention was that on "Mother's Pensions", given by Mrs. Rose Henderson, Montreal, for that appealed to all. Mrs. Henderson is a gifted speaker and held the undivided attention of her audience from start to finish as she brought forth this great need of protection for the mothers. She told of how the state separated the mother and the children, the children placed in institutions, which though good of their kind, can never give a benefit of home life so essential to the proper upbringing of the child, the mother left on her own resources, often heart broken from the separation from her children.

Mrs. Henderson very graphically told of many pathetic cases coming to her personal knowledge of widows left without any visible means of support, and the grief and despair of those mothers when obliged to give up their children to the state.

Mrs. Henderson left no doubt in the minds of her hearers as to the justice and real necessity of Mother's Pensions, besides pointing out the economic side for the state and a happier,

(Continued on page 104)

Gleanings from the Nova Scotia Agricultural College

ANNUAL CONVENTION OF WOMEN'S INSTITUTES

The Women's Annual Convention held at Truro in the science building of the Agricultural College, Oct. 22-23, was an exceedingly successful one. A very encouraging feature brought out in the reports was that although the Institutes were without a superintendent for the greater part of last year yet the new Suprintendnt found 80% of thm carrying on and doing excellent work.

The Convention program struck a high level at the beginning and maintained it throughout. It may seem invidious to mention names, but the key note was sounded by Mrs. E. M. Murray, of Halifax, perhaps more clearly than by any other speaker. Most of the speakers had been assigned lines of interest which were really more detailed branches of her main thesis:—The responsibility of one citizen for the well-being of another. Around this might be grouped the very interesting papers and discussions on th ecommon school, child welfare, the care of the feeble minded, the excellent course on Home Nursing and the various excursions into Home Economics in the stricter sense.

A glance over the personel of the convention indicated the high aims of this "For Home and Country" organization. The Women's Institute is attracting to itself many of the strongest and best personalities among our provincial women, as it has done elsewhere. It may not be common knowledge that two Canadian women, Mrs. Watt and Mrs. Godman, organized 4,000 Women's Institutes in England, Scotland and Wales during the war. Her Majesty the Queen is President of the Sandringham Institute, and the work already done by these, not only in the great war activities, but also in creating civic conscience and idealism, fostering handicraft and binding the Old Country more clasely to her far away children, is little short of marvellous.

The wider interests awakened during the war are being conserved by such organization as this. Much remains to be done of types of work which call for those traits of character with which women are particularly endowed.

The convention at Truro left a feeling of optimism in the mind of every delegate, and it is expected that great strides forward will follow. Plans have alredy been made for extending the work into every part of the Province. It is easily possible that some districts may have been overlooked where an Institute is desired. A letter addressed to Miss Helen Macdougall, Truro, is the first logical step toward organization.

AGRICULTURAL FILMS

The Nova Scotia Department of Agriculture has joined hands with the management of the D. A. R. to produce and exhibit moving pictures of all kinds of agricultural operations. These will shortly be available for any school house or public meeting in the Province.

A new film machine recently put on the market by the Pathescoje Co. of Canada, is especially suitable for this work, and has been adopted. For the current winter the Department, or, in the locality which it traverses, the D. A. R. will be in a position to send machines with operators into any community of the Province. These will be able to exhibit many of the most recent methods in agriculture.

Next summer an expert will be placed in the Province, who will take films of various operations as they are performed in the Province itself. This will give great additional interest and value to this class of work. Fuller announcement will follow. While the Department will plan to exhibit these pictures as a great many centers, yet special efforts will be made to reach thos which communicate their wish early.

POTATO GROWING CONTEST

The Department of Agriculture has associated itself with the D. A .R. in an effort to devote more attention to mixed farming in the western part of the Province. Preliminary to some other measures which will shortly be announced, a potato growing contest is being arranged. Cash prizes will be given, and the district to which the scheme will apply lies between a line west of the town of Annapolis to and including the municipality of Yarmouth.

For the purpose of this contest prizes will be given for the best acre of potatoes with but one condition, that every prize winning field must be sprayed with Bordeaux mixture, or dusted with an approved dust, to prevent rot, not less than four times during the season.

The main object of the contest is to secure the more general adoption among all farmers of the practice of spraying to prevent blight and rot, and also to increase the yield. Those who have tried it know that the tops of pottatoes sprayed remain green several weeks longer in the fall, and in a reasonably good field, for every additional day the leaves remain green, the yield increases approximately five bushels per acre. Fuller announcement of this contest and of detals will appear in our columns at a later date, but, in the meantime, parties who are interested should write the Department of Agriculture at Truro, or the Freight Department, D. A. R., Halifax.

Nova Scotia Egg Laying Contest

Entries for first event of its kind in the Province are numerous. Particulars will be published monthly in the Maritime Farmer.

The First Nova Scotia Annual Egg Laying Contest has been inaugurated at the Agricultural College and consists of 30 pens of fowls chiefly pullets. This contest begins on Saturday, November 1st, and continues until September 30th, 1920. Each entry consists of five birds, hens or pullets, male birds are excluded in this contest. Nearly all the pens with the exception of two are pullets. The houses have been erected at the East end of the Poultry Department on a plot of freshly seeded ground and contains four trap nests in each pen. Also a dry feed hopper, grit shell box, a record file, a hopper for hard grain and a small wooden feed trough. The results of the contest will be published weekly, giving the number of eggs produced by each hen in each pen. A systematic record of the quantity of feed will be kept in order that at the close of the contest an accurate estimate of the cost of producing the eggs will be made.

To learn how to increase the yield is the real purpose of this contest. It will also show vigor and vitality in the different flocks represented in the contest. The average production of the hens in Nova Scotia according to the last census is about 80 eggs per hen. This perhaps does not, at the present price of feed, any more than maintain the fowl for a year. An increase of 10 to 15 eggs per hen for the 1st, selection, 2nd from breeds the most productive layers and 3rd from proper feeding of formulas worked out through long experience so as to produce eggs and 4th from proper housing with due regard to cleanliness, fresh air, and pure water would result in an immense economical gain to the farmers and poultrymen of the Province of Nova Scotia.

The interest in the entries as received has become very keen and a number of breeders who have entered their pen are staking their reputation upon their pen coming out of the contest at the head of the list. The following is a list of entries and Breeders represented in this First Annual Contest. These contest pens are not open to the public, but may be visited from outside of the pens by those who are interested. Weekly reports will appear giving full details, and information can be obtained from the Manager of the Poultry Department Agricultural College relative to one or any of the pens in the contest.

List of entries of the First Nova Scotia Egg Laying Contest with Breed and Variety:

Pen No. 1—E. C. Griffin, Port Williams, N. S. Rhode Island White pullets.

No. 2.—John R. McDonald, Box 844, Glace Bay, C. B. S. C. White Leghorn pullets.

No. 3.—John R. McMullen, Truro, N. S., Barred Plymouth Rock pullets.

No. 4.—Wm. A. Reynolds, No. 3 Edinburgh St., Halifax, N. S. White Wyandotte pullets.

No. 5.—J. W. Williams, Wolfville, N. S. White Wyandotte pullets.

No. 6.—Robert M. Reid, New Glasgow, N. S. White Wyandotte pullets.

No. 7.—Dr. H. W. Cain, Falmouth, N .S. Rhode Island Red pullets.

No. 8.—Wm. Beazley, 17 Seaforth St., Halifax, N. S. Buff Wyandottes.

No. 9—J. Everett Spencer, Mira Gut N. S. S. C. White Leghorn pullets.

No. 10.—Evangeline Poultry Yards, Wolville, N. S. White Wyandotte pullets.

11.—W. W. Osborne, New Glasgow, N. S. S. C. Buff Leghorn pullets.

12.—E. C. Griffin, Port Wililams, N. S. Rhode Island Red pullets.

13.—F. E. Jackson, North Sydney, N. S. Barred Plymouth Rock pullets.

14.—James McIntyre, Dominion No. 4, C. B. S. C. Leghorn pullets.

15.—W. J. McKinnon, Truro, N. S. Ancona pullets.

16.—Duncan Frased, Antigonish, N. S. Barred Plymouth Rock pullets.

17.—C. F. Gallant, Caledonia Mines, C. B. White Wyandotte pullets.

18.—Nat Doherty, Franklyn St., Halifax, N. S. Barred P. Rock pullets.

19.— Miss Helen King, Box 765, Halifax, N. S. Buff Orpington pullets.

20.—Mrs. Jos. Milligan, Kings Head, Pictout Co. White Wyandotte pullets.

21.—Messrs. Parry & Sim, Billtown, N. S. S. C. Brown Leghorns.

22.—Edison E. Eagles, Box 34 Windsor, N. S. White Leghorn hens.
S. C. Ancona pullets.

24.—A. A. Sutherland, Westville, N. S. Rhode Island Red pullets.

25.—C. B. McMullen, Truro, N. S. S. C .Rhode Island Red pullets.

26.—William Guy, Glace Bay, C. B. R. C. Brown Leghorn pullets.

27.—John Retson, Truro, N. S. Rhode Island Red pullets.

28.—W. H. Henry, Shubenacadie, N. S. Rhode Island Red pullets.

29.—Robert H. Evans, Box 192, Trenton, N. S. S. C. White Leghorn pullets.

30.—W. A. Warren, Bridgetown, N. S. Barred Plymouth Rock pullets.

In summarizing the above there are six pens of White Wyandottes, six pens of Rhode Island Reds, five pens of White Leghorns, five pens of Barred Plymouth Rocks, two pens of Anconas, one Rhode Island White., one Buff Wyandottes, one Buff Leghorns, one of Buff Orpingtons and one Single Combed Brown Leghorn and one Rose Combed Brown Leghorn.

CANADIAN NATIONAL RAILWAYS WILL JOIN CAMPAIGN

TO BOOST THE VICTORY LOAN.

Energetic Campaign to be Carried on Over All Parts of the Government System—Every Employee a Bondholder

"Every Employee a Bondholder in the 1919 Victory Loan."

This is the keynote of the Campaign that is being carried on over the entrie system of the Canadian National Railways to further the Bond Issue.

From the Atlantic to the Pacific the employees of the great system of railways under Government control and operation are being urged to join in the movement to boost the Victory Loan and to invest their savings so that Canada may be enabled to carry on the stupendous task of reconstruction—and make payment of her Debts of Honor.

The Railway employees are being asked to join with all true Canadians in the great effort to restore Canada commercially, to help her keep her factories busy and her farms productive.

The proceeds of this Loan will be spent in Canada for capital outlay in ship building and in purchase of rolling stock and steel rails for our railways. It will be used to establish the credits whereby European Nations hungering for our products may be supplied, thus stimulating our export trade, and giving empolymnet to countless thousands. Canada asks her people to lend—not to give their money. The Victory Bonds bear interest at 5½ per cent. and no better investment for savings could possibly be found.

The Railway has again arranged with its Bankers to finance the subscriptions of employees on the extended payment plan based on pay roll deductions of ten (10) per cent monthly.

The Management of the Canadian National Railways has addressed an appeal to all employees asking their co-opeartion, and the Railway organization is being completed to carry on the campaign in every section of the Railway system.

THE MARITIME FARMER

And Co-operative Dairyman
Registered Trade Mark

Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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DATES OF ISSUE

November - - - - - -	11—25
December (Xmas) - - - -	9—23

NOVEMBER 11, 1919

THE DRIVE FOR PURE BRED SIRES

Throughout Canada and several of the American States vigorous propaganda work is being carried on with a view to eliminating the use of grade sires from the herds and flocks of the country. The Ontario Government has already placed its veto upon the use of grade stallions within that province and while the law has only been in operation for a short time, there seems to be general satisfaction among the farmers and more particularly the horsemen, who evidently realize that any marked improvement made in the quality of our horse flesh must come through grading up. The grade stallion has also been banished from [illegible] States adjoining the border, so that the outlook for his early demise all over the land must be considered favorable.

The crusade of improvement to be undertaken next is to get rid of the grade bull, and progress in this direction promises to be far more rapid than happened in the case of the grade stallion, for back of the movement stands communnty interest, which coupled with individual effort, and both working simultaneously, is bound to result in the quick downfall of another speimen of the bovine family that has outlived his period of usefulness. And the sooner the scrub bull of either grade or inferior pure-bred breeding can be replaced the better, because to a very large extent this animal has been responsible for the low production per cow in milk, and the needlessly poor quality in beef. With thousands of cows in this country yielding anywhere from ten to twenty thousand pounds of milk per year, indicating what it is possible to attain through better breeding, it is to be regretted that the general average per cow for the whole of Canada is less than five thousand pounds a year. Such a condition of affairs is both uneconomic and unnecessary and the quickest, most direct and practical means of overcoming it, is through the use of pure-bred sires developed for a definite, useful purpose.

But once the use of the pure-bred bull becomes general throughout the country, the process of grading up both feed and dairy herds will likely be quickly accomplished, for experiments and practical experience go to show that when good sires are used most of the individuals in a grade herd resemble pure-bred animals in general appearance. Then in a few more generations, under skilful breeding, the former scrub stock is graded up to such an extent that for the production of milk and beef, they are practically as useful as pure-breds. After all, the only difference between a "high-grade" animal and a pure-bred of equal merit, lies in its value for breeding purposes. The latter only can be used in the reproduction of pure-bred breeding stock, and moreover, only pure-breds are eligible to record in the official herd-books.

The cost of desirable pure-bred sires is probably the most important obstacle to be overcome in connection with this campaign for live stock improvement, for in this as in everything else supply and demand will govern prices. But there is no reason to think that this should be an insurmountable difficulty. Co-operative ownership on the part of neighbors and farmers' clubs can be entered into and thus keeu down the expense considerably. Many of our largest and best breeders have always been joint owners of bulls, and if they can do it why not the average farmer? However, another view of the matter is that as the movement proceeds and the demand increases, there will be added stimulus to greater production of pur-bred stock of good quality, type and breeding, and this will in time have the effect of bringing prices down to a more reasonable level.

In supporting the movement we would like to see the campaign widened to take in the "scrub pure-bred" sire, because he is just as great a menace to the live stock industry as the ordinary grade bull, and as long as he is permitted to do service, we cannot expect to accomplish all that is desired. Of course, it may be hard to regulate this matter at first, but no time should be lost in working out ways and means of doing it, and in this work the breeder must play an active and important part. He is the one who stands good to get the first benefit through the sale of his surplus stock, therefore, he should be the first of all to fall in line with whatever action may be deemed advisable to take in the matter.

THE FARM AND THE BOY

The farm boy, trained to self-reliance, to the performance of regular duties and to hard labor, has a tremendous advantage in the world. He has a sound mind and a strong body. He realizes that the old farm is a pretty good place to live and the chances are ten to one that he would prefer to stay on his father's farm, if the father can make the farm pay well and plan the work so that it is interesting and progressive. It is when the farm becomes unprofitable, unprogressive, and the work hard and monotonous that the boys set their faces resolutely away from the farm, says a well known American writer.

It is a great thing when fathers take their sons into their conldence and when the sons tell their fathers all their hopes and plans, knowing that they are sure of encouragement and sympatry. This confidence between father and son is necessary before the boys can be brought to understand the problems of the farm. The wise father has a set of books, and lets the boy help keep them. In this way the boy understands the father's problems and is not slow to grasp the situation. If they have had a bad season he feels that they have made their sacrifices together and that together they will endeavor to make good the losses the next year. Such co-operation not only makes the boy's life more pleasant, but it mainttains a complete confidence and the boy respects the father the more for his toil, his sacrifices and his failures. Tell your boy more about your business and enlist his sympathies and cooperate in working out the problems of the farm.

The old theory that the old homestead should fall to the boy who had no ambition to make good elsewhere and be exploited and managed in a sort of half-hearted way has been exploded by the son himself, who has in many cases turned out much better than the members of the family who descended like moths upon the white lights of the city. In the wreckage of this old thory can be found thousands of perfectly good farmers dragging themselves through the routine of office and shop work in the city. Of course, the work they are doing is useful and necessary, but to a man who understands their prospects are not glittering. The exiled farm boy who has failed to make good in the city can testify to the truth of the above statement. The wise father is taking his son in hand, and by example is doing more to keep him on the farm than any other agency. This is a sign of wholesome progress and a rebuke to the soft-hearted gentry who look upon farmers as sociological specimens.

CARE AND CREDIT

The farmer or town property owner who keep his property in a good state of repair and painted has a higher standing with his banker and a better credit rating, than has the owner of a similar property whose premises always exhibit a slovenly appearance. This may be a new idea to a good many people, but nevertheless it is strictly true, and its correctness has been clearly proven by the answers received from a questionnaire sent to a number of bank officials.

The bankers defend their stand in two ways. In the first place they claim that a property which is well preserved, and is graced with an attractive coat of paint, actually has a higher selling value than a similar property that has received less care. From this one reason alone it is not difficult to see why the shrewd financial man considers the neatly kept property the better security for a loan.

But leaving aside the matter of actual value, there is another angle to the situation that is of no mean importance. The banker has learned—perhaps by bitter experience—that before making a loan, not only must he be sure that the applicant can give good security, but that he must size up the man as well as his backing, before saying the word as to whether or not he shall be recommended for a loan. To use the words of one of the bankers, "as a man is, so are his buildings." Tidiness is an omen of thrift, while slovenly habits are too often the trademark of a n'er-do-well.

In short then, ordliness about the farm, in addition to carrying with it no small measure of personal satisfaction, may be, in a pinch, actually capitalized and be made to take on a commercial valuation, and with this fact in mind the occassional outlay of a small sum for paint or whitewash materials, must be considered a sound investment.

* * *

"No, I'm not going to sacrifice my herd this fall. I think by careful calculating the available feed supply can be made to last until spring. If I sacrifice now and buy agains next year I would be behind instead of ahead." This was the view expressed by a farmer, who claimed to be the owner of a herd of milking shorthorne. There seems to be a good sized nugget of commonsense in this policy.

Yield and Relative Value of Some Dairy Products

TABLE III.

Showing the prices which must be obtained for cheese and butter to give the same net return for one hundred pounds of milk testing 3.5 per cent of fat, or for one pound of fat or for one pound of "fat and casein (fat + 2).

(1) Price of Cheese.	(2) Net Return for 100 Pounds Milk.	(3) Equivalent Butter. Price of	(4) Net Return for 1 Pound Fat.	(5) Net Return for 1 Pound "Fat and Casein". (Fat + 2).
cts.	$	cts.	cts.	cts.
12.00	0.91	25.75	26.00	16.54
12.25	0.93	26.25	26.57	16.90
12.50	0.95	26.75	27.14	17.27
12.75	0.98	27.25	28.00	17.81
13.00	1.00	27.75	28.57	18.18
13.25	1.02	28.25	29.14	18.54
13.50	1.05	29.00	30.00	19.09
13.75	1.07	29.50	30.57	19.45
14.00	1.09	30.00	31.15	19.81
14.25	1.12	30.75	32.00	20.36
14.50	1.14	31.25	32.57	20.72
14.75	1.16	31.75	33.14	21.09
15.00	1.19	32.25	34.00	21.63
15.25	1.21	32.75	34.57	22.00
15.50	1.23	33.25	35.14	22.36
15.75	1.26	34.00	36.00	22.90
16.00	1.28	34.50	36.57	23.27
16.25	1.30	35.00	37.14	23.63
16.50	1.33	35.75	38.00	24.18
16.75	1.35	36.25	38.57	24.54
17.00	1.37	36.75	39.14	24.90
17.25	1.40	37.25	40.00	25.45
17.50	1.42	37.75	40.57	25.81
17.75	1.44	38.25	41.14	26.18
18.00	1.47	39.00	42.00	26.72
18.25	1.49	39.50	42.57	27.09
18.50	1.51	40.00	43.14	27.45
17.75	1.53	40.50	43.71	27.81
19.00	1.56	41.25	44.57	28.36
19.25	1.58	41.75	45.14	28.72
19.50	1.60	42.25	45.71	29.09
19.75	1.63	42.75	46.57	29.63
20.00	1.65	43.25	47.14	30.00
20.25	1.67	43.75	47.71	30.36
20.50	1.70	44.50	48.57	30.90
20.75	1.72	45.00	49.14	31.27
21.00	1.74	45.50	49.71	31.63
21.25	1.77	46.25	50.57	32.18
21.50	1.79	46.50	51.14	32.54
21.75	1.81	47.00	51.71	32.90
22.00	1.84	47.75	52.57	33.45
22.25	1.86	48.25	53.14	33.81
22.50	1.88	48.75	53.71	34.18
22.75	1.91	49.50	54.57	34.72
23.00	1.93	50.00	55.14	35.09
23.25	1.95	50.50	55.71	35.45
23.50	1.98	51.25	56.57	36.00
23.75	2.00	51.50	57.14	36.36
24.00	2.02	52.00	57.71	36.72
24.25	2.05	52.75	58.57	37.27
24.50	2.07	53.25	59.14	37.63
24.75	2.09	53.75	59.71	38.00
25.00	2.12	54.50	60.57	38.54
25.25	2.14	55.00	61.14	38.90
25.50	2.16	55.50	61.71	39.27
25.75	2.19	56.25	62.57	39.81
26.00	2.21	56.75	63.14	40.18
26.25	2.23	57.00	63.71	40.54
26.50	2.26	57.75	64.57	41.09
26.75	2.28	58.25	65.14	41.45
27.00	2.30	58.75	65.71	41.81
27.25	2.33	59.50	66.57	42.36
27.50	2.35	60.00	67.14	42.72
27.75	2.37	60.50	67.71	43.09
28.00	2.40	61.25	68.57	43.63
28.25	2.42	61.75	69.14	44.00
28.50	2.44	62.00	69.71	44.36
28.75	2.47	62.75	70.57	44.90
29.00	2.49	63.25	71.14	45.27
29.25	2.51	63.75	71.71	45.63
29.50	2.54	64.50	72.57	46.18
29.75	2.56	65.00	73.14	46.54
30.00	2.58	65.50	73.71	46.90
30.25	2.61	66.25	74.57	47.45
30.50	2.63	66.75	75.14	47.81
30.75	2.65	67.00	75.71	48.18
31.00	2.68	67.75	76.57	48.72
31.25	2.70	68.25	77.14	49.09
31.50	2.72	68.75	77.71	49.45
31.75	2.75	69.50	78.57	50.00
32.00	2.77	70.00	79.14	50.36

The figures in Table III. are worked out on the following basis:—

	Cheese.	Butter.
1 pound fat produces	2.65 pounds	1.20 pounds
100 pounds 3.5 per cent milk produces	9.30 "	4.20 "
Cost of making per pound	2¼ cents	4 cents

TABLE I.

Showinb approximate yield of different products from 100 pounds of milk containing 3.5 per cent of fat and 12.5 per cent of total milk solids.

Product	Pounds.		Pounds.
Cheese	9.30	and Whey	90
Butter	4.20	and Skim milk	90
Evaporated Milk (Unsweetened	39.68		
Condensed Milk (Sweetened)	39.68*		
Milk Powder	12.75		
Cream Powder	4.77	and Skim milk Powder	7.62
Skim milk Powder	8.23	and Butter	4.20

*The yield indicated is obtained from condensing 100 pounds of milk to which a certain quantity of cane sugar (usually 17 to 19 pounds) has been added before the condensing process is started.

TABLE II.

Showing approximate yield of Canadian cheddar cheese and butter from 100 pounds of milk containing different percentages of fat.

Per Cent of Fat in Milk	Pounds of Cheese from 100 Pounds of Milk.	Pounds of Butter from 100 Pounds of Milk.
3.0	8.52	3.60
3.1	8.73	3.72
3.2	9.02	3.84
3.3	9.14	3.96
3.4	9.21	4.08
3.5	9.30	4.20
3.6	9.39	4.32
3.7	9.50	4.44
3.8	9.72	4.56
3.9	9.90	4.68
4.0	10.08	4.80

If 1000 pounds of milk testing 3.5 per cent of fat produces 9.3 pounds of cheese, which is sold at the prices indicated in column 1, with a manufacturing charge of 2¼ cents per pound of cheese deducted, and the value of the whey not taken into consideration:—

Column 2 shows the net return for 100 pounds of milk;

Column 4 shows the net return for 1 pound of fat;

Column 5 shows the net return for one pound of "fat and casein," if the proceeds are divided according to the "Fat + 2" method.

If 100 pounds of milk testing 3.5 per cent of fat produces 4.2 pounds of butter, for which a manufacturing charge of 4 cents per pound is deducted and the value of the skim milk is not taken into consideration:—

Column 3 shows the price at which the butter must be sold to realize the same net return 100 pounds of milk or per pound of fat or per pound of "fat and casein" as is shown in columns 2, 4 and 5, respectively.

If a producer knows what net price he can realize for 100 pounds of milk or for one pound of "fat and casein," as the case may be, this net return may be located in column 2 or column 5, and the same line in column 4 will indicate the net price which must be obtained for 1 pound of fat to equalize the price being obtained by either of the other two methods.

The value of the by-products (whey and skim-milk) varies, since at times it is impossible for the producer to feed all of the by-products, and since their value depends also on the probable market value of the stock to which they are fed. Consequently, the value of the by-products is not taken into consideration in Table III. Each producer may estimate the value of the by-products in his own particular case and add the estimated value of the by-products to the value of the milk as shown in this Table. Table I shows the pounds of by-products from 100 pounds of milk.—

In order to ascertain the net return of milk testing other than 3.5 per cent of fat, the net value per pound of the cheese or butter must be determined by subtracting the cost per pound of manufacturing from the selling value per pound of the product. This net price per pound, multiplied by the yield of the product per 100 pounds of milk as shown in Table II. will give the net return for 100 pounds of milk. The net return for 100 pounds of milk divided by the per cent of fat in the milk will give the net return for one pound of fat.

For example:—If milk tests 3.8 per cent of fat while cheese sells for 24½ cents per pound and the cost of manufacturing is 2¼ cents per pound, the net value to the producer of 1 pound of cheese is 24½ cents—2¼ cents= 22¼ cents. Referring to Table II, 100 pounds of milk testing 3.8 per cent of fat will produce approximately 9.72 pounds of cheese. Therefore the net return of 100 pounds of milk is 9.72 × 22¼ cents =$2.16. The net return for 1 pound of fat is determined by dividing $2.16 by 3.8, which gives 56.84 cents. The value of the same milk manufactured into butter may be determined in a similar way if the market value of butter is known. If the cost of manufacturing differs from the figures used in the table, the correct figures may be substituted.

The November 25th issue of The Maritime Farmer will contain a full report of the New Brunswick Crops Competition for 1919. A copy will be mailed to each and every prize-winner.

SOME RESULTS FROM ONE APPLICATION OF GROUND DRIED SEA WEED

(Experimental Farms Note)

When, on account of war conditions and the consequent scarcity of German potash, efforts were being made to secure potash from other sources, the Experimental Farms made a test of the use of sea-weed as a source of potash. To put this material into a portable and commercial form it had to be dried and ground. This work was done in an experimental way on the Nova Scotia coast and some of the product was sent to the Fredericton Station for test.

Both field and plot tests were made with potatoes.

In the field test an area with an application of 1,000 lbs. of a 4-10 fertilizer per acre and no seaweed gave 178 bushels per acre. A similar area with the same amount of the same fertilizer and 1500 lbs. of ground seaweed gave 230 bushels per acre. A third area with 18 tons stable manure and 750 lbs. seaweed per acre gave 242 bushels per acre, and a fourth are a with 18 tons per acre of stable manure alone gave 232 pushels per acre. Green Mountains potatoes were grown and it was noticed that the plants on the sea-weed area stood up grener later in the season than where no potash was applied.

Calculating the cost of the seaweed at $15.00 per ton, for which it was stated it could be landed at Fredericton, there was a credit of 52 bushels for the 1500 lbs. of seawed used where only commercial fertilizer was applied. As the seaweed used cost but $11.25 and the e xtra potatoes were worth at least $1.00 per bushel, this test showed a splendid profit from the use of the seaweed.

When stable manure was used however the increas of only ten bushels per acre for 750 lbs. of seaweed showed only a profit of $4.38, indicating that the potash in the stable manure supplied the needs of the crop to a considerable extent, and emphasizing the value of stable manure for the potato crop as against a non-potash commercial fertilizer. The following year on the oat crop there was no practical difference as between the diffrent applications—nor was any difference noticeable in the succeding clover crop.

In the plot tests of one-tenth acre each with Empire State potatoes, seaweed at the rate of 1,000 lbs. per acre gave a yield of 255 bushels per acre and at the rate of 2,000 lbs. per acre 257 bushels per acre. The succeeding wheat crop was so badly diseased with Glume spot that the yield was almost negligible and not at all to be relied upon for a satisfactory test. Seaweed at the rate of 1,000 lbs. per acre gave 9 bushels and 20 lbs. per acre, at the rate of 2,000 lbs., 7 bushels and 40 pounds, while the check plot gave 5 bushels and 30 lbs. per acre.

While the above data are of too limited a scope from which to draw comprehensive conclusions, the evidence, so far as it goes, shows that if seaweed can be dried and ground and transplanted for $15.00 per ton, it would have a place, and a profitable place among fertilizing materials.

Near the shore where the seaweed can be had for the hauling its almost universal use with satisfactory results confirms its value as a fertilizer.—W. W. Hubbard, Supt. Experimental Sta., Fredericton.

THE BEST FARM PAPER

Toronto, Ont., Oct. 16, 1919

The Maritime Farmer,
Sussex, N. B.

Gentlemen:—

Kindly let me know how much you charge per year for "The Maritime Farmer." I looked all through your paper and could not find it. I wish to send it to a farmer in Ontario for a Christmas gift as he thinks it is the best farm paper on the market. Have given him some of my office copies at odd times.

Yours truly,
THE DODD'S MEDICINE CO., Ltd.
Sgd. (Miss) I. E. RUSHBROOK,
Advertising Manager.

HORTICULTURE.

ACTIVITIES OF THE NEW BRUNSWICK DEPT. OF AGRICULTURE

The Provincial Department of Agriculture have, in the past two years, in connection with their increased production movement, been working out an educational policy, to induce the farmers of New Brunswick to raise their own timothy and clover seed, and, in order to make a more extensive market for our fall fruit, have had Mr. Turney, of the Horticulture Division, co-operating with the New Brunswick Fruit Growers' Association, cater to the Montreal market by careful packing and grading.

The orchards of New Brunswick have been producing for years past enormous quantities of this excellent variety of fall fruit, that has always been disposed of in our local market, and never found a demand that was commensurate with the quantity produced; consequently were sold for $1.25 or $1.50 per barrel.

The Fruit Growers' Association this years, under the direction and supervision of the staff of the Provincial Horticulture Division, in the New Brunswick Department of Agriculture, have properly graded and packed several car-loads of fall apples, with the result that they have found an unlimited marke at a price which netted the producer over $4.00 per bbl—fifty cents per barrel more than that was paid for Nova Scotia fruit of a similar variety.

Hundreds of thousands of dollars are annually sent out of New Brunswick every year for grass seed, which the farmers can raise themselves, of a quality superior to that which they import. The Minister in the Department—a practical farmer—being satisfied that New Brunswick can raise its own seed, has been endeavoring to save this money to the farmers, by inducing them to grow their own seed. To demonstrate that he is sound in his judgment in this matter, for the information of the farmers, there is a case in point.

The Minister advised Mr. George McLaughlin, at Perth, N. B., to thresh his clover hay for seed this year. He had about twenty tons which, if sold for hay, would have realized about $300.00. Mr. Woods, of the staff of the Provincial Department, at the direction of the Minister, threshed it and produced 3,500 lbs. of good clove seed, which is worth in the market today 50c per lb. and will net Mr. McLaughlin $1700.00.

Fruit Packages

We Manufacture Strawberry Boxes and Crates for same, 6 qt. Baskets, Apple Boxes, Box Shooks, Apple Graders, Wheelbarrows. Now is the time to lay in a supply of Fruit Packages for the coming season. We have a good stock on hand, order early and ensure prompt shipment. Price on application to

Hantsport Fruit Basket Co., Ltd.

HANTSPORT, N. S.

THE U. F. MOVEMENT

The farmers of Canada have not only united, but their action in the recent electoral contests in Ontario and in Carleton-Victoria, New Brunswick, show that they can stick together for a common cause. Too long have the farmers of Canada been under the sway of the devotees of other callings. The tide has turned and our farmers are destined as never before to help mould the policies of Canada.

Agriculture is recognized as the most important industry in Canada. The election of farmer candidates to take their place on the floors of the federal and local houses to represent the agriculturists, is a sign of progress. Sane action, with no attempt at class legislation should be the motto of the farmers' representatives. It will help them to attain and maintain the representation that their calling warrants. The agricutlural counties of the Maritime Provinces should see to it that a strong farmer candidate is included in the ticket of both Liberal and Conservative parties at future elections. Men who are broad minded enough to throw their influence where it will do the most good, repardless of political affiliation.

DRY VERSUS WET PLOWING

Editor Maritime Farmer:

As I have often noticed enquiries answered in your valuable publication, I am herewith making bold ti ask for information on a question peculiar to farm-work. This fall our section, here, has had but a very scant rain-fall, the consequence of which being that the land is very dry; as a result the farmers have been putting off fall plowing in hope of rain; many indeed have not turned a furrow yet. Now my patience is not of the "Job" type and came to an end before the little cloud appeared in the sky.

Well, I started plowing and the neighbors criticing. With one exception they declared I was ruining the land, preparing for a large crop of weeds and small crop of grain. I maintained that it would do no harm. The land referred to is a clay loam and if a handful was picked up from furrow, it would fall apart like the soil of a garden after a recent cultivation. Now this brings up two questions: (1) Who is correct the neighbors or your humble servant?

(2) If dry plowing is detrimental to the soil, what is the result and why?

I would like to have your valued opinion on above, and will engage to let you know, after the harvest, method of cultivation and fertilizing used, and the resultant crop per acre, if you think it would be worth while to follow up so far.

Hoping to see a discussion on above in the "Maritime Farmer."

HEBRR TRATT,
Cumberland Co., N. S.

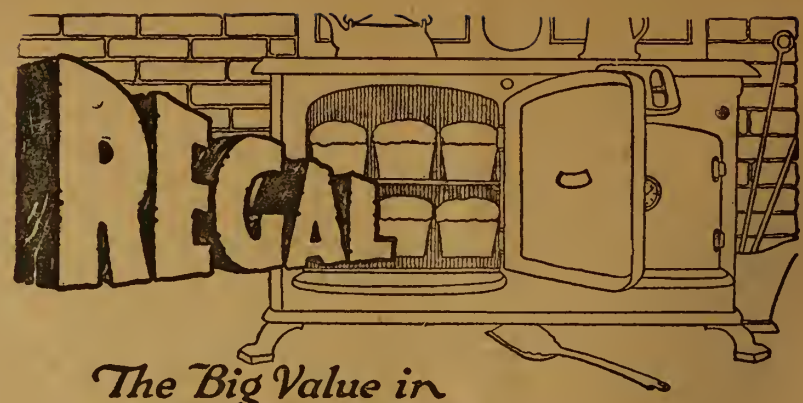
Ans. Practical agriculturists do not favor operations on wet soil, as there is a tendency to so pack and puddle soil worked under this condition, so that it is difficult to work it up into a proper seed bed. We see no reason why soils such as you describe should be adversely affected by plowing when the weather is dry. Tight, hard clay soil does not plow very easily in dry weather and consequently it has to be handled when the work can be done to the best advantage, and not infrequently frost overtakes the work which must then be deferred until spring. Let us have farmers' opinions on this question.

The Maritime Farmer will be pleased to hear from Mr. Tratt again.

HARVESTING ROOTS FOR SEED GROWING

(Experimental Farms Note)

The last few years has taught us that field root seed raised in Canada campares very favorably with imported root seed and under the circumstances it would be to the inter-



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OF all the products of the oven, there is none so important as a good loaf of bread. This test of "REGAL" has established its reputation as the big value in flour.

THE ST. LAWRENCE FLOUR MILLS CO.
Limited
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FERTILIZERS FOR 1920

¶Buy your Acid Phosphate; Nitrate of Soda through your agricultural Society.

¶Get together and save hundreds of dollars.

¶We buy for cash in car lots and are the Largest Individual Buyers in New Brunswick.

¶Prices this year will rule away below last season's prices.

¶Shipping facilities will also be improved, as we shall buy all chemicals from one source.

¶There is a possibility of freight rates advancing 25 per cent. To meet such a possibility orders should be sent in at once and shipments be put on the road.

¶It will be necessary for your society to be a member of the N. B. Agricultural Societies United to take advantage of this offer.

¶The fee is Five Dollars per annum. The annual meeting will be held at the Provincial Government Rooms, 102 Prince William St., St. John, on Thursday, Nov. 27th, at 2 p. m.

¶All Agricultural Societies are entitled to send representatives on payment of the annual fee.

N.B. Agricultural Societies United

SUSSEX, N. B.

est of farming, were more root seed produced in Canada than there is at present.

It should be clearly understood, though the value of the root seed produced in this country depends to a very great extent on the quality of the roots from which the seed is to be raised. The roots set aside for seed production should represent a uniform type, that is to say they should be of the same general shape and of the same color. If they are of mixed types, as far as shape and color are concerned, they are liable to produce a class of seed which, when sown, will in turn give rise to a crop of mixed, and on that ground inferior, quality. It is therefore of paramount importance that roots which are to be used for seed production be as uniform as possible. They should of course also be perfectly sound and free from diseases.

It is of less importance of what size they are, but, generally, medium-sized roots are to be preferred because, as a rule, they keep better in storage during winter and therefore are apt to produce healthier and more vigorous seed plants.

The roots which are selected for seed production should be handled very caerfully and all bruised roots should be rejected. In the first place, roots that are bruised, or cut, or broken in harvesting, may rot during the winter and, in doing so, may cause damage to the sound roots stored with them. And, besides, even should they come through the winter, they will most likely produce weak seed plants, unable to form and ripen seed of best quality. Roots selected for seed production must, therefore, be stored away intact; that is to say, their lower ends and rootlets must not be cut off, as is done when roots are harvested.

Roots that are expected to develop seed bearing stalks after having been stored during the winter must not be topped too closely. Remember that the seed stalks sprout from the crown of the roots. It follows, then, that if the roots are topped so closely that their crowns are cut off or injured, there will be no chance of any seed stalks developing. Consequently, roots selected for seed production must have their crowns perfectly intact. And for this reason it is recommended that all roots selected for seed production be topped well above the crown, say anywhere from half an inch to two inches, so that their ability to develop vigorous seed stalks may not be impaired.

The roots selected should of course be stored in the best manner possible so that losses through rotting during the winter may be avoided. The storage methods are many and vary with the winter conritions. In case there is any doubt as to the best manner of carrying the roots through the winter in a satisfactory condition, the undersigned will be pleased to render advice based upon years of experience. —M. O. Malte, Dominion Agrastologist, Central Experimental Farm, Ottawa, Ont.

SUMMER TREATMENT OF CANE FRUITS

Cane fruits, including raspberries, blackberries and dewberries, growing under normal conditions, produce strong, vigorous shoots from the crowns early in the spring. These become the fruiting canes the following year. Dhen they get to be about two and one-half to three feet high, they should have their terminals pinched back an inch or two to stimulate the formation of lateral 'or branch shoots. This makes a more compact bush, that is less subject to winter injury and that under ordinary circumstances is more productive. The shoots should not be allowed to reach a height of more than two and one-half or three feet. The laterals should then be allowed to grow as long as they will, no heading back being afforded them until the beginning of the following season, when they may be shortened to a length of 12 to 18 inches.

If for any reason the new shoots of the cane fruits have been allowed to become four to six feet tall without pinching, thy should noe be headed back during the summer . Such late heading would be liable to force the production of laterals that would not mature well before winter and that consequently would be more subject to winter injury.

As soon as the fruiting season is over, the old canes that have borne fruit should be pruned out, carried off the patch or field and burner. Many growers neglect to remove these old canes until the following spring; but it is important that they be removed promptly. If left during the summer and fall months, they harbor insects and diseases that spread to the new growth, decrease the next year's crop and shorten the life of the plantation. As a matter of fact, the best and most effective way to deal with the insect and disease problem in the cane fruit plantation is to cut out and burn the old canes immediately after each fruiting season. They have to be removed anyway, and it is no more expensive or troublesome to remove them then than later. When this plan is followed, spraying seldom needs to be resorted to, for the cane fruits.

Commercial plantings of the cane fruits should receive thorough cultivation throughout the growing season. In the case of small home plantings, heavy mulching with straw leaves, corn stalks, lawn clippings, etc., may take the place of cultivation. This helps keep down weeds, conserves themoisture, keeps the soil cool during hot summer months and otherwise promotes the health and growth of the plants.

AUTO TIRES FOR 1920

The Maritime Farmer will have an exeptionally fine auto tire servie for 1920. We have arranged for next season's business and for automobile owners who will require tires, we have only this to say, write us early for any size you stand in need of. We will have the ordinary every-day rubber tire cords. We can quote you on small tires now. They are all firsts, guaranteed for 3,500 miles, but tires we sold this year have run 8,000 miles and are still going. WE HAVE NOT HAD A SINGLE CLAIM AGAINST ANY TIRE SOLD BY US IN 1919. The only stipulation that we make is that you shall be a subscriber to the Maritime Farmer. Tires may be higher next year. There is some talk of a 25 per cent. jump. We can save you that if it does come provided you send us your specifications now. On small tires we have a most attractive offering. Later we shall have prices on cord tires of all sizes. Don't wait until you want the tire. Send in your order now and we will book it and hold for shipping date.

WE boost "Invincible" Rubber Boots and Shoes but the biggest booster is the man who wears them. He knows they cannot be equalled for wear. He knows they last longer than any other make he ever bought. Buy your first pair of "Invincibles" and you will boost "Invincibles" to your friends. You will tell them they are the best pair of rubber boots you ever had. We know it now. You will know it too if you ask for and get "Invincibles" the next time you buy rubber boots.

"Invincibles" are Pressure Cured. The high Pressure Process alone can put into rubber the strength and resistance to stand all kinds of use and abuse in quarries and mines, on the roads in the woods or on the farm.

3 **The Miner Rubber Co., Limited.**

DAIRYING.

MILKING MACHINES HELP TO INCREASE DAIRY PROFITS

The real worth of the milking machine is asserting itself since so much of the work on the farm is performed by larger implements that cut down the numebr of men needed to keep up the work in the fields. It not only saves time and money, but it makes it possible to regulate the number of cows kept on the farm to the amount of feeding materials produced at a profit. Rapidly it is downing the prejudice that has led many farmers, unacquainted with these economic advantages, to assume that it is impracticable on the average farm.

Naturally it has been the dairy farmer of means who has demonstrated to himself and to his neighbors that the milking machine "makes good." It takes a grasp of economic principles and patience to adjust the barn and field work so that the milking machine will fall in with the regular routine of the year and give the maximum returns on the investment. Farmers were slow to accept the tractor as a suitable implement for their use. They are buying them now by the thousands, convinced that they will do for one farmer what they have done for others. The milking machine and the power outfit costs about one-half as much as a good farm tractor. It is wholly a utility machine and in ordinary drudgery of the most irksome kind it pays for itself in the saving of help in the barn.

Not Fool Proof

The experimental stage of milking with machines has passed. The scarcity of good milkers and the difficulties in distributing work on the dairy farm evenly throughout the year has prompted many dairy farmers to invest in milking machines. Reasoning stubbornly along the lines that it would cost more to operate the machine and do the necessary stripping, many dairy farmers have blinded themselves to the year's accomlishments. Perhaps a few minutes are lost in preparing the cows and following the machines to get the strippings, but what is that compared with the tired hands and time spent in getting the bulk of the milk.

The milking machine is not fool proof. A lot of good machines are not sufficiently in sympathy with the cows to make good milkers. Thousands of good milkers are not good enough mechanics to operate a milking machine successfully. The operator must be in sympathy with the cow so as to cater to her likes and dislikes and enough of a mechanic to keep hic machine in condition to do good work. He must be both a cow man and a mechanic to get the best results from a mechanical milker. As results with the mechanical milker. As a rule, failure results from the fact that the operator is a better mechanic than he is a cow man. The man who has milked the cows by hand knows their peculiarities and can adjust the machine to suit the different cows. Each cow must be handled and milked differently. If all of the cows are treated alike the machine cannot give its best results, but by understanding the cows and adjusting the machines properly any of the leading milking machines will do practical and profitable work.

Fitting the Teat Cups to the Udder

Generally speaking the proper time to begin using the mechanical milker is about the time the cows regain normal condition after the freshening period. During the latter part of the lactation period some of the cows are likely to hold up their milk often enough and long enough to cause them to dry up earlier than they otherwise would. At the beginning of the milking period the cows milk more nearly alike. The further the cows advance in the lactation period the more they differ in their peculiarities of milking. It is these peculiar traits that the machine operator must watch and endeavor to adjust the machine so that it will do its best work throughout the entire milking period.

Fitting the teat scups to the cow and keeping close watch to see that the teats and udder are in normal condition are importont points in operfating the milking machine. The cups should fit the teats so that they will get a straigth and proper grip and the pulsation of the machine should be regulated to suit the individual cows in the herd. The operator should understand how to arjust the machine to give the proper length of squeeze and length of release in order to make the machine do good work without discomfort to the cow. A short, quick plusation is not suitable for a cow with long teats that is a hard milker. On the other hand a long, slow pulsation is not suitable for a cow with short teats that give out the milk easily. The man who operates the machine should know his cows and adjust the machine to meet their individual requirements.

Clean and Sanitary Milk

Always wash the cow's udder and moisten the teats before the milking begins. Then, if there is some disorder with the teats or udder, such as garget or inflammation, she will attempt to kick or become uneasy. When the full milk stream is over strip the rest by hand. This gives an opportunity of becoming familiar with the cow's udder and knowing exactly its physical condition. It also trains the heifers to stand for either hand or mechanical milking. If any of the cows have udder trouble milk them by hand until they return to their normal condition.

Keep the teat cups clean and sterilize them after each milking. Never use them on a cow that is affected with teat or udder trouble. If properly cared for the teat cups are not any more frequent distributors of bacteria than the milker's hands. Naturally fiilthy, germ-laden teat cups will set up infecttion in some form, and the

The Most Profitable Method

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WHAT is your time worth? Rounding up your feed materials in the old way takes time; so does figuring of rations and mixing. Feeds on the farm vary in quantity and quality. The ration is liable to be too rich—or skimped. There is loss both ways, either in loss of feed at high prices, or loss of bacon due to imperfect feeding. In short, ordinary feeding methods cannot be accurate and economical.

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is calculated with accuracy by experts who have handled exactly the same hog feeding problems as you have. They know to a certainty just what Canadian hogs require. The special facilities that we have at our mills and you have not, insure Monarch Feeds always being properly balanced and thoroughly mixed. With these advantages we have produced a feed that will not only finish your hogs quicker and in better condition for market, but it will mean more and better bacon—the good, firm, solid quality that gets the attractive prices for you. It means least cost per pound gain. Guaranteed analysis: protein, 15%; fat, 4%.

Monarch Hog Feed has all the feeding advantages of corn products, shorts and digestive tankage. Owing to the splendid balance in this ration, these feeds are easily digested. Hogs scramble for this highly palatable feed. It gives size, vigor and stamina. It lowers your cost of production, and at the same time gets you the quality prices.

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This general purposes feed is somewhat similar to Monarch Hog Feed, except that oil cake meal is used instead of digester tankage; it gives results for both cattle and hogs. Guaranteed analysis: 10% protein and 4% fat.

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Advertise in the Farmer

use of unsterilized teat cups can have but one result finallly. From careful examination of milking machines on many dairy farms it is a wonder that undder troubles are not more prevalent than they are.

A few object to the milking machine because of hand-stripping to get the last few streams of milk. But no man can operate a milking machine successfully unless he keeps in close personal touch with the cows he is milking. An experienced man can operate the milking machine all day without becoming fatigued. He can strip the cows without becoming tired, but put him to milking all day and he will soon seek other employment.

The milking machine will make clean and sanitary milk, and it has come to a time when many breeders of dairy cattle and producers of certifield milk have found it necessary to use the machines or go out of business. The pails, being airtight, admit no dust and dirt, consequently there wil lbe practically no sediment in the milk. The bacteria that enter the milk must come from the cow's teats and from the contact of the milk with the rubber tubing. In the mechanical milker the milk travels throug about 24 inches of rubber tubing, which can be kept clean and sanitary. The other rubber tubing s for air vacuum and pressure.

Many dairy farmers have a well-earned reputation for being careless with their machinery. Such men are sure to have trouble with their milking machines. Dirt, rust, violent jarrings, filthy teat cups and unsanitary rubber trubes will soon tell on any make of milking machine and result in unsatisfactory milk , Manufacturers are taking pains to put out good machines and if properly cared for and intelligently operated they can eb depended on to last for years. Many a milking machine is condemned for defects which it develops under the blind eye of an owner who does not know how to use it. He blames it because he does not know his machine and his cows. Usually he makes matters worse when he tries to correct his failure to watch his cow's peculiarities by monkeying with the machine. While these machines require but slight attention, so far as ordinary work is concerned, they should be kept clean and have intelllgent inspection at intervals.—C. B. Ford.

MILK AND MUDHOLE GERMS

The farmer who keeps dairy cows has a job on his hands when the cows come up in the evening with their udders covered with mud and filth which they gathered in some stagnant mudhole in the wood lot or the pasture field. A lot of work is saved to the milker if the udders do not require a scrubbing at each milking time, and a lot of disease germs are kept clean. A mudhole filled with stagnant water on which a green scum is swimming is a very bad place to send the cows to seek relief from flies when on pasture. Such holes in the wood lot or pasture should be drained or filled, and unless a running stream is accessible the cows should be kept on dry land. Let the cows run inthe woods during the hottest part of the day if it is at all possible, as it will furnish them shade and a portection from flies. If no shade is accessible, it is a better plan to keep the cows in the barn during the hottest part of the day and then leave them on pasture during the night when it is cool and the flies are asleep. A pasture lot that is not clean and sanitary is not fit to use for dairy cow pasture. Milk is a good food when it can be obtained from a clean cow and kept in a clean place and free from germs and dirt.

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Trade Mark

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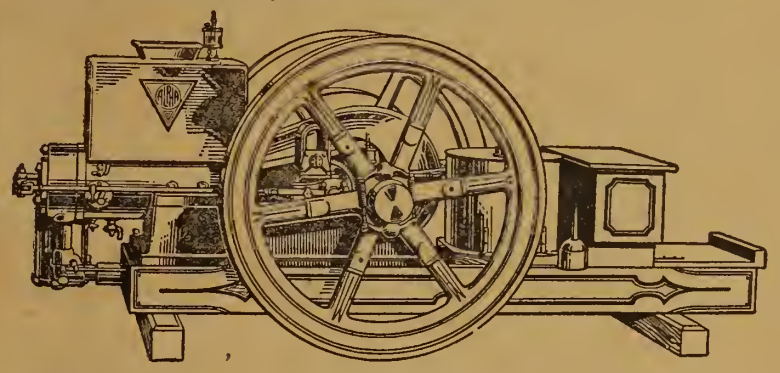

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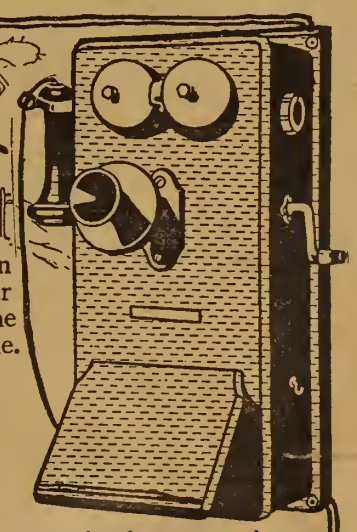

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LIVE STOCK.

EXCELLENCE IN THE RAM IS TRUEST SHEEP ECONOMY

The first fundamental recognized by the successful sheep owner is the absolute value of the pure bred ram. Farmers who own only a small flock of ewes should take note of this fact, and also, that fall is the best time to select the breeding ram. No matter what particilar line of breeding one may pursue, well developed conformation indicating strong constitution, should be a strong characteristic in the ram. It is ability to transmit vigor and early maturfity is the most important quality to be considered. Make a close scrutiny of you ewes, and weak points, by the weak ones, and resolve in your mind's eye the type of ram needed to bring about the desired improvements. Thus equipped with an idea of what you want, make a visit to some of the best flocks of the breed you desire, and keep going until you find out what you require. Do not get stuck on some finely conditioned ram lamb that is not just what you want, and thus make a compromise. Look further, and perseverance will bring its reward. You will not only be able to see the rams, but the stock from which they are bred; thus you will have some assurance that your purchase will produce animals like thosce in the flock where he was bred.

Choosing by Record

It is now a commonplace and true saying that the bull is more than half the herd, and it is equally as applicable to the ram amongst a flock of ewes.

Selecting a sire involves time and study, and commonly some expense. However, as it is the only opportunity to influence the inheritance of the lambs of the ewes that are to be bred, the effort is a necessary one. The owner's skill in breeding determines the success of the stock raising venture, and the selection of the ram offers the main opportunity for the investment of time and skill.

There are far too many men in all departments of the live stock industry who rest contented with having secured a registered sire. They make no further investigation, and forget that the advantage of eligibility to record is not in the fact of the registration of the ram, but in fact that registration makes it possible to know from what kind of stock the ram is bred. Some well bred, but unrecorded rams may be better breeders than some that are recorded. This is the advantage of registration, for one can look up back history. If choosing was done entirely by inspection of the flock, it might be somewhat misleading. Individual points cannot be ignored, but sheep that are old enough to have the offspring of several years to speak for them are not likely to be very attractive in themselves. But if they have proved good through their progeny ,they are the flock to choose from. The first parents constitute the most important part of a pedigree.

Choosing from Conformation

But even from proven pedigree stock there is some choosing to be done. Successful breeding even of pure-bred stock can only be maintained by grading up. As the number of generatons of careful weeding out of all substandard animals is added to, there is an increasing degree of purity of the blood, and freedom from the possible appearance of inferior features. This constitutes the necessity of also choosing a suitable individual apart from his breeding.

It is usual for the buyer to look for size, but a ram need not be a giant of the breed. Great size is not so important as early maturity, and a tendency to produce good cuts of mutton and a high quality of wool. The upstanding, big-looking type does not mature so early, and as a rule is not as economical in converting feed into mutton and wool as the more compact and thickly fleshed sheep. If a ram has the earmarks of a good sire, don't be disappointed with his feminine head and thin neck. Mutton and wool don't grow on these, but they are great indicators of where it is to be found in progeny. Rams with fine heads, narrow noses and light polls are disappointing breeders. A "goose" neck and a narrow chest are two other points to be avoided in the choosing of the front quarters. His nose should be broad, his head short rather than long and narrow, his jawbone heavy, his neck short and thick, carrying his head up with style. He should be alert in his movement and have a bright eye. No one ever saw a sheep that had a slow method of chewing the feed that was at the same time a healthy, vigorous one. Watch him when he is feeding.

Along with the depth and width of front, the ram must be round ribbed and square ended, with a good leg of mutton, his legs strong and wide apart, an dthe feet large, straight and open. Have nothing to do with crooked or clubbed feet. His underline should also be straight, showing depth as well as width of middle. No animal is well equipped without a capacious bread basket.

Though no ram should be bred to ewes that have not been well fed, do not make the mistake of choosing one overfed to hide natural defects. The shoulders should be broad on the top instead of sharp, and the back should be straight and smooth. Good flesh attained under ordinary care is a strong indication of health and abil-

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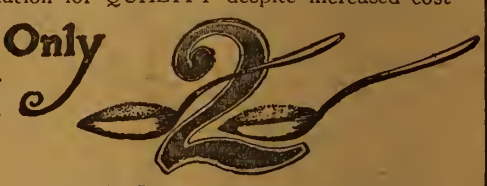

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ity to produce mutton, two things absolutely essential in lambs.

The age at which a ram is at his best is largely determined by the condition in which he is kept. It is not well to use an extremely old ram, unless he has been well handled throughout his career. Neither is it wise to use too young an animal, that it not well grown. From experience, the writer has found that very old rams have a low vitality of young lambs, while ram lambs often leave a very large percentage of lambs, but they are hardly ever as strong as the lambs from the same ram whe he is a year or two older. Britain, that is the birthplace of the majority of the best breeds of sheep and its leads in the work of development, never breeds with ram lambs. There are annual Fall sales in Britain where thousands of shearling rams are sold, and they realize very remunerative prices.

Ram lambs only do well as sires if well grown and used moderately; ten to fifteen ewes being the limit. A one-year-old when running in the field should serve fifty ewes. With proper attention and feeding by day in the yard and out among the ewes at night, he will accomplish more and leave better stock, than if left in the flock all the time, for his attention will be taken up with ewes to the extent that he will forget to feed himself, and a well fed ram is imperative to a numerous and healthy flock of lambs.

QUARTERS FOR THE BREEDING BOAR

One of the investments the breeder or farmer can make is a safe and comfortable house and yard for the breeding boar. It should be away from the rest of the hogs but connected with the other yards with a lane or driveway. A comfortable colony house and a strong iron fence inclosing a small yard, and a larger yard making altogether an acre of land will be sufficient to give him the necessary exercise and afford good grazing when the ground is not covered with snow. If the soil is good and the lot properly drained by a porous subsoil or tile it will produce a variety of grasses and clovers, such a combination as will suit the needs of the hog. Alfalfa is not well suited for the small yard so one must provide grasses that are. Orchard grass, timothy and red-top mixed will survive and last for years unless abused or rooted out. To start such a combination of grasses in the boar pasture prepare the ground in the spring, sow oats and peas mixed and seed with timothy, clover, orchard grass an dred-top mixed equal parts. The lot will be ready for grazing in six weeks. Such a seeding will come on and furnish grazing for a long time.

Alfalfa is such a valuable crop for grazing that it will pay one to have a field adjoining the boar's yard, so that he may have access to it when it is ready for grazing. If the growth is too luxuriant for him to to graze profitably alone turn one or two bred sows in with him to get the full benefit of the crop. By changing him as the conditions of growth in the two lots demand and allowing one or two sows to run with him when there is an abundance of grazing he will always have better grazing than when only a small lot is used. Of course, if he is to have good grazing he must have rings in his nose to prevent rooting.

Such a house, yard, and pasture for the boar will save a lot of unpleasant and risky work in caring for the hogs, more especially when an aged boar is kept on the farm. Besides there is no more disgusting feature of hog raising than to have breedinb boars breaking through fences and running about the premises rooting up the gardens and shrubbery and tearing up things in general . The man who takes pride in his work and keeps a breeding record of his sows will not allow his boars free run of the premises.—W. M. K.

Buying a cheap bull to save money is like stopping a clock to save time.

The condition of a farmer's fences bears heavily upon the aspect of his farm and upon the outsider's opinion of him.

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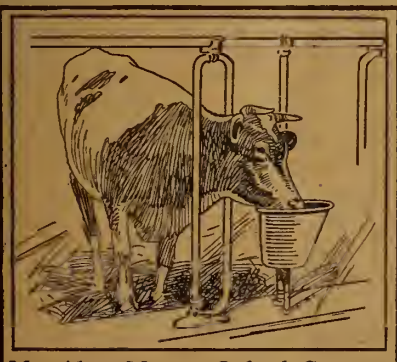

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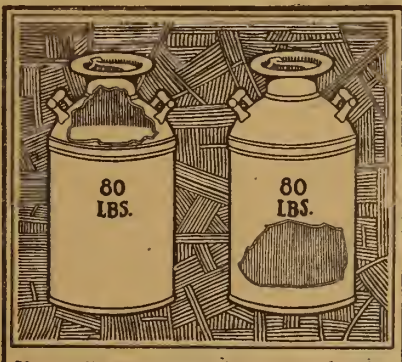

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THE HORSE

THE FORELEGS OF HORSES AND THE DISEASES THAT FOLLOW THEIR BAD CONFORMATION

The forelegs of the horse, when viewed in front, should be widest at the chest and should gradually approach each other as they descend towards the fetlocks. The forelegs of far apart. His rounded chest enables him to throw more weight into the collar. But, above all, whether near each other or wide apart, they must be straight to have the firm, well-knit horse that will naturally keep free from the diseases that are so apt to come to the ill-placed leg. The elbow should not have the slightest inclination inward or outward. The horse that has the unsteady movement when run out before the judge generally has the elbow inclining inward. The toe will also project outward, and the foot thus fails to come flat down on the ground. Again, if the elbow is turned outward the toe will necessarily be turned inward and the weight of the asimal cannot be evenly distributed over the foot; the bearing cannot be true; there will be undue pressure on the inner quarter, and a disposition to splints an dcorns.

Viewed from the side, they should come down perpendicularly from the elbow. If they incline backward and under the horse there is undue stress on the extensor muscles and undue weight is thrown forward and the horse will be liable to knuckle over. The toe should be found precisely under the point of the shoulder. If it be a little more forward the horse will probably be deficient in action; if it be more under the horse the animal will naturally be deficient in pulling power.

Sprain of the Back Sinews

The horse that has his forelegs so placed that it interferes with his pulling power is very apt to develop sprain of the back sinews. This is the term that it usually gets, but it should be remembered that a sinew or tendon can never be sprained, because it is inelastic and incapable of extension. What really takes place, when such a symptom is shown, is when a horse has been over-worked or put to sudden violent exertion, the tendon presses upon the delicate membrane lining the sheath that envelopes the tendon and inflammation is produced.

The sheath for the tendons is composed of a dense cellular substance to keep the tendons in place and defend them from injury. Between the tendon and the sheath there is a mucous fluid to prevent friction, and when inflammation supervenes, adhesions are formed between the tendon and the sheath, and motion of the limb is more painful and difficult. The local swelling and heat, will clearly indicate the seat of the injury.

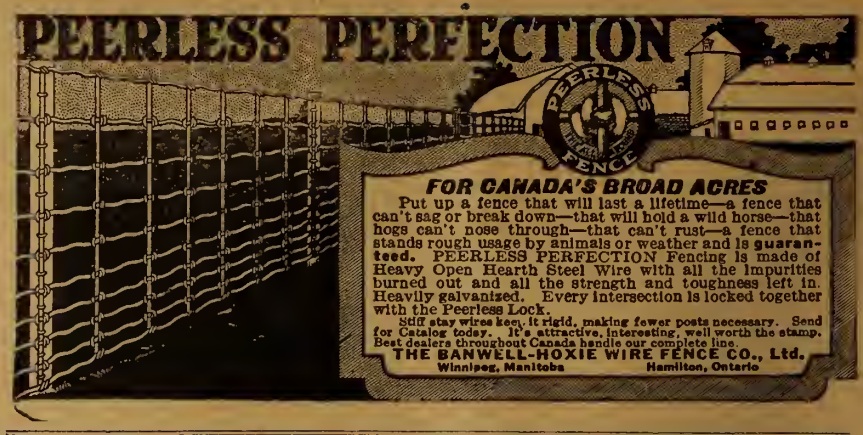
In the early stages of the sprain it is often difficult to diagnose the trouble, but if this part of the leg is examined closely the abnormal heat felt around the part and the pain which is caused on firm pressure of the hand will readily reveal the cause of the lameness.

No better treatment can be effected than by using an elastic bandage, one of thin flannel will be best. This will sustain and support the limb, while it is also the best means to absorb the coagulated matter of which the swelling is composed. If the bandage is kept wet with vinegar, to each pint of which a quarter pint of spirit or wine has been added, the skin will be slightly stimulated and contracted, and the cold produced by the constant evaporation will tend to subdue the remaining and deep seated inflammation. This bandage should be daily tightened in proportion as the parts are capable of bearing increased pressure, and the treatment should be persisted in for two weesk. If at the expiration of that period, theer be no swelling, tenderness, or heat, the horse may gradually, and very cautiously, be put to his usual work.

Ringbone

Ringbone is produced by violent inflammation of the ligaments of the fetlock joints, and is recognized by a slight enlargement, or bony tumor on each side of the foot, just above the coronet. Although when the bony tumor is small, and on one side only, there is little or no lameness and there are not few instances in which a horse with ringbone has worked for many years without lameness; yet from the action of the foot, and the stress upon the part, the inflammation and the formation of bone have such a tendency rapidly to spread, that the slightest enlargement of the pastern around the coronet is counted a case of unsoundness. In its early stage, and when recognized only by a bony enlargement on both sides of the pastern joint, or in some cases only one side, the lameness is not very great, if at all apparent. There is, however, so much movement and tear and wear of this part of the animal, that the inflammation and the disposition to the formation of the bone spreads rapidly, and any attempt to stop its growth by blistering or other similar method is not often followed with any measure of success. The final stages leave the joint fixed and the motion is lost, the whole of this part of the foot becomes a mass of spongy bone.

The best method of eradicating it is to desist from breeding with any animal that is so disposed, or is known to come of parentage subject to ringbone.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Put up a fence that will last a lifetime—a fence that can't sag or break down—that will hold a wild horse—that hogs can't nose through—that can't rust—a fence that stands rough usage by animals or weather and is guaranteed. PEERLESS PERFECTION Fencing is made of Heavy Open Hearth Steel Wire with all the impurities burned out and all the strength and toughness left in. Heavily galvanized. Every intersection is locked together with the Peerless Lock.
Stiff stay wires keep it rigid, making fewer posts necessary. Send for Catalog today. It's attractive, interesting, well worth the stamp. Best dealers throughout Canada handle our complete line.
THE BANWELL-HOXIE WIRE FENCE CO., Ltd.
Winnipeg, Manitoba Hamilton, Ontario

Sand Cracks

A sand crack is manifestly an unsoundness. It is a most serious defect. It indicates a brittleness of the crust, sometimes natural, but oftener the consequence of mismanagement or disease, which, in spite of every means adopted, will probably be a source of future annoyance. On a hoof that has once been thus divided no dependence can be placed, unless, by great care, the natural suppleness of the horn has been restored and is retained.

If the crack has penetrated through the crust, and lameness has ensued, the case is serious. It must be carefully examined to ascertain that no dirt or sand has got into it; the edges must be considerably thinned, the fissure cleansed, and hot fomentations and poultices applied. Previous to this the shoe should be removed and when the inflammatory symptoms have abated a bar shoe should be applied to the foot, and the edges of the crack brought together and clasped with clamps that can be had of any surgical instrument maker.

The growth of the horn proceeds from the coronet downwards, and unless this is perfect the horn will grow divided. The method adopted here is to blister the coronet well over the part that is divided. Some inflammation will ensue, and when the scab produced by the blistering peels off, the horn will probably grow solidly downwards. Blistering should be kept up till such a condition is obtained. In this case as in almost every case of sand crack, the horse should be kept as quiet as possible. When the horn is divided at the coronet it will take five or six months for it to grow fairly down should the horse be used even for ordinary work. When the horn has grown an inch from the coronet the horse may be turned out. He should be furnished with a bar shoe only when the inflammatory symptoms have abated. Systematic oiling with whale or seal oil, having perhaps sulphur or spirits of tar in addition, does much to give a better quality of hair to the legs an a less brittle horn on the hoof.

BROKEN WIND A DISEASE IN FARM HORSES THAT CAN BE VERY READILY PREVENTED

In the late summer and fall season when crops are ripening, or in the process of reaping, the horse is not grudged his feed. Probably he gets a certain amount of freedom on the pastures, and is also liberally supplied with feed from the abundance which the harvest season brings. He is toil worn and hungry all the time. Average horsemen do not probably know that this condition gives rise to broken winded horses. All horsemen who understand their business are on their guard at all times to keep their teams in the fittest condition to do the greatest amount of labor, and are more so at this season of plenty feed and busy time.

How Broken Wind Occurs

Suppose a horse to be a gross feeder, and to have filled his stomach with hay or any feed that occupies a great bulk, and contains little nourishment, the lungs are squeezed into a less than the natural compass. Let the horse be suddenly put to heavy work; more blood must be purified, and in the violent effort to accomplish this, some of the lung cells give way. Broken winded horses are not often found on the race track, for although every exertion of speed is required from them, their food lies in small compass, and the stomach is not distended, the lungs have room to play, and care is

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of many kinds
quickly remedied with
DOUGLAS'
EGYPTIAN
LINIMENT

The best all-round liniment for the stable as well as for household use. Cures thrush, sprains, bruises. STOPS BLEEDING INSTANTLY AND PREVENTS BLOOD POISONING. Keep it handy.

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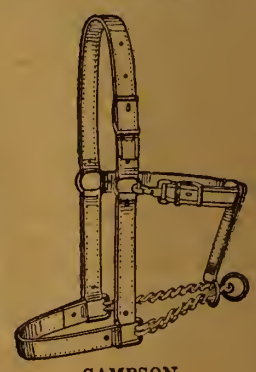
DOUGLAS & CO., NAPANEE, Ont.

Your Horse Can't Break This Halter

We assume the full responsibility by attaching our guarantee tag to this Griffith Sampson Halter. This means that if it breaks within a year from date of purchase we will repair it, or send you a new halter absolutely free of charge.

There's strength in every strap and stitch of the Sampson. See that chain chin draw? That's electric welded steel chain—it grips the horse under the jaw when he pulls and he soon yields to its strength.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Send for free booklet. Shows a halter for every purpose—at a price to suit your purse.

G. L. Griffith & Son 64 Waterloo St., Stratford, Ont. 53

taken that their exertion shall be required when the stomach is empty.

It is among farmers' horses that the broken winded horse is more apt to be found because that on which he is fed is bulky, and too often there is little regularity in the management or work of the teams; and because after many an hour's fasting the horses are often suffered to gorge themselves with bulky food; and then, with the stomach pressing upon the lungs and almost impeding ordinary respiration, they are put again to work, and sometimes to that which requires considerable exertion.

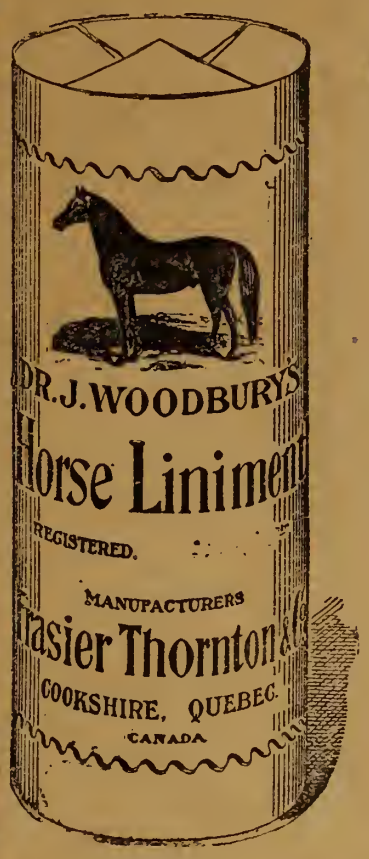
Brokenwind disease in horses depends as much upon the cramped state of the lungs, from an overgorged stomach in the ordinary state of the animal, as on the effects of over-exertion.

It often happens in the idle season in summer that work horses are put on to pastures to pick up a living for themselves. These pastures are often of poor quality, and in order that the horse gets the proper amount of nutriment he has to eat large quantities, and his stomach is thus pressing continually on his lungs. Horses have often come in from grass broken-winded that went on perfectly sound.

Sometimes the distension of the stomach is caused by the generation of gases, by the use of musty hay, damp or sprouting oats, or stale green forage as a horse feed. A horse suddenly put to excessive exertion after a stomach full of water is liable to suffer from indigestion. This causes the nerves of the stomach to get out of order, and their extensions which ramify through the lungs are liable to become deranged and in some cases paralyzed. The air cells are no longer able to contract upon and expel the air, which at each inspiration enters the cells as usual. Hence a larger portion than natural of the air remains in the cells, even after the muscles have performed their duties in the ordinary course of expiration. In order to expel it, the animal is then obliged to bring into play the abdominal muscles as auxiliaries. Hence arises the prominent sign of broken wind, namely, a double action of the flanks.

Curing Broken Wind

Many inquiries reach this office relative to a cure for this disease, but when broken wind has become chronic whether it has arisen from inflammatory attacks on the lungs or from indigestion, the disease is obviously incurable, and active treatment is worse than useless. Prevention is the only measure to adopt. The symptom of flatulence, which is present in every broken-winded horse, shows pretty clearly that in the great majority of cases the disease is due to disordered state of digestive organs rather than to previous disease of the lungs. There is reason to hope that removal of the causes and reversal of the conditions, which have induced the malady, may check its progress, but little hope can be held out for the riddance of the disease. The food of the animal should consist of much nutriment condensed into small bulk; the quantity of oats should be increased and that of hay proportionally diminished; the bowels should be gently relaxed by the frequent use of mashes; the water should be given sparingly through the day, although at night the thirst of the animal should be fully satisfied; and exercise should never be taken when the stomach is full. These simple measures will afford great relief to the broken-winded horse. With judicious management a horse even with confirmed broken wind, though he will never become sound, may remain for years available for slow work. Carrots, turnips or mangels are very useful to the broken-winded horse as they contain much nutriment, considerable moisture, are easy of digestion, and soon pass out of the stomach. The roots when chopped and mixed with the oats and a little molasses added make a good diet. The disease has a hereditary tendency and any animal showing signs of liability towards it should never be chosen for breeding stock.



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They have many imitators but no equal.

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AND

Dr. J. Woodbury's Celebrated Condition Powders

For Sale by All Dealers

PRICE 35c

PRACTICAL METHOD CARING FOR HARNESS

Please give me a formula or directions on how to oil and brighten up a used harness. It is in first class repair but needs to be made better in general appearance. W. C. C.

The book entitled "Farm Knowledge" gives the following excellent discussion of the care of harnesses:

"At the outset, it should be said that a harness cannot be properly cared for unless one has a suitable place in which to hang it. In damp stables it molds quickly. The presence of mold indicates that moisture is taking the place of the oil, upon which the life of the leather depends. A harness should not be stored where the ammonia from the manure can reach it. However, in regularly cleaned, airy workhorse stable, most of us prefer to have the harness hung on a hook back of each horse; or by means of a rope and pulley; or by means of a rope the way on the post at the rear of the stall partition. In stables where a number of teamsters are employed too much time is wasted in going to and from a central harness room; such a room should be provided, however, for the storing of supplies and extra sets of harness. In this room should be a bench and materials for making small repairs. Valuable harness should be kept in tight cases in a room wheer there is some artificial heat.

"At least twice a year all work harness should be entirely taken apart (particular attention being paid to the straps at the buckles) and then cleaned and oiled. At tehse times, all needed repairs should be made. In cleaning harness, as little water as possible should be used; warm, soft water is best, but hard water may be used if a handful or two of salsoda is added to each tubful. Some harness is so dirty that sponging alone will not remove the dirt; in this case it should be soaked for fifteen minutes, then scrubbed with soap and a brush, rinsed, wiped with rag or chamois, and hung on a wooden horse to dry in a warm place but away from the stove. As soon as it is dry, apply neat's-foot oil (diluted one-half with a good standard harness oil, or about one-fourth with kerosene) with a rag or a piece of sponge. Several are generally needed, and it will pay to rub it well into the leather with the hands. Neat's-foot oil, when used straight, is likely to cause the work harness to become too stretchy. It may be made black by adding a tablespoonful of lamp black per pint. When the leather shows up very red after washing, give it a coat of edge blacking before oiling. Under no circumstances is it advisable to use a drying oil, such as linseed oil. Low grade vaseline is useful for smearing over a harness which is to be stored for a considerable length of time. After the oil has soaked in, sponge the straps with a good grade of castile soap. The frequent sponging over of a harness and the use of any of the good dressings are to be recommended.

"When a brilliant black finish to the harness is desired, it becomes necessary to use some one of the standard harness "compositions," which are quite similar to the best pastes used for polishing black shoes. There is, in fact, no objection to using shoe polish, except fo rthe extra expense entailed in purchasing it in small boxes at retail stores. The paste should be evenly applied to the harness with a dauber, then polished with an ordinary blackin gbrush, and finally with a flannel rag.

"For cleaning the metal mountings one may use most any of the liquid or paste brands of metal polish on the market. We find the paste to be more economical because it does not evaporate nearly as readily as do the liquid polishes. Steel bits are cleaned by washing with soap and water, then smearing over with a cake of soap and polishing with silver sand. The soap film makes the sand stick. The fingers are of most service in rubbing the sand on the bits; a soft pin estick can be used n parts too small for the fingers. After sanding, rinse the bit, dry with a cloth, and burnish with a small steel burnisher. Forged steel bits are the strongest and also the best looking if they are kept clean. Careful drying and wiping with an oily rag after using will prevent their rusting."

You wouldn't play a game of any kind without determining who was the winner when it was finished, would you? Farming without keeping records is the same thing except that you are liable to wake up some morning and find that you have lost the game when you had thought you were winning.

SELDOM SEE

a big knee like this, but your horse may have a bunch or bruise on his ankle, hock, stifle, knee or throat.

ABSORBINE

TRADE MARK REG.U.S.PAT. OFF.

will clean it off without laying up the horse. **No blister, no hair gone.** Concentrated—only a few drops required at an application. $2.50 per bottle delivered. Describe your case for special instructions, and Book 8 R free. ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; allays Pain and Inflammation. Price $1.25 a bottle at druggists or delivered. Liberal trial bottle postpaid for 10c.

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47 years of square dealing has earned us the confidence of trappers all over America, Canada and Alaska.

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means a great deal to a young man or woman when looking for an office position.
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POULTRY.

EGG LAYING CONTESTS

(J. A. Clark, B.S.A., Supt. Experimental Station, Charlottetown)

It is now recognized that Egg Laying Competitions have been one of the most compelling forces in the recent very rapid development of the poultry industry and now that greater production is so essential to our national reconstruction work, it is natural to turn to the some means for added impetus and inspiration.

The beginning was small. Mr. Holmes Tarn, founder of the Utility Poultry Club of England, arranged for the first Egg Laying Commpetition in 1897. There were seven entries of four pullets each, and it ran for only sixteen weeks; twenty-eight birds in the first competition. Last year there were in competition over three thousand birds. These were in different parts of the United Kingdom, the British Dominions and the United States. Canada held her first Dominion Contest at Charlottetown, P. E. Island in 1918-19, with such success that this year Dominion Contests will start, November 1st, at six points, and an International Contest will be carried on at Ottawa.

The benefits of these competitions fall into two categories: First, to the owner of the competing pens of birds, and, second, to the industry as a whole. The benefit to the contestant, which has been the impelling force that has sustained and increased the entries from year to year, is the advertising medium it provides for his stock. There may be valuable prizes offered in the competition, but these are small compared with the value that each and every competitor receives in the accurate statements furnished about the individual birds and their Record of Performance. This method of public and authorative comparison gives the strains of our utility poultry their place and standing better even than the show pen does for the breeder of exhibition strains.

The second benefit, however, is much broader and far more important to the Poultry Industry and the public as a whole. Laying competitions are leading the way in progress for all poutry keepers, big and small; not only in regard to the actual material results secured from individuals or strains, but as an educational force, which has already revolutionized poultry keeping, and placed it on a sound business basis.

Contests set up a working standard. They provide incentive and stimulus to thousands. There is no Standard of Perfection yet attained in utlity stock. Everyone knows that with better methods of feedng, housing and general management, the possibilities of our barnyard throughout the country are so great that they can only be guessed at. The official Record of Performance will be a new ladder to enable breeders to climb to new heights of production not deemed possible before.

Today we are trying out systems of culling flocks. The object test, with its acreful observation and trap nests, is the only reliable answer to these and similar questions.

After having looked into the working of these competitions here and in England, I would like to add a few words in addition to the benefits mentioned, with regard to the dangers and abuses that are involved. The danger that is always present in competitions, is to work for mere number of eggs produced, disregarding the size, marketable qualities and cost of production. The hen producing the second highest number of eggs at a contest last year was disqualified, and did not secure even third place. A pen owned by a very noted breeder at the International Egg Laying Contest at Dodnash Priory, Suffolk, England, was disqualified because his hens had averaged over 20 small eggs each, during the contest. The hen laying the greatest number of eggs at the Dominion Contest at Charlottetown, did not secure any prizes as a pen, owing to its average eggs being only 22 1/3 ozs. in weight per dozen, while twelve other pens averaged 24 ozs. per dozen, or over. The winning pen was 171 eggs short, but the average weight of its eggs was 25½ ozs. per dozen. One P. E. Island pen averager 26 ozs. per doben for the whole period.

Another danger to be avoided is the sacrificing vigor, stamina and constitutional fitness. The substituting of spare birds for those that die during a contest is open to criticism, particularly when these birds continue the records of those that die. Many contests now do not allow any substitution. Some managements say that birds that do not have vitality enough to live the year out, are not worthy of winning. Contests should be conducted under condition as nearly normal as possible. Conditions, whether of housing or feeding, should be limited to those generall obtainable by the ordinary poultry keeper. These tests and trials should show what is possible under good comemrcial conditions. The contestants are entitled to generous prizes and all the other benfits, as they give up all eggs from ten of their best hens for one year; but the conditions must be framed and the methods adapted that will benefit the whole industry, and through the consumers, benefit the whole nation.

P. E. ISLAND EGG LAYING CONTEST, 1918-1919.—FINAL AWARDS

The first Dominion Egg Laying Contest closed at Charlottetown on Sept. 30, 1919.

The premier prize was awarded to the Barred Plymouth Rock hen No.

Make Hens Lay Now
A LITTLE care right now will bring you handsome returns all winter—when eggs are scarce and prices high.
Pratts POULTRY REGULATOR
supplies those roots, herbs and mineral substances which the fowls need to preserve their health and vigor in cold weather. It spices the mash and induces the birds to eat greedily. Aids digestion, improves circulation and speeds up the egg-producing organs.
You get more eggs, or your money back. At your dealer's in popular-priced packages, also in money-saving 25-lb. pails and 100-lb. bags.
Write for FREE book on the "Care of Poultry."
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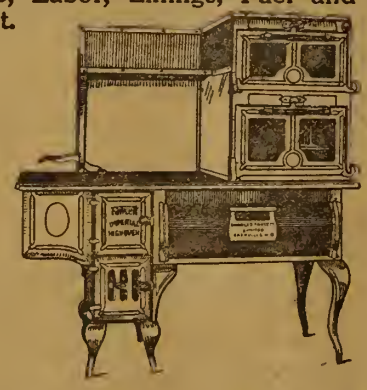
Is a marvel of Beauty, Economy and Efficiency. It saves Time, Labor, Linings, Fuel and Worry. You can't beat it.

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As for Cooking and Baking, the Fawcett Imperial trims them all. Send for illustrated circular giving detailed description of the Imperial.
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41, owned by T. J. Adamson, Rougemont, Quebec. She laid 227 eggs in eleven months. The size and weight of the eggs were considered in making this award of a coal-burning, self-regulating Candee Colony Brooder, donated by the Candee Incubator and Brooder Company, valued at $60.00. This hen also won, for this year, a handsome silver cup, valued at $50.00 donated by the Caldwell Feed and Cereal Company. The cup has to be won twice out of three contests.

The second best record made by an individual hen was secured by the Barred Plymouth Rock hen No. 195, owned by W. E. B. Tait, oDrchester, N. B. This hen laid 212 eggs and won out over hen No. 200 in the same pen, which laid 225 eggs, Many of these eggs, howecer, did not come up to standard requirements, and No. 195 was awarded one root cutter valued at $10.00, and $5.00 in cash.

The third best indiviual hecord was male by the White Leghorn hen No. 82, owned by C. B. Chapman, Amherst. N. S. This hen laid 201 eggs during the contest, but they were so large and uniform that she also won over hen No. 200 mentioned above.

The pen in the Heavy Class that gave the greatest revenue from sale of eggs over cost of feed, was ofned by H. H. Dowton, Toronto, Ont. The value of the 1175 eggs laid by these Rhode Island Reds during the eleven months was $45.26, their feed cost $24.14, leaving a profit over cost of feed, of $21.12. They won the pen of aBrred Plymouth Rock pullets and a pedigreed cockerel, donated by the Charlottetown Experimental Station, valued at $30.00.

The pen in the Heavy Class showing the second highest revenue from sale of eggs over cost of feed for 11 months, was owned by Thos. J. Adamson, Rougemont, Que. The value of the 1286 eggs laid by his Barred Plymouth Rocks during the constest was $44.81. Their feed cost $24.11; the profit from this pen being $27.70. They were awarded a cash prize of $10.00.

The pen in the Light Class that gave the greatest revenue from sale of eggs over cost of feed was owned by C. B. Chapman. The value of the 1148 eggs laid by these White Leghorns during the contest was $40.08; their feed cost $21.48; the profit over the cost of their feed was $18.60. They won the pen of White Leghorns, consisting of 8 pullets and a pedigreed cockerel, donated by the Charlottetown Experimental Station, valued at $25.00.

The pen winning the second place in the Light Class was owned by W. J. Pickard, Wetaskiwin, Alta. The 1047 eggs laid by his pen brought $36.25; the feed cost $19.45. leaving a profit of $16.80 over cost of feed for the 11 months. They were awarded a $10.00 cash prize.

Rev. J. J. McDonald, Kinkora, P.E.I., won the $10.00 cash prize for the P. E. Island pen showing the largest revenue during the contest His pen of Whitè Leghorns laid 1095 eggs, worth $37.30. their feed cost $21.54, showing a profit of $15.76.

A feed hopper was awarded to W. J. Pickard, whose pen of hens completed the contest without any one of the hens losing a day through broodiness.

The Rhode Island Red hen No. 52, owned by H. H. Dowton, won the Cycle Hatcher, valued at $10.00, awarded to the hen laying the most uniform eggs, over 24 ozs. per doz. in weight. His pen throughout the contest averaged 25½ ozs. per dozen.

A great deal of valuable information was secured during this contest. Complete summaries of the production of each hen, together with itemized statements of the cost of feeding each pen, has been supplied to the contestants, and furtehr information will be supplied to the press from time to time.—J. A. Clark, Supt.

Stanfield's "Red Label" Underwear

To men who work outdoors in Canada, the question of winter underwear is one of great importance. The answer lies in

Stanfield's "Red Label" Underwear

which is made of the best grade wool obtainable. It fits perfectly, giving comfort, freedom, and warmth, and is the best underwear for outdoor work. All good dealers sell it.

We also make underwear of lighter weights, for both indoor and outdoor work. Send for free sample book.

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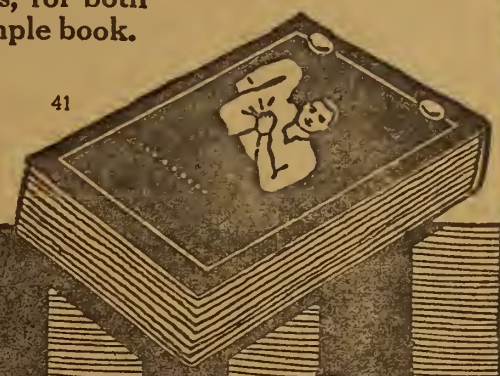
Truro, N.S.



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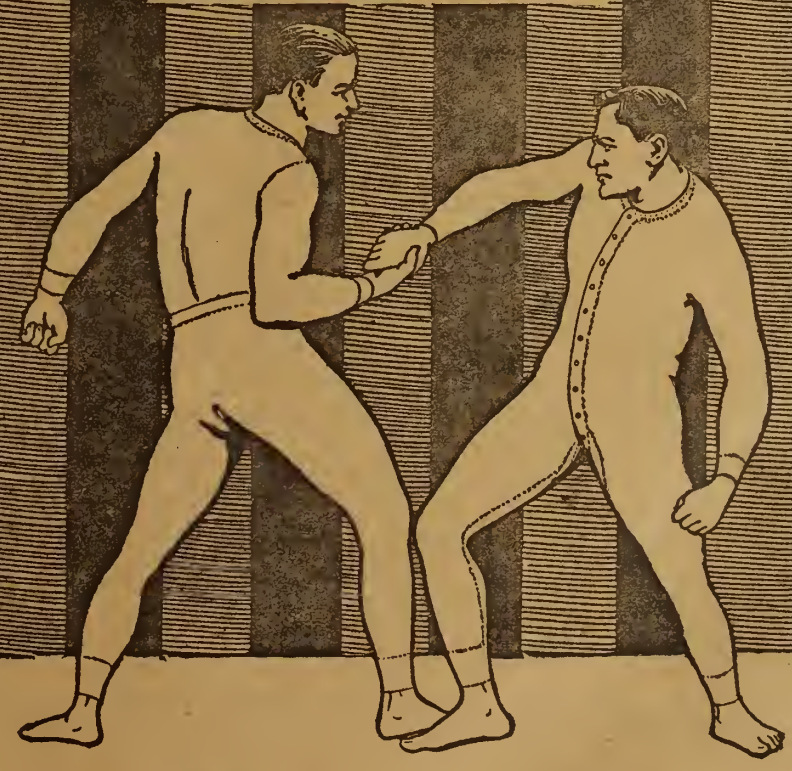


"Stands Strenuous Wear"

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

Don't be content with doing only your duty,
Do more than your duty.
It's the horse who finishes a neck ahead
Who wins the race.
—Andrew Carnegie.

THE NEW WRAP

"My, but it's pretty!" exclaimed Mrs. Plagge, as she fingered her neighbor's new wrap. "Honest, Mrs. Brown, it's just a treat for anybody's eyes just to see you coming down the street wearing it! If I could ever look so stylish! I need one something awful!"

"Oh, well, just now 'tain't considered nothing to be wearing on out of style wrap with bonds to pay for and high prices and all," said Mrs. Brown kindly. "If I hadn't been in rags I mightn't have got this."

"'Tain't the money," replied Mrs. Plagge. "I got it all saved up—$15!"

"Fifteen dollars!" exclaimed Mrs. Brown.

"I guess maybe yours cost a lot more than that," admitted Mrs. Plagge. "You can't fool me on goods. and, anyhow, there's something about a high cost wrap——"

"But there's lots of cheaper ones that look real goo,d" interposed Mrs. Brown. "They look so pretty you can't scarce tell the difference."

"Is there?" said Mrs. Plagge eagerly. "Only I couldn't get one of those loose stylish things on account of John. He believes in plain clothes. That coat I got three years ago had big buttons on it for trimming, and John made me take them off."

"If you was to die—excuse me for mentioning it, but men are men, you know—if you was to dies I'd bet this new cape it wouldn't be any plain dresser Mr. Plagge'd have his eye on for a second wife."

"Well, anyhow, what can I do when he makes such a fuss so that I have to wear always out of style clothes? And it makes me sick to buy anything even when I want it so bad because he picks to pieces anything I bring home."

"I tell you what, Mrs. Plagge. You take your husband along and have him help you pick out your wrap."

"John in a woman's wear department ! He'd—why, I couldn't even imagine me asking John, he'd refuse that flat."

"Don't ask. Just take him. Meet him at the office door and tell him he's got to go along with you. May- n't want to be butting in, -but maybe if you took the high hand just a little you could be wearing more what you want. You get Mr. Plagge down there and let a saleslady begin to talk to him and you can't tell what might happen."

At first the idea of asking John to go with her to a woman's wear department horrified Mrs. Plagge. What mightn't he make her get! The detested clothes he made her wear—never a flower in her hat, nor a piece of silk or a bit of jewelry about her person! She stayed at home so much that she was now counted out of almast everything. She hadn't even visited her mother for three years. But that seemed to suit John. A woman should stay at home and take care of the house. That was her mission in life. If she hadn't gewgaws she would be gadding. But yet Mrs. Brown's suggesstion persisted. She who managed her own husband so capably and so happily might know a little about even so different a husband as John. Things couldn't be much worse and they might possibly be a little better. It was Saturday and she was waiting outside his office door.

"What's the matter, Etta?" he cried in astonishment when he saw her.

"I've got to get a new wrap, John," said Etta, in as matterof-fact a tone as she could muster. "You didn't like my last one and made me change it, so I guess about everything I ever did buy I had to change, because you didn't like it. I might as well get what's right in the beginning, since we pay the money for it. I've been thinking that you should help me pick out something. Then you'll be satisfied and it won't make such a lot of work for me."

To her sirprise Etta saw that John was not displeased.

"Well, I don't know but maybe I could," he assented. "You got the money?"

"Yes. I've been saving it here and there. I got $15."

"Well, you can get one for maybe five or anyhow ten," replied John. "I'll go and eat some lunch and then you can meet me over at the People's store."

Etta's heart turned to lead. Now she wished that she had not taken her neighbor's advice . She at least would have spent the whole of her savings on a wrap and got something not altogether impossible, while John would hunt out the cheapest thing he could find, no matter how ancient it might be.

"We'll go down to the basement," said John.

Etta expected that. She never did go above the basement to make any of her purchases.

"Once my sister got a cloak here for $2," he said cheerfully.

"Oh, John——!" began Etta, hanging back. If she could only plead sickness—anything to get him to go home now and then some day she would come down by herself. But John was already on his way to the elevator, so she followed meekly behind him. He had taken the business of buying her a wrap into his own hands and she might as well be passive.

"Show us some cloaks," he dictated to the salesgirl who presented herself before him. "None of the buzz saw things nor ruffles nor buckles—something plain.

"I said plain! That's not plain!" protsted John as she threw a wrap over Etta's slim shoulders. "Look at them rows of buttons and that braid! How much is it?"

"Twenty-seven fifty," replied the girl.

"That is too much and no need for us to pay it since we've no call to take all that fanciness. What do you call that, anyhow? We want a cloak, not some foolishness."

"This is a dolman," explained the girl. "It's mostly dolmans or some sort of cape effect, this year. If you're going to get a new wrap you might as well get something stylish."

"That's what we don't want is something stylish!" shouted John. We want something plain!"

"Oh, John, let it go," urged Etta, miserably. "I'll get on somehow without a wrap!"

Anything was preferable to this.

"No, now we got started we're going to buy you a cloak . If i don't stay with you how do I know you won't get some of these crazy stylish things"

The salesgirl returned bearing several more wraps.

"Maybe you got something at $3 or $4—if it's a few years old that don't matter," said John.

"We haven't anything under $18 in coats," said the girl, patiently. "Here's one——"

"Look at those buckles! You call that plain?" shouted John. "And those here others—all buttons and braid and such."

"Well, we haven't a thing that's absolutely plain down here," returned the girl, her eyes on Etta's wistful, humiliated face. "But you can find perfectly plain garments up on the third floor.

"Come on, Etta," commanded John, while Etta lingered behind to thank the girl softly.

"Here," said John, approaching a dignified gray-haired woman on the third floor. "You got on plain clothes yourself. That's what I want for my wife is a cloak."

The woman hid a smile. She was well aware that this possible customer would have gasped had she told him the price of the "plain clothes" she wore. She brought wraps, exquisitely tailored garments, and laid them before him. Etta gazed at them rapturously. Never had she seen anything so beautiful.

"There!" exulted John. "Didn't you always tell me you couldn't find anything plain and here there are stacks of them. Why didn't you get such when you could? It takes a man to do buying!"

The woman had been studying Etta's face and figure. Already she knew the garment for her and slipped it on.

"It's what we call a coat cape," she explained. "She can wear it early and late because it can be made high in the neck by means of this throw. There, doesn't she look beautiful in it? She has the shoulders to carry it well."

John's mouth literally fell open as he looked at the stylish, youthful figure before hiw. How could she look so in plain clothes? What was wrong with the garment?

"I guess it's that lining. It's spotted with white. Maybe that's why it looks stylish."

"What good taste!' 'complimented the saleslady. "You admire the plain tailored garment and then you want just this bit in the lining to relieve the black. You certanly do know the right thing in women's clothes!"

"Well, we take it," said John. "I always told my wife I could pick out something plain . How much is it? 'Bout ten dollars?"

"This garment is forty-five dollars."

"Without none of that braid nor buttons nor nothing?"

"But you have the hand tailoring. That's what you wanted."

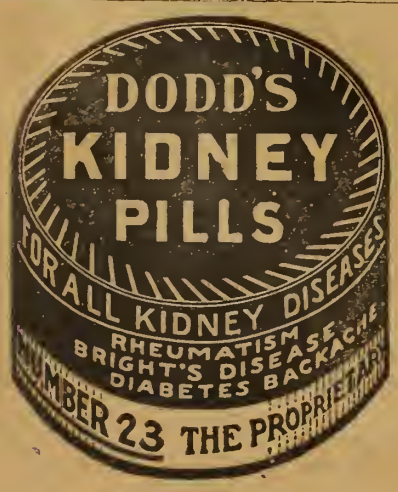
"Sure," agreed John. "We take it."

"But John," began Etta unbelieving.

He hushed her with a look. Not before this lady was she going to shame him. He put his hand into his pocket and drew out a roll of bills from which he peeled off the required amount.

"A little black hat with just a dash of white in it would look charming with that wrap," suggested the saleslady.

"Well, we might as well die for a sheep as a lamb," said John. "I guess maybe, if I could pick out a plain coat cape I could pick out a plain hat, too. And then now you got the clothes you better run to your mamma's for a lit-



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tle visit and show them sisters that you can be as good looking in the kind of clothes I pick out for you to wear as they can in their clothes with so much fanciness. Maybe I come for Sunday, too, and then we go to church like before we were married, and then they can all see you ain't got it so bad when you look younger and better than you did six years ago.".

"Oh, John!" cried Etta.

PLANNING CHRISTMAS AHEAD

Begin now to prepare for Christmas and to avoid the disagreeable experieuce of trying to make your butter-and-egg money pay for gifts at the store—gifts as unsuitable for you to give as for your friends to receive. Almost every farm has its little flower garden. Gather the seeds, put them into envelopes, mark and tie with holly ribbons. Make a little packet of several envelopes and, if you wish to add a little personal touch, write floral quotations on each one.

Potted plants in bloom, hyacinths, Chinese lilies, geraniums, narcissus—are the sweetest messengers to take your holiday greeting to your neighbors, and they will repeat it daily and hourly spelling it out in beauty and fragrance.

Small baskets of winter vegetables, or apples, boxes of home-made sausage, jugs of cider tied with festive red and green ribbons, are all farm presents that go to the spot in a way that the gayest and most gold-leafed gift-books never reach.

Canned fruit, jelly and jam, and home-made candy, pop-corn balls, home-made crackajack are gifts that need not cost much. Let the children help crack the nuts for candy and cake making. A box of small iced nut cake or nut cookies, prettily wrapped and tied, is a present you may be glad to make and glad to give, for you may be sure that it will be appreciated and very much enjoyed.

Save the feathers from dry-picked poultry, and, instead of using naptime and booktime to embroider sofa-pillow covers, buy at your leisure, pretty suitable remnants for covers. Make up your pillows and have the satisfaction of giving a substantial present at small cost.

A most useful present I received was made of Turkey-red cotton of heavy quality. A piece of stiff paper seven by eight inches is covered with the cotton. In the lower left-hand corner a doubled piece of the cloth is chain-stitched on with black linen thread or floss, to hold large-eyed needles. Above, to the right, is a small pocket, also chain-stitched for an aluminum thimble, and in the upper left-hand corner is a spool of white linen-finish cotton thread, coarse enough to be strong, attached by a strip of black tape. The flap that covers this useful collection is decorated with a turkey outlined in black.

My Gift Shelf

From every batch of jellies, jams, preserves, grape juice, and pickles, I set away at least one tumbler or bottle on my Christmas shelf. These make very dainty and acceptable gifts. The amount, distributed throughout the season, is hardly missed and the labor involved is very little.

When apples are harvested I pick out a bushel or more of choice ones, polish them until they shine and wrap each one separately. Nuts, pop corn, and taffy candy, with walnut meats mixed in, also figure prominently in my list of gifts.

Knit and crotchet lace, collars and doilies, baskets of fruit, vegetables and even fresh eggs, each one wrapped in a bit of holly paper and then packed in a dainty box, go to make my friends happy at Christmas.

One Christmas I made a gift to a little bride who lived in a tiny city flat. She had taught school in our neighborhood the year before and we had learned to love her. I wanted to send her some of the good things from our farm. I took a mammoth pumpkin, cut off the stem end for a lid and scooped out the seed and pith. Then I lined the pumpkin with waxed paper and filled it with goodies. A small chicken dressed and placed on a bed of parsley; a glass each of chopped pickles, preserves and jelly; a square of fruit cake, and a tiny plum pudding, each well wrapped in waxed paper; a glass of cabbage salad; a stalk of celery; two sweet potatoes; a tiny mince pie and some homemade candy. I put more waxed paper on top and the lid was held in place with toothpicks. Next I wrapped the pumpkin in holly paper, tied it with red and green ribbon, packed it in excelsior in a basket and sent it by express. If one plans ahead this way, Christmas will cease to be a burden and a bugaboo.

PUTTING AWAY SUMMER CLOTHES

Since of late years our climate has become so variable, a great many do not pack away summer clothes until about the end of November. Then a time comes when there is a little leisure. Fruit and vegetables are all in place, fall house cleaning is done, and there is time to "fuss" over the packing as long as one chooses.

And, right here, it pays to take time over the work . It is necessary to have things come out looking well next spring, and how can they, if tumbled into boxes anyway and jammemd away anywhere during four or five months of winter.

Of course cedar chests are the ideal for packing things in, especlally for summer when moths run riot. But in winter it does not so much matter. Plenty of boxes and trunks, and a cold attic or other room for storage will supply all necessaries. If each person in the family can have a box for themselves, why all the better; just so much confusion can be saved when this or that garment is needed in the spring. It will be better still if each person can have two boxes, one for fine articles, the other for coarser articles, shoes, slippers, etc. And really boxes do not cost very much. Good stout ones with lids can be bought from store keepers for a trifle.

So now the packing itself: in the first place it is absolutely advisable to have everything clean that is put away; and be sure not to lay away anything that has been starched. Wash all the starch out and dry thoroughly, otherwise the garment will turn yellow.

It is advisable to mend any rips and patch any holes that may have appeared . There is time to do that now, and if there is one thing that is exasperating it is to take out garments in the spring, needed at once for wearing, and find them quite unfit to put on, a button off here, a hole there, a hem frayed, and so on.

If there are any shirt waists that are too much worn to do duty as shirt waists next summer, keep them out and make them into corset covers. If they are just a little worn about the neck, from wearing stiff colllars, cut off the neck band, mark scallops on the edge, butonhole with floss, and work any little dot or pattern you choose in the scallops. Make the sleeves to match—and presto! a new shirt waist.

If there are any children's dresses that will need lengthening in spring, do this also before packing the dress away. You can make a very good guess at the length and so save time in April and May when house cleaning and gardening are both on with a rush.

Fold all garments, do not roll them —and place them flat in the boxes. It is surprising to see how much even a small box will hold. Summer suits and coats should not be packed away; they should be hung up in out-of-the-way places, on coat and skirt hangers, the coat hangers should be padded to prevent wrinkling of the coat. Brush out every bit of dust from the suit and remove the spots, slip the coat on the hanger, stuff the sleeves with tissue paper, and put a packing of paper in the front of the coat, buttoning the latter in place. If the place where the suit is to be hung is at all dusty, slip a large bag made of five-cent factory cotton over the whole.

Fancy summer dresses should also be hung up in the same way. If it is absolutely necessary to pack suits or dresses use plenty of tissue paper for sleeves and soft rolls of it for the folds of the skit, etc. This will prevent sharp creases. Lay the coat with

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the front on top and button it up over the padding of paper.

Never pack white or light colored materials with white tissue paper as owing to some chemical used in bleaching it, it is likely to turn them yellow. Use blue tissue paper if possible.

Shoes never should be put away just as they are, if one has not shoe trees for them, one can at least stuff them with paper in so tightly that there is no possibility of them getting out of shape and creasing.

Hats too may be kept much more presentable if placed in their boxes on a pad of some sort that will keep the crown from sagging. An inverted strawberry box padded with paper is good.

Perhaps these little precautions do not seem important, but it is only necessary to try them once to be convinced of their advisability.

Hamilton Veteran Tells His Friends

THAT DODD'S KIDNEY PILLS ARE THE REMEDY FOR KIDNEY ILLS

Mr. S. Hodges, Seventy Years Old, but Still Young, Tells Why He Knows Dodd's Kidney Pills Are Good.

Hamilton, Ont., Nov. 8th—(Special) Convinced that Dodd's Kidney Pills are a sovereign remedy for kidney [illegible]lges, who lives at 68 [illegible]'s city, is recommending them to all his friends.

"I suffered from kidney disease for about four months," Mr. Hodges says. "It started from a cold, but I rapidly got worse, and cramps in the muscles, headache, heart flutterings and rheumatism were soon added to my troubles.

"My appetite was fitful and I felt heavy and sleepy after meals. I was very irritable and I perspired from the least exertion; I was often dizzy; I suffered from shortness of breath and it was difficult to collect my thoughts."

Mr. Hodges, who is a painter by trade, and seventy years of age, shows the benefit got from using Dodd's Kidney Pills. He only took two boxes, but with such good results that he says: "I can recommend them to all who suffer from kidney trouble."

Ask your neighbors about Dodd's Kidney Pills.

SEVENTH ANNUAL CONVENTION OF NEW BRUNSWICK WOMEN'S INSTITUTES

(Continued from page 88)

brighter outlook for little children than they could ever receive in the cramped life of an Institution.

The meeting was then adjourned and the delegates and visitors numbering over a hundred, hastened to participate of the generous hospitality of Mrs. W. E. Foster, in a most delicious luncheon given by her at the Manor House. Mrs. Foster received her guests, and the whole ground floor of the Manor House, made very pleasing to the eye with its daintily appointed tables was given over to their pleasure. There was a lack of formality that put every one at their ease, and added to the real enjoyment of the occasion.

Miss McCain and Mrs. Lawlor, in behalf of all present, publicly expressed their sincere thanks to Mrs. Foster —thanks which we are sure, was not only expressed in appreciation of the danity luncheon served, but more especially for the real interest in the Women's Institutes, which must have prompted such generous courtesy—an interest which was also clearly manifest in the address given by her husband, Premier Foster at the opening of the Convention.

Special cars then conveyed the guests to the Imperial Theatre, where the afternoon meeting was held.

The Hon. W. F. Roberts, M.D., Minister of Health, presided at this afternoon seesion and his introductory remarks were listened to wth much interest. He expressed great pleasure at being able to preside at such a meeting.

Speaking on Child Welfare, Hon. Dr. Roberts said we must conserve life, human life and its many branches is a vital subject. Women's Institutes stand for Home and all it represents. the Women's Institute work is of most importance. We have a fine country and fine people in that country, but we need awakening. There is too much drowsiness for lack of knowledge of the needs of humanity. He hoped that the present programme would be the means of starting a campaign in the interest of child welfare.

Miss Louise Anderson then favored the audience with a solo which was much appreciated.

Dr. Mabel Hanington, Medical School Inspector for St. John, then gave a bright, intelligent address on Medical Inspection Viewpoint.

Dr. Hanington told how the work in this line is being carried out in St. John, and the strong effort being put forth to militate against the spread of contagious disease from the school room. The Inspector visits each school at the beginning of the term and stands ready on call at any time.

There was need of each child, she said, having a thorough examination early in school life, preferably in Grade II., not only to determine physical needs, but also to find out all possible concerning those children who are handicapped from deriving the full benefits of education through being mentally backward. The new Health Act covered these needs very largely, and the needs are real; there ar 65.85 per cent in our schools which deviate from the normal, half of these may be from defective teeth, but this is no longer considered a minor trouble. Adenoid and tonsil cases are prevalent.

In St. John 1100 children were examined and some follow up work was done. It was found that 50 per cent of those taking action on advice have been remedied.

Dr. Hanington wished to impress on her audience the fact that mothers are not fully alive to the influence of late hours and tea on their children. Tea was too stimulating to the young brain. Would the Women's Institutes not make a stand for a reasonable bed hour and no tea for the children and work for free treatment for the teeth and eyes.

Dr. Hanington thought it would be well for the mothers to be present at the inspection of their children. Early steps, she urged, should be taken to make provision for those mentally deficient. Pro rata to population there are from 500 to 700 of these mentally defective in the Province of New Brunswick. We would not have so many criminals and delinquents in our community if our feeble minded received early attention. 65.80 of the delinquent girls now in Institutions are there due to feeble mindedness. Would not the Women's Institutes, she appealed, work for medical inspection to be carried out to its very best.

The violin solo by Mrs. T. J. Gunn, St. John, which followed this address was a real treat, and showed exceptional ability.

Mrs. J. C. Hanington, Chief Superintendent of the Victorian Order, Ottawa, was then introduced to the audience, and told of the organization of the Victorian Order 21 years ago and of the wonderful work accomplished by their nurses, who are all required to be graduate nurses, with the addi-

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tional training of four months of bedside nursing, which gives them the necessary training to go down and get in touch with the homes of the people As Florence Nightingale has said: "It is the word after the deed that counts."

The Victorian Order cares for the child welfare up to the school age when medical inspection steps in. Their organization stood for "Square deal for kid."

Mrs. Hanington told of the great work to be done and spoke particularly of the help needed for the women of the prairies going down to death each day. She said the Victorian Order service was ready for the Province of New Brunswick, there being already a branch in St. John, Sackville and one to be established next week in Fredericton. They work under and with the authorities and Health Department, and hoped for the help of the Women's Institutes.

Women's Institutes are in such close connection with the Department of Agriculture, which brings the co-operation of the women and men to build up a great nation. Other things will be of no avail without love of God, Home and Country.

Mrs. Hanington's discourse was followed by an Exhibition Film, showing what was actually done in a small American city (Gadsden, Ala., Pop., 13,000), under the stimulus of a child welfare campaign, promoted by the United States Government.

An interesting feature of this afternoon's programme which should receive special mention, was the flag drill and songs put on by over 200 of the children of the Free Kindengarten of the city, under the direction if their teachers. An exhibition which reflected great credit on the training which they receive.

Wednesday, 8.00 p. m.

Mrs. S. J. Osman, Hillsboro, in the chair.

After the singing of "O Canada" and a selection by the orchestra, Mr. N. Savoie, B.S.A. Secretary of Agriculture for the Province of Quebec, addressed the meeting.

Mr. Savoie told of the work that is being carried out in Quebec through the "Home Making Clubs" and "Cercles des Fermiers.'

The "Cercles des Fermiers" were started in Quebec in 1915, during Agricultural Short Courses being held, and they now had 23 circles among the French of their Province, and the convents and academies had been induced to add home making, bee keeping, etc., to their curriculum by a grant of $300 from the Government.

The French women entered into it with all the enthusiasm of their race and with their good taste and womanly ability, have succeeded in making agriculture better understood.

Bee-keeping, poultry clubs, kitchen gardens were all taken up and summer short courses held, their Government helping generously at all times.

The arts of spinning, weaving cheese and bread making were taught, and a library installed of books of information along their lines of work. They have now 1047 members and their annual exhibition at the Provincial Fair is the center of attraction.

This, together with their annual feast and outdoor festival, brings their work before the public and renders the rural life more attractive to the young, provides profitable recreations and uplifts the moral life of the community. They are now forming a Provincial Council composed of a member from each "Cercles des Fermiers" and expect soon to have an official publication.

Mr. Savoie then addressed the French delegates in their own language for a few minutes in closing.

Mrs. Osman and Mrs. Hanington both thanked Mr. Savoie for his interesting address and spoke in high praise of the race to which he belongs.

Miss Valde Fenton, St. John, then gave a much appreciated vocal selection, after which Mrs. Muldrew spoke on "The Women of the Future."

Mrs. Muldrew told of being the first organizer of the "Mome Makers Clubs of Quebec" which work so harmoniously with the "Cercles des Fermiers", and told of the great work to be done by the women in these strange times following the war. We have only to watch others to see where we are trending, and we should all work for the common good. We have enough of greatness in each Province to provide against a mean, petty spirit with the other provinces.

The Winnipeg strike brought out the fact that you cannot hurt anyone body without hurting others. There is a great need of more coordination of work and not so much overlapping.

Life is more complex today and that is why the life of women has to be directed into definite channels, and one thing that is coming back to Canada is home-work.

Mrs Muldrew told of the vocational schools in the West and the splendid work through them that has been accomplished for the backward children. Alberta has proved the system a great success. 85 per cent of these backward children passing their final exams. successfully.

Mrs. Muldrew said to remember that the girls of today were the women of the future, and should be trained to make better wives and thriftier women, a better asset to the country. It is a fatal mistake not to train your girl for a life job whether she marries today or the next day. She never

(Continued on page 112)

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Do Not Neglect The Bad Cold OF TO-DAY

IT MAY BE SERIOUS TO-MORROW

May Develop into Bronchitis, Pneumonia and perhaps Consumption.

Miss Mary Prouse, R.R. No. 1, Cedardale, Ont., writes—"I had the Influenza in November last, and it left me with a terrible cough. I did not attend to it until it got so severe people warned me it was time to see about it. I went to the doctor and got some medicine. He told me it was a bad attack of bronchitis. I could not sleep, and would have to sit up nearly all night, it was so difficult for me to get my breath. The doctor's medicine did not seem to be helping me the least bit.

One of our neighbors came in one day, and told me about Dr. Wood's Norway Pine Syrup. I tried it and took two bottles. No person could believe how it helped me. I have recommended it to different people since, for I believe I have reasons for doing so.

Dr. Wood's Norway Pine Syrup has been on the market for the past 30 years, and stands out by itself as a remedy for all coughs and colds.

Be sure and get the real "Dr. Wood's" when you ask for it. Put up in a yellow wrapper; 3 pine trees the trade mark; price 25c. and 50c.

Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

THE RELATION OF COLORS TO THE INDIVIDUAL

"Choose the color that suits you, madam," saiys Paul Poiret. Unfortunately this advice is not always followed. If a manufacturer puts a new color upon the market this season—rhinocerous pink, perhaps—we hasten to procure some of the new color in order to adorn ourselves fashionably, regardless of the fact that our complexion may be pea-green. A wise woman, however, will study carefully the effect of the color against her complexion before choosing it for a gown. Bright blue will emphasize the shallow complexion of a person who is naturally sallow. The law of simultaneous explains why—a color reflects its complement. The complement of blue is orange. Tinge a sallow complexion with orange and it becomes more sallow. This knowledge is of the utmost importance to the woman who wishes to wear becoming colors.

Simplicity in Dress.—There is one kind of costume which is always pleasing and strikes a note of refinement in dress. This costume is one in which one color predominates. A woman all in white or in black usually achieves an air of distinction which she fails to achieve in a costume of many hues. This is especially true of clothes for the street. The garb of mourning carries with it the stamp of quiet elegance. This is true also of the colors blue, brown, green and violet in their more subdued hues. A string of beads, a knot of ribbon on the blouse, or a feather or flower in the hat may furnish all that is needed of a contrasting color for accent. Many women lose their individuality in their trappings . This danger usually lies in unintelligent use of many colors. That costume is most pleasing which stands forth as a unit, a perfect whole.

A predominating color throughout the entrie wardrobe not only unifies one's appearance but also enables one to dress more economically. The expense of buying accessories to harmonize with costumes of various hues is a very large item in the cost of the wardrobe.

Colors Appropriate for the Season—To appear in a bright yellow dress on a hot sumer day is a crime. There should be a law to prevent the infliction of such torture on an already perspiring public . A bright red dress is equally bad. If the cool colors, blue, green and violet ,are not becoming, it is possible to obtain very subdued intesities of the warm ones, red, orange and yellow.

Colors for Fat Women.—Color emphasizes line. To secure good lines is the fat woman's problem in dress. The general background for all life is neutral gray. To cloths one's self in pronounced color against such a background is to emphasize one's outline. Therefore the women who wish to conceal unattractive lines will resort to the gray or neutral hues. Bright colors and warm colors— red, orange, yellow—have the power of making objects appear larger than they really are. A word to the wise is sufficient.

Color and Texture.—When choosing colors, the texture of a fabric should be considered. Brilliant, hard colors should be avoided in a hard, wiry fabric. Soft silks, crepes, and thin materials which lend themselves to graceful folds have a tendency to make colors appear softer. In these materials stronger colors are permitted.

Transitions.—To oppose an unrelieved color against the face is apt to be trying except in rare instances of perfect complexions. Some soft, transparent stuff in white, cream or gray should be used to modify the transition. There are few, even among young girls, who can afford to omit this softening amalgam. It is an unfortunate mistake, frequently committed, to wear a dark dress without a collar to effect a shading between the dress and the skin.

Color for Types.—Every woman is an individual type. Broadly speaking however, women may be classed as blondes or brunettes. Red is for blondes and blue is for brunettes. Ther reverse of this rule was formerly thought true, but paintings by masters in art have proved the reverse. Brown, gold, yellow and cream-white are also brunette colors. A woman whose hair is auburn or red will find her colors among the browns, violets and lavenders. There are many women, however, who belong to the no-particular type. For them, choice of becoming color is a matter of experiment. An artist tries many colors on his palette before transferring them to canvas.

LET a woman ease your suffering. I want you to write, and let me tell you of ... method of home treatment, ... n days' free trial, post- ... it you in touch with ... Canada who will gladly tell what my method has done for them.

A MESSAGE TO WOMEN!!

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.

Mrs. M. Summers, Box 309 Windsor, Ont.

PILES Do not suffer another day with Itching, Bleeding, or Protruding Piles. No surgical operation required. Dr. Chase's Ointment will relieve you at once and as certainly cure you. 60c. a box; all dealers, or Edmanson, Bates & Co., Limited, Toronto. Sample box free if you mention this paper and enclose 2c. stamp to pay postage.

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This Bank is prepared to help farmers in every way possible. 80A

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Whether one always succeeds in finding the most becoming colors for her type may be a question. But no one needs to make herself silly or ridiculous by her choice. To be stared at is not always a compliment. Good taste is never characterized by gaudy display.

Effect of color on wearer.—It is claimed that color affects both the body and the mind of the wearer. Red is an exciting color . We are told that association with it will actually increase the number of heart beats. The cheerfulness of the Japanese as a nation may be due to the fact that they "swim in a sea of yelolw." Blue and green have a quiet, soothing effect. Dingy clothes make one feel dingy. A personality may be warped and spoiled by ugly clothing.

It is urged by some that color is secondary to line and form. Without entering into the argument, it may be safely said that there is no element in our sensuous nature which gives us greater or more varied pleasure than our ability to see color. In the light of these facts it becomes imperative for us to cultivate a refined color taste, not only for own pleasure and happiness, but also for that of the people with whom we associate.

HOW TO JUDGE POULTRY

Chickens.—Soft and smooth legs and feet, flexible breastbone, tender skin, lean in flesh and few or no hairs.

Fowl.—Hard and scaly legs and feet, hard breastbone, tough and thick skin, fat, especially about the intestines, many long hairs.

Fresh poultry should be firm and of a yellowish tinge and sweet odor with a fair amount of fat under the skin. A flabby bluish look denotes cold storage poultry.

The canny woman who adjusts her menu of the most seasonable supplies has poultry on her list for October. Of all the methods of cooking poultry roasted chicken is probably the most popular. It is also the most expensive way, although a bit of extravagance is warranted by the resulting succulent flesh with all its juicy tenderness coaxing the palate from beneath a cover of crackling goldenbrown crust.

Bake in a covered roasting-pan with a little water in the bottom compartment. Cooking will take from an hour to a half in a moderately hot oven.

Roast Chicken.—Make a stuffing of dried bread crumbs, which have been put through the food chopper, using the medium-fine grinder. Use about one cup of crumbs. Moisten with as much milk as the crumbs will absorb and season to taste with butter, about one tablespoon, half a teaspoon of salt, a little pepper, and sage or poultry dressing.

Put this stuffing into the dressed and well-washed bird by spoonfuls.

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WHITE LILY BISCUITS

Are Tasty, Crispy and good They satisfy

Ask for Marven's and accep' no substitutes

TRADE MARK

SOLD IN BULK—IN PACKAGES—IN TIN PAILS

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BISCUIT MANUFACTURERS
MONCTON HALIFAX ST JOHN

First fill the crop region about two-thirds full and tie up the end of the skin over the neck. Next fill the body region in the same proportion. Sew up this opening or fasten it by sticking toothpicks across both flaps of skin and then lacing around the ends. Truss wings and legs close to the body by twine, or better still by two long skewers put through the body of the bird, one just beneath the legs, the other through the wings and breast. Tie the ends of the drumstick bones together and draw down by string to the tail. Continue the string to fasten around the skewers and legs. Cross the strings over the back and wind them around the wing skewer. Tie them over the back. If the chicken is very lean it will need to be covered with paste made of butter, salt, peper and our mixed. Southern cooks always use this "tendering paste."

The most economical way of serving poultry is the fricassee, especially if the cooking process is carried on in the fireless. For this method a good fowl, not too fat, should be selected.

Stewed or Fricassee Fowl.—Have the fowl dresed and cut at the market. Wash all the pieces carefully and wipe with a fresh food cloth. Put the pieces into a container and just cover them with water . Simmer for fifteen minutes and then transfer to the fireless cooker for five or six hours. If not tender at the end of that time reheat and cook again.

Three ways of serving fricassee fowl: 1. Thicken the gravy. Make dumplings or cook baking-powder biscuit, split them and serve meat and biscuit in the gravy. 2. Remove meat saute it and serve it thickened gravy. 3. Remove meat from bones and skin. Put it through the food-chopper. Clear the liquor in which the fowl was cooked and thicken it with gelatine, using one tablespoon of granulated gelatine to each pint of liquor. When the liquor begins to set stir it in the meat. Mold in deep narrow baking-pan and serve in slices cold.

BATHROOM AND FURNACE

The list of conviences in the housewife's department can be extended almost indefinitely or until they become luxuries. Along with the use of the elevated tank, the farmer may have a bathroom where all the household may have a refreshing bath after a hard day's work. Then there is the question of heating the house properly. A furnace, either hot air or hot water, may be put in at a moderate cost. If the farmer feeels that he can afford such a thing, he will find it a great saving in the end. In normal times he can purchase his fuel from the coal dealer cheaper than he can hire a man to cut wood. By putting in a furnace the farmer will find that all parts of the house can be warmed during the winter and made pleasant and healthy. Then, too, with a furnace, the fuel is kept in the cellar, thereby saving the housewife from dirt which must be cleaned up when two or more stoves are kept going during the winter.

Ginger Drop Cookies

1 cup fat.
1 cup sour milk.
3¼ cups flour.
½ teaspoon cloves.
1 teaspoon cinnamon.
3 eggs.
1 cup brown sugar.
1¼ teaspoons baking soda.
¾ cup molasses (very dark.)
Pinch of salt.

Cream sugar and fat. Add well-beaten eggs, then sour milk with soda in it, then molasses, then flour and spices. Drop by spoonfuls on tins and bake quickly. Makes four dozen cookies.

Mrs. H. H. B., Montana.

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If you are not satisfied for any reason, simply send the goods back and we return your money in full at once, as this is our positive guarantee under which all HALLAM FUR GARMENTS are sold.

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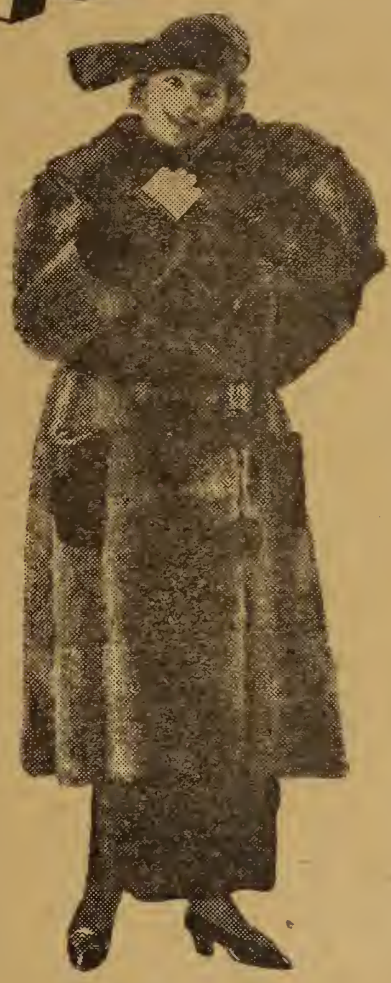

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We pay Highest Prices for Raw Furs at all times.

FRONT WHEEL ADJUSTMENT

J. G. H. writes: I have always thought that the two front wheels of a car should both point exactly straight ahead, along parallel lines, when the car is headed forward, but I am told they should point a little toward one another to give the best results. Why is this and how much should they point together?

Answer: When running the wheels should point as you thought they should but, in order to make them do so in practice it is found necessary to so adjust them that, when the car is standing they should point slightly together in the forward direction. This is because the effect of the road resistance which they overcome tends to

make them diverge slightly or "toe out" and any "spring" or looseness in the knuckles or in the connections of the cross rod may permit them to do so, and to wear the tire treads unduly. To counteract the effects of this tendency, the distance between the centers of the tire treads measured at the front should be made about 5-16 inch greater than the corresponding distance measured at the rear, in the same horizontal plane. In the cross rod connecting the two wheels is usually provided an adjustment by which its length can be altered and this wheel adjustment made correct.

LIFE OF V-TYPE ENGINES

H. F. writes: I am strongly tempted to buy a ——— car, but a number of apparently intelligent people have warned me against so doing, because this car carries a V engine, and this

— soon wears its cylind- l becomes unfit for service. your impression as to this?

Answer: Their claim is not well founded and is probably based upon the idea that the weight of the piston is an important factor in causing friction and wear. In the vertical engine, piston weight does not act upon the cylinder walls, but in the horizontal engine it does and also in the V type, to a less degree. However, the effect of piston weight amounts to nothing as compared with that of the wall pressure transmitted through the connecting rod and there is no practical difference in the rate of wear of a cylinder whether it is vertical, horizontal or inclined, provided all other conditions remain the same.

ADVANTAGES OF AUTOMATIC SPARK TIMING

P. asks: Is there any advantage in the form of ignition, in which the spark is regulated by an automatic device, over that in which the driver regulates it in the usual way?

Answer: Somewhat higher fuel economy and less strain upon the engine is obtainable with the automatic than with the manual method of spark timing. The automatic device simplifies the duties of the operator and doubtless is more correct in its action than any driver can be. It is not, however, capable of adjusting spark position to best meet extreme conditions and manual regulation is then requir-

ed, but, on the whole, we believe that it is a great help in obtaining good operative results. Different ignition systems, possessing varying electrical characteristics, differ widely as to the amount of spark regulation they require. Some require a very wide range, to insure the best results, and the automatic device is of great advantage with them. Others require very little change in timing and can be operated with good efficiency with almost a fixed setting though a very great range of engine speed. The automatic advance is of less value under such circumstances.

CRACKED BATTERY JAR

I. W. H. writes: One of the cells of my storage battery takes at least twice as much water to keep it filled as does either of the others. Why is this?

Answer: The probabilities are that

this jar is very slightly cracked, allowing liquid to seep out very slowly and not fast enough to make a noticeable mess. Its escape will, however, result in so great a reduction of electrolyte strength in this cell, as to interfere with the battery's operation. You better have a battery expert make an examination.

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Highest commissions paid.

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MALTESE CROSS TIRES

TIRE CONTENTMENT

Motorists are now at peace with the world and touring has become on episode of pure enjoyment through the good offices of the new model Maltese Cross Tires. Watch for the cheery expression of the motorist whose car is equipped with

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You will find him an enthusiast. When he talks tires, he quotes our slogan—"Maltese Cross Tires are 'The Tires That Give Satisfaction.' "

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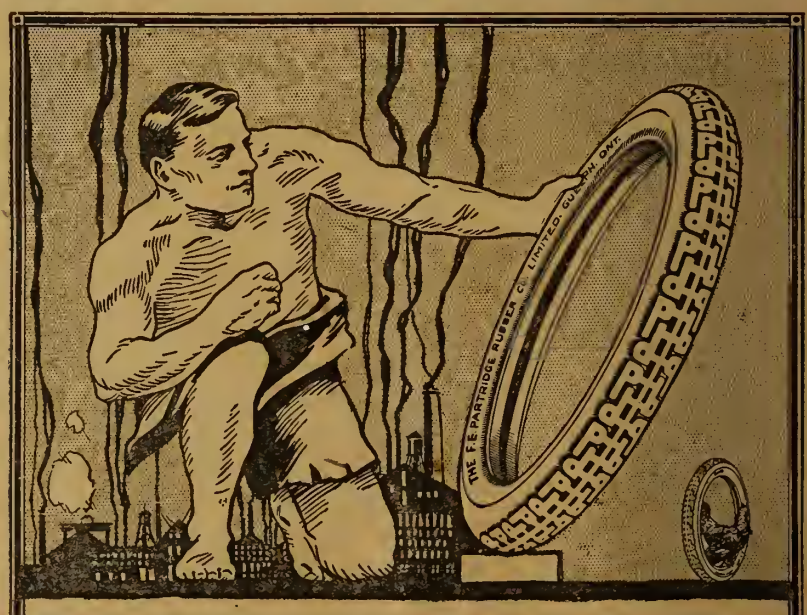

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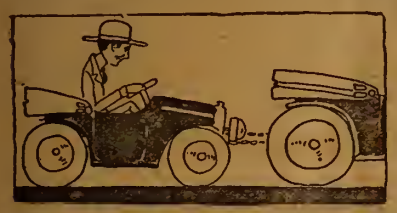
A LUCUBRATION ON LUBRICATION.—CONSISTENT LUBRICATION KEEPS CARS YOUNG

The greatest avoidable loss suffered by users of motor cars is that caused by their failure to keep all working parts continuously properly lubricated, and it is a colossal loss. It takes, roughly speaking, 50,000 to 100,000 miles of service to wear out a conscientiously lubricated car and a car with ideal lubrication would never wear out, because no two working parts would ever come in actual metaillic contact, for they would always be separater by a film of oil or grease, which would itself assume all friction. On the other hand, it requires only a few miles of service thoroughly to wear out some parts of a car, when their surfaces are devoid o flubricant, and only a very small mileage, performed under such conditions, will destroy the fit of all working parts. It is literally true that a new car may be practicall ruined, the first time it is taken out on the road, if oiling is not attended to or it may be found in almost perfect mechanical condition, after five years of service, if there is no failure in lubrication during that period. Like many calamities in human affairs, only one slip "from the path of rectitude" is required to do the harm and one instance of neglect in the oiling of an important motor car part is sufficient to spell its ruin. Occasionally, but very rarely nowadays, a car is taken to the repair shop for the replacement of a part broken in normal service. Sometimes cars suffer collisions and need to have parts straightened or replaced, but by far the greater portion of repair shop work is the replacement or readjustment of worn parts. An overhauling is simply a search for parts which have suffered serious wear and must be tightened up, or in extreme cases replaced. The oiling arrangements of practically all recently designed cars are well nigh perfect and we venture the assertion that, when such a car requires overhauling under say 15,000 miles of service and numerous badly worn parts are found, this car is, in nine cases out of ten, a victim of lubrication neglect. Because of the unwillingness of owners to admit their own negligence, the full story of the evils of non-lubrication is seldom known. Failure to use oil and grease intelligently and consistently fattens up the repair shop, makes the new car old before its time, converts it into a rattletrap prematurely, and destroys its usefulness while it should yet be at its best.

ENGINE LOSES POWER AFTER REPAIRS

B. F. R. writes: After repairing a break in the crank case of my engine, new piston rings were put in and the valves were ground. It was then so stiff it had to be limbered



up by towing, but now it can be cranked by hand. It now runs very smoothly, but wilil not pull on hills, and seems to be overloaded, although "hangs on" to the last minute and never backfires. What causes the trouble,

Answer: Maybe it is not entirely limbered up yet. With the engine hot, take out all spark plugs and see if it can be spun over without resistance. If not, it is not yet "worked in" and power is being lost in friction. At the same time see that each cylinder is gas tight, by putting a plug in one at a time and cranking it over compression. If any cylinders leak badly, the rings are not yet fitted and power is being lost. Place the car on a level floor and see if it pushes about as freely as formerly. If not, locate and remove the drag. Check up valve and ignition timing, by the manufacturer's instructions. Be sure that the mixture is not over-rich, but adjusted for maximum pulling power.

TIRE CHANGE ALTERS ODOMETER READING

J. H. K. writes: My car is equipped with 34 x 4 inch tires, but I have had the rear ones "half soled" so that they are 35 inches in dimeter . My speedometer is operated by the drive shaft, not by a front wheel. Will this change in tire size make my odometer reading larger or smaller than the mileage actually travelled and how much?

Answer: A 34 inch wheel turns 593.2 times in travelling a mile and a 35 inch wheel 576.2 times (no allowance being made for slip in either case.) Your odometer is so geared that it registers one mile every time the rear wheels turn 593.2 times. With your 35 inch rear wheels, you will cover a mile in 576.2 of their revolutions, but the odometer mechanism will lack 17.0 turns of sufficient to give a one mile increase in its reading. Your odometer reading will be about 2.9 per cent less than the actual mileage covered. That is, for every 100 miles that you run, your odometer will show about 97.1 miles.

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STORING GRAIN IN STACKS AND HOW THEY ARE BUILT

Stacking grain crops is not a common practice on a Canadian farm. In Britain the stackyard is one of the chief characteristics of the farm, and the farm hand there has the opportunity to become skilled in the art. The moist climate in that country makes stacking of the grain necessary, and the farms are not equipped with barns large enough to hold the grain crops grown.

There are, however, many seasons and conditions in Canada when stacking the grain crops would be found beneficial and a word as to how it is done may help to facilitate the work when the busy day arrives. Round stacks are more easily built and usually keep better than ricks, and the latter should not be attmpted until the farmer has had some experience in stacking. When large ricks are desirable to allow more grain to be handled from one setting, they should be set with the long way north and south, otherwise the north side is likely to dry slowly and some grain may sprout there.

Starting the Stack

Where possile a bottom about 10 or 12 feet square should be built of poles or rails to keep the stack from getting damp . The bottom is then covered by laying a row of bundles along one side with butts out, then laying a row on top of these with the butts in the opposite direction and completing the bottom by several other rows laid in the same way as the second row, each row lapping the preceding row about to the bands.

Next the stack proper is started by laying a circular course of bundles around the outside with the butts out. These should be laid closely together and care should be taken to keep all sides as nearly level as possible. Then another circularl course should be started inside with the butts reaching out to about to the bands of the outside course. When this is finished, a third course should be laid in the middle with the butts reaching out about to the bands of the second course. In laying these courses the best and safest practice is to lay the outside course with the fork and not to step on the bundles at all whlie the second and third courses should be well settled by stepping on every bundle, the very center of the stack being tramped as hard as time will permit.

This is the great secret of building easily a stack which will keep well, to keep off the outside courses and to tramp well the inner courses. This means that when the stack settles, the outside will settle more than the center, thus causing the outside bundles to slope downwards and turn any rain which otherwise might be beaten into the center. Another great advantage of tramping the inner courses and keeping off the outside ones is that the slope from the center out does not need to be so steep as when the outside courses are tramped, and the danger of slipping is very much less.

The Bulge

After building about three or four layers with the outside layers laid up about straight and getting the middle well tramped and somewhat higher than the outside, it is usual to give the stack or rick a slight swell or "bulge," as it is usually called. This is partly for looks but mainly to give more capacity to the stack and to cause the outer bundles to have a more decided droop.

This is done by putting each outside layer a few inches beyond the course below, for about five or six layers.

A common way of doing this, as giving about the proper amount, is by twining each bundle with the long edge of the butt up. While this twining of the bundles is not necesssary it gives about the proper amount of bulge and makes a smooth appear-

Men who work in Steel Mills

and similar plants coming from an overheated shop out into the chilly night air require extra good underwear protection.

During their strenuous work, perspiration opens the pores and grippe frequently results unless the body is protected with heavy, honest wool underwear.

Atlantic Underwear affords the best protection for such workers. It absorbs the perspiration and protects against dangerous chills resulting from extremes of heat and cold.

Sold in five different weights and qualities. Our lower-priced lines are not equal to the more expensive ones, but each is guaranteed to be the best value of its class. Compare them with others of like price and see for yourself.

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ATLANTIC UNDERWEAR LIMITED
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Smart Children's Shoes That Stand Hard Wear

Sturdy little ones are neatly shod in comfortable Amherst Shoes. Their growing feet are not crowded—especially in the flexible foot-form lasts with the smooth tread—and these shoes will wear longer than most.

Made in sizes 11-7; 8-10½; 5-7½

Amherst Boot & Shoe Company Limited, Amherst, N.S.

ance. It will be well for the beginner to get off the stack occasionally to se how his stack looks, and especially that he is keeping all sides alike.

Drawing In

After laying out of bulging for five or six layers it is customary to lay two or three straight and then begin to draw in. This is usually done by turning the long side of the butts down, this giving about the correct slope. It requires a little practice to get the happy medium between two squat a stack and one that runs too high up. However, if the middle is kept full and well tramped there is very little danger in drawing in too rapidly, and the difference in capacity is not very great.

Finishing

Various methods of topping out are practised by different men, the object of course, being to turn rain and also to prevent the top from blowing off. A very common way is to save two or thee good cap sheaves and put these on the very top fastening them down with a stake run down through the centre. The best top, however, is to put a forkful of hay on tap, and weight this down with wires to which are fastened posts or pieces of rail.

A very good plan is to rake down the sides with a hand rake. This pulls out the loose material from the butts of the bundles and makes them turn the water very much better. Where the stacks are topped with hay and well raked, the usual flock of sparrows, as well as the neighbor's chickens, will find rather poor picking. The mateiral raked out of one stack may be spread over the bottom of the next one.

Precautions

The following points are the principal ones to be watched in building a stack which will keep well:

1. Do not tramp the outside course.
2. Keep middle thoroughly tramped and well filled.
3. A certain amount of bulge should be given the stack.
4. Too steep a slope to the centre will give trouble with slipping of outside layers, especially if grain is very dry. Rye is especially bad in this respect.
5. Bundles should be pitched well to the centre of stack and all loose material must be kept off the outside courses.
6. All sides of the stack should be kept even.
7. Do not try to give too much bulge.
8. Do not run the stack too high.
9. Keep the middle full and well trampled.
10. Put a good lightning rod on a pole near the stackyard and several feet above their tops, or else take out fire and tornado insurance. Plowing or discing a safety belt around the stackyard is also a cheap but effective safeguard.—I. W. Dickerson.

SEED GRAIN DISTRIBUTION

The annual free distribution of samples of seed grain is being conducted at the Central Experimental Farm, Ottawa, by the Dominion Cerealist.

The following kinds of seed grain will be sent out this season:—

Spring Wheat (in about 5-lb. samples), White Oats (about 4 lb.), barley (about 5 lb.), field peas (not garden peas) about 5 lb.), field beans (early ripening only for districts where the season is short) (about 2 lb.), flax for seed (about 2 lb.', and flax for fibre (about 2 lb.)

Only one sample can be sent to each applicant.

Applications must be on printed forms which may be obtained from the Dominion Cerealist at any time after Sept. 1st.

As the stock of seed is limited, farmers are advised to apply early to avoid disappointment. No application forms will be frunished after Feb. 1st, 1920.

C. E. SAUNDERS,
Dominion Cerealist.

An Exchange of Money That Pays—

When you buy Victory Bonds you simply exchange one kind of money for another.

A dollar bill is Canada's promise to pay.

So are Victory Bonds.

But Victory Bonds pay 5½% interest.

Consider the security behind Victory Bonds—

Canada and all that is contained therein.

Consider the good rate of interest—5½%.

Victory Bonds pay nearly twice as much as Savings Banks.

Consider the saleability of Victory Bonds—

Their use as security for a loan—

Their prospective advancement in price—

Canada must have this money to clean up our obligations to our army and maintain the prosperity of our Country.

These are the best reasons in the world for exchanging one kind of money for another.

Every Canadian should put all his weight behind this Loan.

He should exchange every dollar possible for Victory Bonds—and every dollar he can save for the next ten months.

BUY VICTORY BONDS

Every Dollar of this Loan will be Spent in Canada

The Canadian Fairbanks-Morse Co. Limited

Halifax St. John Quebec Montreal Ottawa Toronto Hamilton Windsor Winnipeg SasKatoon Calgary Vancouver Victoria

50

NOT ALWAYS WISE TO DOCTOR FOWL

Much has been written on the cure of poultry diseases and many formulas have been presented, but the average poultry raiser is better off in the end not to doctor sick individual fowls. One sick hen, if allowed to run, may affect the whole flock and the ground around the house. Further, the common experience is that a sick hen which has been "doctored up" and "made well" is never likely to amount to much as a layer or a breeder . Usually the weak bird is the first to catch a disease.

Flock treatment for the prevention of disease and the cure of minor ailments is advisable, but the less "pampering," "coddling" or "doctoring" done in a chicken house the better.

The axe, after all, is the best cure and seldom, on the farm at least, is a bird so valuable as to make doctoring advisable. Using the axe freely should the first step in combating any disease. Affected birds are the most common agent in spreadng disease in a flock, and the sooner they are removed or killed the better.

SEVENTH ANNUAL CONVENTION OF NEW BRUNSWICK WOMEN'S INSTITUTE

(Continued from page 105)

knows when she may need one. Train them in the fundamental things, the value of food and how to nurse, also to study the civil government of their land, because they are citizens.

She deplored the lack of reserve power among the young and blamed the late hours the girls and boys of today are allowed to keep for much of this, also lack of discipline. We should apply more intelligence to the bringing up of our young. When it requires brains to bring up chickens to raise bees, etc., what about our children?

In the next few years we need more thrift in Canada than ever before, as we are facing a great debt. France has learned thrift and so may we.

The Women's Institutes, Mrs. Muldrew urged, could help a great deal by raising the standard of rural life. good children are an asset to the country, and when working for the welfare of the child that is an upward life. Industrial life tears down our children, there should be women inspectors of our factories.

Prepare to economize emphasized Mrs. Muldrew, hard times are coming. The value of a Canadian dollars shows this is true.

Women are moulding public opinion, it must be moulded wisely. Today there are forces that are dividing us. The Women's Institutes should bring us together.

Mrs. Muldrew spoke earnestly and was listened to with interest.

Miss McCain thanked Mr. Savoie and Mrs. Muldrew for their splendid addresses and spoke of her personal knowledge of the Vocational Schools of Alberta and the splendid work being done.

Meeting adjourned.

Thursday, 9.30 a. m.

Mrs. T. N. Vincent, President of the Free Kindergarten Schools of St. John presided over this meeting.

After the singing of "O Canada", the reports of Institutes were completed. The Hillsboro Institute reporting the winning of the prize of $10.00 given by the Department for membership and programme.

An invitation was then extended from Mr. Golding of the city, to a private screening of moving pictures in the Imperial Theatre that morning at 10.30.

It was moved and carried that a vote of thanks be sent to Mr. Golding for his kind invitation.

The report of the Credential Committee was then heard and Miss McCain explained for the benefit of those who might not understand the need of this committee.

seconded that in only 20 delegates had brought credentials, that the need be waved for this session.

Miss McCain read Greetings from the St. John Chapter of Daughters of the Empire, conveying sincere wishes for success.

Miss McCain then read the constitution of the Federation and the names of the Directorate and Representatives upon Standing Committees of the Dominion Federation, were read as follows:

Miss Hazel McCain, Miss Eliza Campbell and Mrs. J. W. V. Lawlor, directors.

Mrs. H. Lawrence, immigration; Mrs. C. J. Osman, legislation; Mrs. Royez, home economics; Mrs. Chas. Comber, education; Miss Catherine Stewart, child welfare; members of committees.

The ratification of these appointments made by the Supervisor was moved and seconded.

Report of Resolution Committee was then submitted and the following resolutions passed:

A resolution asking the government to appoint two women to the board of motion picture censors, and one asking the government to add a branch of kindergarten instruction to the normal school curriculum.

A resolution asking for support in caring for the feeble-minded and that the institutes aid Rev. George Scott, 4 Queen St., St. John, in his efforts to improve the status of the feeble-minded, was read and while approved of, it was left to the various institutes to act on this matter at their discretion.

It was moved and carried that the Resolution Committe draft a resolution re Mothers Pensions, further moved and carried that Mrs. Rose Henderson be asked to draft this.

This finishing the business of the session the meeting adjourned, to partake of a dainty luncheon prepared by the ladies of St. John, after which they enjoyed a motor tour through the city, through the kindness of a number of the citizens of St. John, who generously loaned their cars for this purpose.

The members of the French Institutes showed their appreciation of the kindness and hospitality of Mrs. J. W. V. Lawlor, president of the St. John Institute, by sending her a box of American Beauty roses, a gift which was much appreciated by Mrs. Lawlor.

MRS. M. A. MacLEOD.

THE NEW BRUNSWICK DAIRYMEN UNITED ANNUAL CONVENTION AND DAIRY SHOW

The N. B. D. U. will hold their first annual convention and dairy show in the Agricultural Building, Sussex, on December 3rd and 4th, 1919.

The first session will open at 1.30 p. m., December 3rd, and will be devoted to the cheese interests. A public meeting will be held in the evening and prominent speakers will be present to address the gathering on popular topics.

The morning session on the 4th of December will be devoted to the butter and creamery interests and the afternoon will be given over to the business of the organization.

Fuller announcement as to the programme and prize list will be announced later.

HOW TO TELL YOUR BEST LAYERS

Everyon knows that some hens lay much better than others, but not everybody who keeps hens has the time or equipment to figure out the exact difference between a good layer and a poor one. Professor M. C. Herner, head of the Poultry Department, Manitoba Agricultural College, has some very startling figures in this connection as a result of using trap nests and keeping careful records. In one season, out of 325 pullets there were a hundred that laid over 100 eggs. Of these there were 25 that laid over 175 and four that laid over 200. Of the remaining hens that laid less than 100 eggs, there were some that laid only three. There were even two that did not lay any eggs at all.

Now, a poor layer eats just as much or nearly as much as a good hen and takes up as much room and gives as much trouble. It is obvious that if you are keeping hens at all, it pays to keep the kind that will lay well.

There are certain points to look for in selecting good layers, assuming that you cannot use the trap nest system and determine the matter accurately.

1.—As a rule poor layers are fat, lazy hens. 2.—Poor layers molt early in the summer. 3.—They remain on the roost late in the morning and go back early in the evening. Good layers, on the other hand, are bright, vigorous, active hens, working and scratching all day long. As a rule, heavy layers molt late in the season, in September, or even as late as October.

There are many important points to note in selecting good layers such as the fact that in yellow-legged breeds, poor layers have legs of a rich yellow while the good layers have legs of a paler, faded yellow. In heavy layers, too, the pelvic bones are much farther apart than in poor layers.

The Tracks Save Power

The Cletrac Tank-Type Tractor runs on metal tracks like a locomotive. Three wheels on each side carry the entire weight of the machine and run on the endless tracks which are laid down and picked up as the Cletrac goes along.

This distinctive feature enables the Cletrac to work efficiently on wet or sandy soil, sod, snow or ice. It permits it to go over the seed bed without packing the soil. The Cletrac will work on hills where most tractors fail.

Small But Powerful

The Cletrac is only 96 inches long, 52 inches high and 50 inches wide, enabling it to work up close to trees and fences, and making it ideal for orchard use. The Cletrac is extremely powerful. It has a speed from 40 to 50 per cent. greater than the average tractor.

The Cletrac does *more* than plow. It goes right through from plowing to harvesting. In addition, it does the belt work on the farm.

The Cletrac is specially designed to operate on kerosene. More economy.

Write for the illustrated booklet "Selecting Your Tractor."

St. Catharines, Ont.

Since purchasing my Cletrac I have had it in almost continuous use. Before buying a Tractor I attended a number of demonstrations and investigated to my own satisfaction the merits of the various Tractors that are on the market, finally purchasing the "Cletrac" in preference to any other make, and I am entirely satisfied with the results I have obtained.

Yours very truly,
Geo. Goffin.

Cletrac
TANK-TYPE TRACTOR

The Cleveland Tractor Co. of Canada, Limited, Windsor, Ont.

Free!

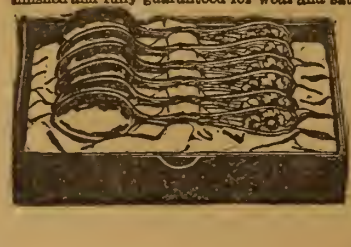
97 Piece Dinner Set

and Lovely Set of

Rogers Spoons

A MARVELLOUS OFFER TO QUICKLY INTRODUCE A DELIGHTFUL NEW PERFUME!

YOU can secure without a penny of cost this magnificent 97-piece English Dinner Service and a lovely set of half-dozen Wm. A. Rogers teaspoons. Each dinner service is guaranteed full size for family use, its 97 pieces comprising 12 cups and 12 saucers, 12 tea plates, 12 dinner plates, 12 bread and butter plates, 12 soup plates, 12 sauce dishes, 2 platters, 2 oval covered vegetable dishes, a cream jug, covered sugar bowl, a gravy boat, pickle dish, and a salad bowl. It is handsomely decorated in rich floral design and will surely delight the most fastidious housekeeper. The beautiful set of teaspoons are in the famous Wm. A. Rogers Rideau Castle design beautifully finished and fully guaranteed for wear and satisfaction.



Read Our Wonderful Offer

We have just produced a delightful new perfume known as "Coronation Bouquet." It is so delicate and fragrant that we know every woman who tries it once will use it always, so we are sparing no expense to secure representatives in all parts of Canada who will help us by introducing this lovely new perfume to their friends and neighbors. That is why we offer to give away these magnificent and costly premiums.

Will you sell just 16 bottles among your friends at only 25c. each?

You can do it quickly and easily in your spare time as everybody you know will gladly try a bottle of this lovely new perfume at only 25c. Send us your name and address to-day and we will send you the 16 bottles all postage paid, and trust you with them until sold. Then return our money, only $4.00, and we will promptly send you the beautiful set of spoons, and the handsome dinner set you can also receive without selling any more goods by simply showing your fine reward among your friends and getting only seven of them to sell our goods and earn our fine premiums as you did. We arrange to pay all delivery charges right to your door.

REMEMBER YOU TAKE NO RISK. You do not spend a cent of your own money. We trust you with our goods until sold, and if for any reason you cannot sell them we will take them back and give you beautiful premiums or pay you a big cash commission on the quantity you do sell. Write to-day. Address: 15D

THE REGAL MANUFACTURING CO., Dept. D 67 Toronto, Ont.

Safeguard Your Market

THE demands of Great Britain determine in large measure the prices of Canada's farm products.

Without the mother Country's purchase of these surplus products of Canadian farms, Canadian Agriculture would lose its best overseas market.

Great Britain is ready and willing to buy all the farm products that Canada can let her have, but Britain is temporarily unable to pay all cash for these products. Canada, therefore, must extend credit to her if we are to retain this necessary market.

Canada pays cash to the Canadian farmers for their produce and sells that produce to Great Britain on credit.

If Canada does not extend this credit to Great Britain other countries will be glad to do so.

During the War Canada's surplus crops and farm products were financed by Victory Loans. The result was that every Canadian farmer had a market at good prices for his entire crop.

This year's crop and farm products must be financed in the same way---by the Victory Loan 1919.

Victory Bonds are, as every shrewd investor knows, an investment of the highest class. The interest rate is five and a half per cent., and the interest payments regular. The security is undoubted, and the bonds may be readily turned into cash at any time.

The Loan is vitally important to every farmer in all Canada. It is, therefore, to his interest not only to invest heavily in Victory Bonds 1919, but to work among his neighbors to make absolutely certain the success of the Loan.

BUY

VICTORY BONDS

and assure Agricultural Prosperity

Issued by Canada's Victory Loan Committee in co-operation with the Minister of Finance of the Dominion of Canada.

COSSAR STOCK FARM
Lower Gagetown, N. B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

Orders now booked for EWE and RAM LAMBS for fall delivery, several extra good animals for sale out of Ewes clipping 10 to 12 lbs. and sired by an Imported Ram weighing about 400 lbs. with a clip of 18 lbs.

BREED LEICESTERS the Sheep with THE HEAVY FLEECE.

G. C. Cossar, Proprietor. J. Melklejohn, Agent.

GUERNSEYS !

For Sale—Registered stock. Male or female.

T. D. BLAIKIE,
Great Village, N. S.

ELMHURST FARM

Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $2.00 per 15.

R. R. BLACK, Proprietor
Oxford Junction, N. S.

Elmwood Stock Farm
OFFERS FOR SALE:

Two choice young Holstein Bulls, 15 and 19 months old, sired by Dutchland Pieterje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad, "the world's greatest bull," 101 A.R.O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

Pure Bred Shorthorns For Sale !

Am offering for sale my herd of pure bred registered Shorthorn cattle. These cattle range in age from 7 years to 3 years, or a little less, with one bull calf two weeks old, and are all fine in type and color.

I have also exceptionally good grade cattle of various ages for sale. All will be sold at a reasonable price and offer an unusual opportunity to anyone desiring to start a herd of choice stock or to renew an old herd.

J. E. HETHERINGTON, - Codys, N. B.

Springbrook Farm Ayrshires !

Females, all ages. Also a number of bull calves ranging from one month to eight months. Sired by the prize winning bulls "Morton Mains Amanth" Imp. and "Cherry Bank Cicero."

McINTYRE BROS.
SUSSEX CORNER, - - N. B.

AYRSHIRE CATTLE. KARAKULE-ARABI SHEEP

Offering two Ayrshire Bulls, [illegible] months. They are from [illegible] dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

For particulars and prices write

THE EASTERN KARAKULE-ARABI SHEEP CO., LTD. WINDSOR, N. S.

FOR SALE

Two yearling Gurnsey bulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

SARAH E. M. SMITH,
Woodwards Cove, Grand Manan, N. B.

Firshade Farm
Dual Purpose Shorthorns

P. R. L. FAIRWEATHER
Rothesay, N. B.

Lawndale Stock Farm
Jerseys and Shorthorns (Pure Bred)

Jersey Offerings for the Summer of 1919—

A few registered mature cows due to freshen the coming fall and winter.

Several yearlings, bred and not bred, registered and grades.

Several pure bred and grade calves, male and female.

Shorthorn Offerings for Summer of 1919—

Two yearling heifers, very thrifty.

One bull calf, dropped Jan. 15th, 1919.

Several pure bred calves, male and female, by Imported English dual purpose Shorthorn bull, out of splendid producing dams.

We can supply intending purchasers a choice list of either Jerseys or Shorthorns to select from.

Come along with your inquiries.

Apply for information to

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T. D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B.

Ayrshire Cattle

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.
C. A. Archibald, Truro N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

YORKSHIRE PIGS

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
Isaac Chipman & Son. Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
C.A. Archibald, Truro, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

Milking Shorthorns for Sale

We are offering some choice young Shorthorn bulls of the milking strain, ages 3 months to 15 months.

Also a limited supply of heifers, one and two years of age.

For particulars apply to

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett
Upper Sackville, - - - N. B.

KEEP
Holstein-Friesian Cows

1. The Holstein-Friesian is a large vigorous cow, full of energy and abounding in vitality.
2. Her physical organization and digestive capacity are such that she is able to turn to the best advantage the roughage of the farm, converting the same into merchantable products.
3. She yields large quantities of most excellent milk, fit for all uses and especially suited for shipping purposes.
4. Heredity is so firmly established through her long lineage that she is able to perpetuate herself for the production of strong, healthy calves.
5. When for any reason her usefulness in the dairy is at an end, she fattens readily and makes excellent beef.

If you can't buy a herd, buy a heifer

Information from the Holstein-Friesian Association

President, Dr. S.F. Tolmie, M.P. Victoria, B.C.
Secretary, W. A. Clemons St. George, Ont.

AYRSHIRES BULLS !

fit for service, bred from heavy producing stock.

FRED S. BLACK & SONS,
Springvale Farm,
AMHERST, - - - N. S.

Advertise in the Farmer.

SUNNYSIDE STOCK FARM
Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

HIGHLAND LAKE HOLSTEINS

Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.

We have young bulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yonge St. Radial) JEFFERSON, ONT

BELLEVUE STOCK FARM
Shorthorn Cattle and Shropshire Sheep

The early maturing and good doing sort—bred from Show stock in every cross. Offering thirty ewe lambs and shearling ewes to avoid crowding winter quarters. Also a few ram lambs not booked yet.

C. A. ARCHIBALD, Bellevue, Clifton, N. S.

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for sale calves of both sexes, sired by Dutchland Pieterje Count, a bull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Johanna Lad, who has 101 A. R. O. daughters, 4 over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice, come and see these calves or write for further particulars.

We will also book orders for young Yorkshire pigs for next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - CANARD, N. S.

COBEQUID FARM HOLSTEINS

We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows have in turn been bred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter each in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a heifer calf or two. Get your orders in quick, they won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

QUALITY BRAND
Rabbitry and Poultry Yards
Amherst, Nova Scotia
E. I. PEEL & SON, Proprietors

Breeders of pedigreed Hares, White Rock and White Leghorn Fowl.

Black Siberian Hares, the most profitable fur bearing animal living, price per pair..$25.00
Silver Siberians, price per pair..... 5.00
Belgians, price per pair 3 00
The above prices apply to stock under 3 mos. old
Day-old White Leghorn Chicks, price 25c each.
D. W. Young's stock, as good as money can buy.
White Leghorn 260 egg strain, for hatching.....$2.00 per 15
White Leghorn, No. 1 exhibition stock for hatching.....$4.00 per 15

We Guarantee Safe Delivery. Terms Cash with Order

Glenrane Farm Holsteins

We have for sale a number of Cows due to freshen in Sept. & Oct. also yearling Heifers & a few Heifer Calves. We still have a few Bull Calves 8 & 9 months old.

Our herd bull Homestead Hengrueld Rooker is also for sale after September. These cattle are all from stock backed by official records,

We will have a litter of York pigs due Sept. also our stock boars 16 months old for sale. These are the finest type of York pigs.

One Oxford grown Ram and a number of grade Ewe Lambs.

ROBT. HICKS
WEST BATHURST, - - N. B.

Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages. Have some good cows to freshen soon. Am booking orders for ram lambs for fall delivery. Write or phone for prices and description.

J. ROBIE MacDONALD,
Shubenacadie, - - Nova Scotia
Successor to J. MacDonald & Son

Five Ayrshire Bulls for Sale !

From good milking strain. All fit for service.

Prescott Blanchard,
Truro - Nova Scotia

ELMHURST STOCK FARM

Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S.

Advertise in the Farmer.

Made in the Maritime Provinces

QUALITY and SERVICE GUARANTEED

WALLACE ROOT PULPER

Side Wheel Reversible knife. Root pulper for pulping and slicing. Roller bearing. A convenient, strong, easy running Pulper.

SUSSEX WOOD CUTTERS

LONG SWING

Made in three styles. Long Swing as shown in cut, 4 ft. 3 ins. between balance wheel and saw. Short Swing, 3 ft. 3 ins. between bal. wheel and saw. Flat Roller Table, 4 ft. 3 ins. between bal.wheel and saw. Balance wheel 150 lbs. Frames made of heavy birch mortised and bolted together. Tables made of heavy sheet steel. Saws 28 ins. Simonds, supplied with each machine unless otherwise specified. Sussex Wood Cutters are not made to cut kindliug wood, they are built to cut those heavy birch and beech sticks which you will have to cut and stand up to it day after day.

SUSSEX FOOD COOKERS

Stoves of heavy sheet steel Made in 3 sizes:

No. 30 cap. 1 bbl.
No. 40 cap. 1½ bbl.
No. 50 cap. 2 bbls.

SUSSEX LITTLE GIANT THRESHERS—A few new ones and a second hand machine left for quick sale.

You will need one of the above articles. Write us now for full particulars and prices. It will pay you.

PROMPT SERVICE AND QUALITY OUR AIM. AGENTS WANTED IN EVERY LOCALITY.

HOW CAN WE SERVE YOU?

WALLACE MACHINE WORKS, Limited, : Sussex, N. B.

Two Cents a Word.

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THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and other premiscs. Price $3.50 per 100 lbs. Apply by mail to "NAILS." care of Office Maritime Farmer, Sussex, N. B.

FOR SALE—Large English Berkshire Pigs, 3 and 10 weeks old. We breed and sell show animals from the most prolific strains. One sow has raised 75 pigs out of 77 in seven litters. All stock registered and priced reasonable.—SHAW BROS., Hartland, R. R. No. 3, Car. Co., N. B.

SUCCESSFUL DAIRYMEN

have found that it pays to dehorn their cows. Drovers pay more when they are dehorned, and shippers are insisting on having cattle dehorned. The KEYSTONE DEHORNER is the most effective instrument for the purpose. Write for booklet. R. H. McKenna, 219 Robert Street, Toronto.

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Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

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New Mines - - - N. S.

Chester White Pigs for Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

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Brown Swiss Cattle!

If it's a Bull you want I can supply you, and if it's a heifer, well, maybe I can do that too. Write for prices.

RALPH H. LIBBY
STANSTEAD, - - - QUE.
Sec. of Canadian Brown Swiss Asso.

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Breeders of Big, Smooth, Heavy Producing Holsteins

The kind that fill big pails the year through. Can sell a few good bulls fit for service and some choice Bull Calves; also some Heifers and Cows due to freshen soon. Write or 'phone for description and prices.

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Our Shorthorns are about ready for the block. Parties wishing to start a herd can do so at reasonable prices from us. If not sold for breeding purposes, will go for beef. Both sexes, all ages. Come and see them before buying.

A few very nice Berks for sale.

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"KINGSBROOK FARM"

Shropshires and Cheviots

We are offering for fall delivery a number of Shropshire Rams, both Shearling and Lambs, and as well a few splendid Ewes.

In Cheviots we have a limited number of very choice Rams to offer.

The largest Pure Bred flock of Shropshires and Cheviot Sheep in the Province, also largest prize winning flock in the provinces at the Fall Fairs.

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Three Registered Dual purpose Shorthorn Bulls. One 2½ years old, one 1 year, and a six months calf. Reds and Roans. Best milking qualities behind them. Priced for immediate sale.

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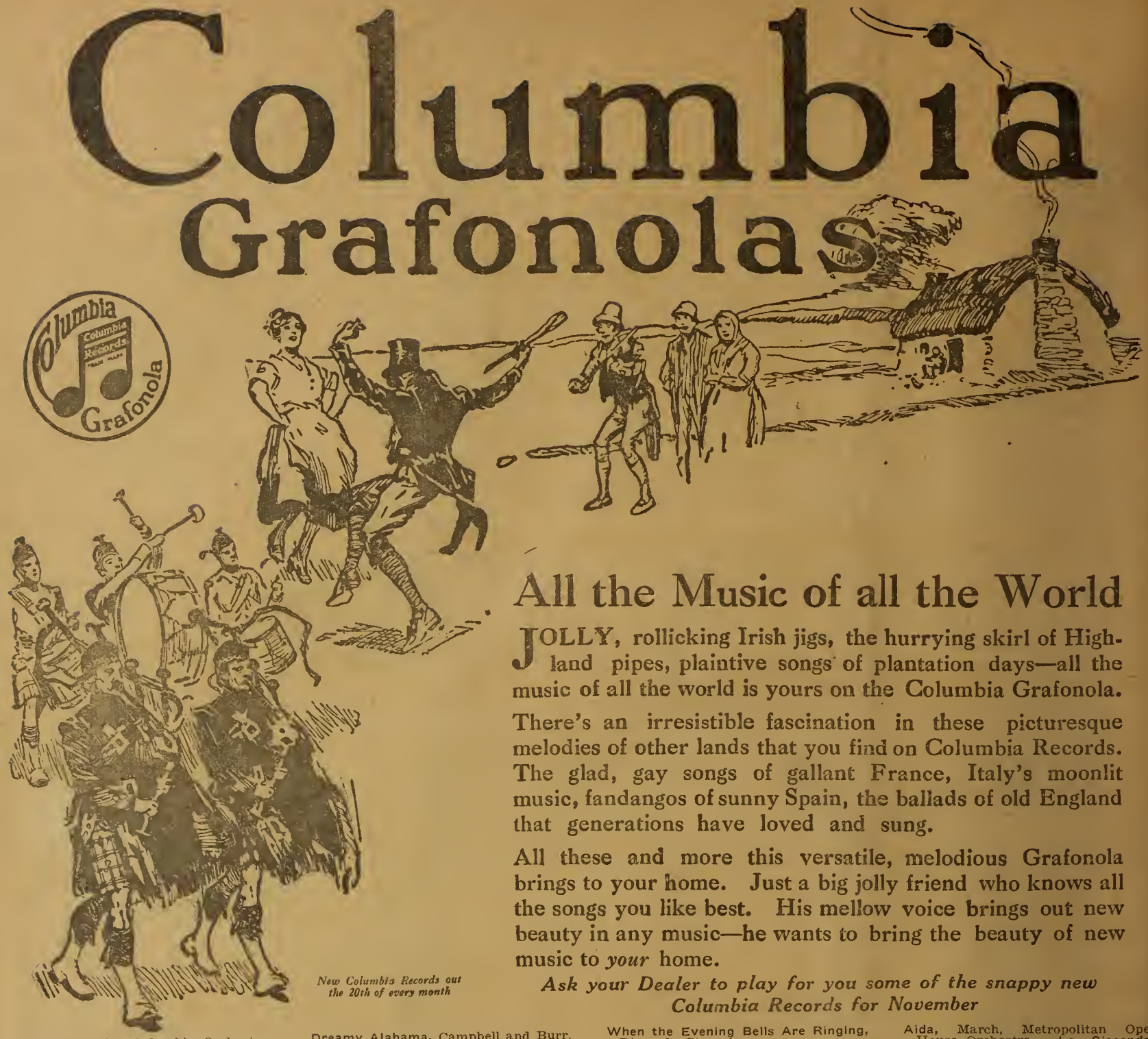
Columbia Grafonolas



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JOLLY, rollicking Irish jigs, the hurrying skirl of Highland pipes, plaintive songs of plantation days—all the music of all the world is yours on the Columbia Grafonola.

There's an irresistible fascination in these picturesque melodies of other lands that you find on Columbia Records. The glad, gay songs of gallant France, Italy's moonlit music, fandangos of sunny Spain, the ballads of old England that generations have loved and sung.

All these and more this versatile, melodious Grafonola brings to your home. Just a big jolly friend who knows all the songs you like best. His mellow voice brings out new beauty in any music—he wants to bring the beauty of new music to *your* home.

Ask your Dealer to play for you some of the snappy new Columbia Records for November

New Columbia Records out the 20th of every month

Chinese Lullaby, Columbia Orchestra. "Chacone", Columbia Orchestra
A2777, 10-inch 90c

, Columbia Spanish Orchestra, Castanets. The Firecracker, ish Waltz, Columbia Spanish Band, with Castanets.
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Serenata, Amparito Farrar. Venetian Song, Amparito Farrar.
A2782, 10-inch $1.00

Carmen—Micaela's Aira—"Je Dis Que Rien Ne M'Epouvante." (I Say That No Fear Shall Deter Me) Hulda Lashanska.
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Rigoletto—Si, Vendetta, (Vengeance I'll Have). Duet. Barrientos and Stracciari.
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Sweet Hawaiian Moonlight, Waltz, Intro. Maui Girl, Columbia Orchestra. A Night in Italy, Medley Waltz, Intro.: 1—Funiculi Funicula; 2—Ciribiribin; 3—Marie, Maria; 4—Santa Lucia; 5—O Sole Mio, Columbia Orchestra
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Rondino, Eddy Brown. To a Wild Rose, Eddy Brown.
A2778, 10-inch $1.00

Columbia Grafonolas, Standard Models $32 up to $360

COLUMBIA GRAPHOPHONE COMPANY, Toronto

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The MARITIME FARMER AND CO-OPERATIVE DAIRYMAN

REGISTERED TRADEMARK

Published Twice-a-month in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., NOVEMBER 25, 1919 No 4.

"YOU SEE IT'S A MARITIME FENCE"

Maritime fences will stand the severest tests, because they are built throughout of extra heavy hard drawn No. 9 steel wire. The superior stretching power of No. 9 wire keeps the strands from snapping under heavy strains or hard frosts. Each fence is thoroughly galvanised and will sturdily resist the rust and rot of weather.

STANDS THE TEST OF MAN, BEAST, WEATHER and TIME

The strands and stays are firmly gripped at every join by our special time tried and tested never-slip lock. Even after years of hard service, Maritime wire fence retains its sagless shape and sightly appearance. All Maritime Fences are carefully inspected and rigidly tested before leaving the factory. When you buy it you know you have got something that is bull strong and hog tight, something that will withstand greater strain than it is ever likely to receive.

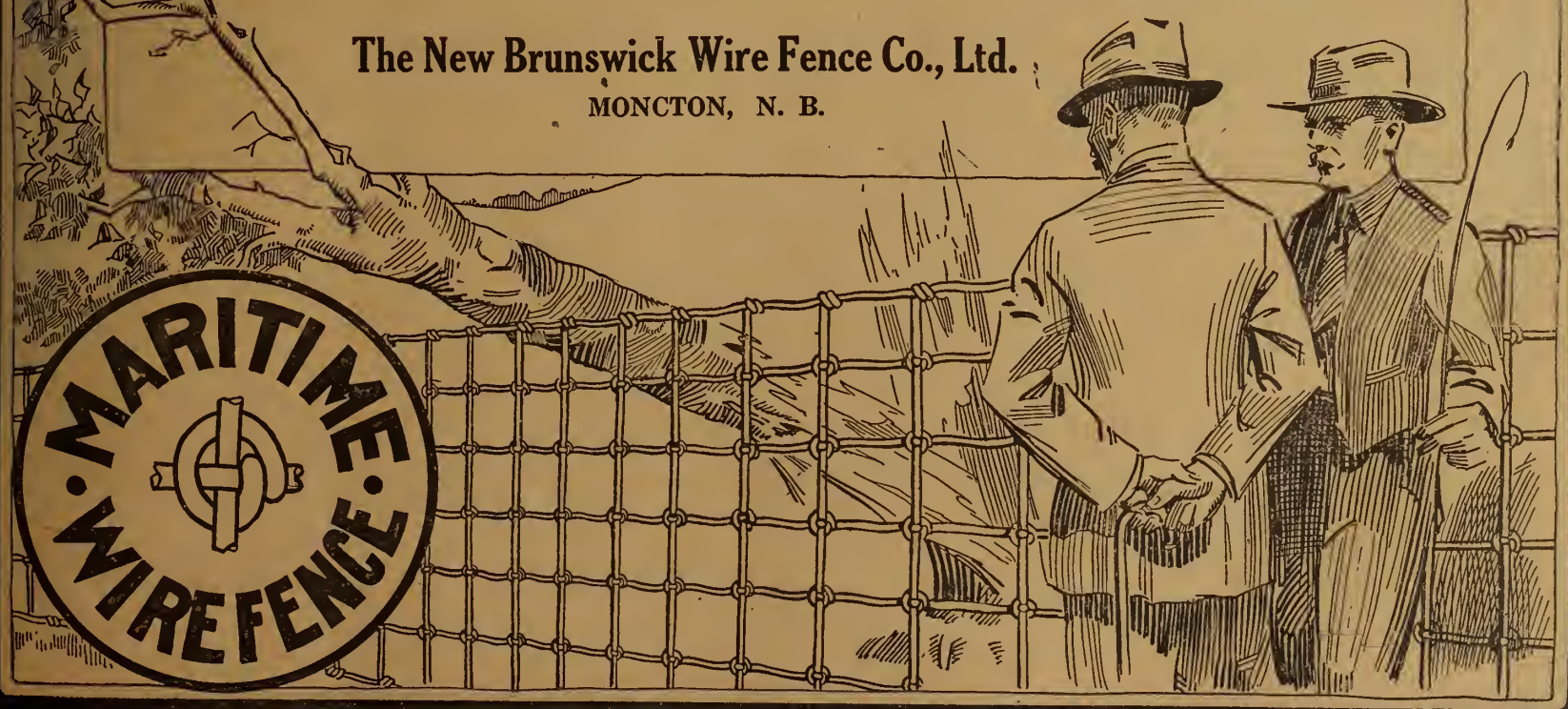
Before you buy fencing it will pay you to first learn what the Maritime has to offer in the way of real fence service.

For sale by agents and dealers in nearly every section.

If you don't know the local dealer, write to us direct.

The New Brunswick Wire Fence Co., Ltd.

MONCTON, N. B.



"Wabasso Cottons replaced with good advantage all imported lines during the war. Let Canadians buy Wabasso Cottons in preference to Imported Lines now that the war is over."

Our Principal Lines are :

Good as Gold White as Snow
WABASSO

Lawns—Nainsooks—Madapolams—
Bridal Cloths—Voiles—Organdies
—Middy Cloths—Cambrics—
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Sheetings
Slips and Circular Pillow
Cottons

The Wabasso Cotton Company Ltd.

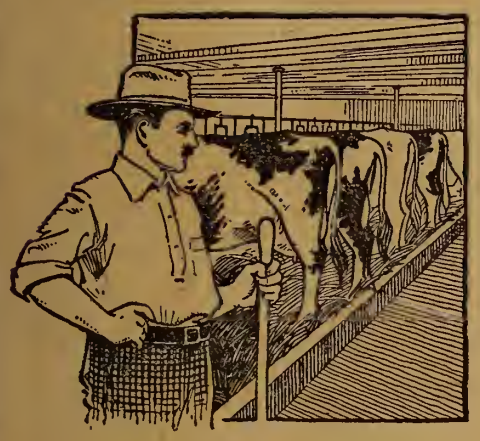
Three Rivers, Quebec

Four Cleaning Processes

No Screenings—No Weed Seeds—No Waste of Feed

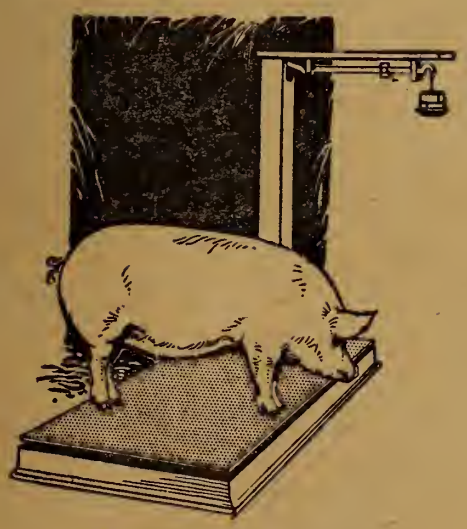
Monarch Poultry Feeds.

There is a feed for every branch of your work, specially made to give best results. Monarch Chick Feed, Monarch Developing Feed and Monarch Growing Mash for your chicks from the time they are hatched until they reach laying maturity. Monarch Scratch Feed and Monarch Laying Mash for your hens and Monarch Fattening Mash for finishing your cockerels for market.



Monarch Dairy Feed.

A properly mixed combination of Oilcake Meal and Cotton-Seed Meal with the bulky feeds, Bran and Corn Feed. Guaranteed analysis: Protein 20%, fat 4%.



Monarch Hog Feed.

Consists of Corn Feed, Barley Oilcake Meal, Shorts and Digester Tankage. Guaranteed analysis: Proteins 15%, fat 4%. This is a special purpose feed for hogs only. A complete feed for the brood sow and the growing pig. High in protein and low in fibre, it furnishes body-building material of high digestibility.

WHEN you have bought a ton of Monarch Feeds you can absolutely depend upon having valuable feeding materials only. These will build up your poultry or stock at low cost. You know before you buy that you positively are not paying for quantities of useless materials such as screening weed seeds, chaff and dust. These are often dangerous to stock and poultry.

Monarch Poultry Feeds, for instance, are made from sweet, sound grains. They are cleaned no less than four times, twice before and twice after mixing. This painstaking care is typical of *every* brand of Monarch Feed. The result is that every pound of

Monarch Feeds

provides the maximum of feed value. Besides, in Monarch Feeds you are always sure of scientifically correct amounts of body-building protein and other essential ingredients in true and proper balance.

Buy from the Mills that have a Reputation to Maintain

If you want to feed so as to make every dollar bring you fullest value in big hogs for early market, large yields of milk from properly fed cows and heavy production of eggs from your poultry, follow strictly the advice of the Farmer's Advocate:—

> "We would advise farmers to be careful in their feed purchases and deal with houses having an established reputation for an honest product."

The reputation of the Campbell Flour Mills Company Limited is of fifty years standing. Each different Monarch Feed is the best for the purpose for which it is made. Every bag bears our name, and you can depend upon these feeds at all times.

You will find Monarch Feeds at best dealers everywhere—if your dealer does not sell them, write us direct for full particulars and we will tell you nearest place to get them.

The Campbell Flour Mills Co., Limited

West Toronto Ontario

FERTILIZER PRICES FOR 1920

¶Buy your mixed Fertilizers co-operatively through The Maritime Farmer.

¶We ship in car lots for cash on bank guarantee of payment of sight draft to Maritime Farmer subscribers.

¶If you no not want a full car yourself, get your neighbors to club their orders with you.

¶Prices will advance slightly each month you delay your orders—**so get it in soon.**

¶Your banker, if he is wide awake, will help you finance your purchases.

¶We guarantee all goods sold by us to be as represented as to formula.

¶We quote a few prices for December delivery :

1-8-1	per	ton	$39.81	4-8-4	per ton $64.97
2-8-2	"	"	48.72	4-8-3	" " 62.22
2-10-0	"	"	44.60	3-10-0	" " 50.33
2-10-2	"	"	50.32	3-8-3	" " 56.73
3-6-5	"	"	60.62	Acid Phosphate	" " 33.40

Cars are of twenty tons net. All goods bagged. 167 pound bags.
Deduct 25c ton for 200 lb. bgs. Special quotations in more than car lots.
We will also quote on Nitrate of Soda and Potash.

Watch the Maritime Farmer for future prices

Yours for reduced costs. Write for further particulars.

The Maritime Farmer, Sussex, N. B.

Brantford "Ideal" Kerosene Engines

An engine for every need. Also operated on Gas and Gasoline.

Maple Leaf Grain Grinders. 6 to 15 in.

Kerosene Light Tractors

WINDMILLS,

Pumps.
Tanks.
Waterboxes.
Steel Saw Frames.
Concrete Mixers.

Agents wanted in unrepresented territory.

GOOLD, SHAPLEY & MUIR CO., Limited
BRANTFORD, CANADA

THE MARITIME WINTER FAIR

TO BE HELD AT

AMHERST

ON

Mon., Tues., Wed. & Thurs, Dec. 15th, 16th, 17th & 18th

Promises to excell all previous records. Return tickets can be obtained on all lines of Railway for one and one-third first class fare.

Don't fail to see the Big Fair

Roller-Bearing---Vertical Disc

SUBSTANTIAL SERVICEABLE

Extensively used in Eastern Canada

THE SMITH FOUNDRY COMPANY, Ltd., - Fredericton, N. B.

SMITH BROS., Sussex, N. B.

The Spirit That Wins :

Our advertisement **"Fit Our Fighters to Farm"** was an appeal to the noble and generous sentiments of our best Rural Citizens. They are responding as we thought they would. A few extracts are culled from a sheaf of replies from widely separated parts of Canada:

From Rocklyn, Ont.: "I wou'd like to have one of the 'boys'. He would have a good comforta ble home and be treated as one of the family."

From Killarney, Man.: "I wish to secure help for the winter and would prefer a returned soldier. Could show him the practical side of stock feeding on a mixed farming plant."

From Watrous, Sask.: "I would be only too pleased to help you and a returned soldier."

There are many like the above.

We have hundreds of returned soldiers who wish to gain experience this Winter and next Summer so that they can take up farms of their own. Write the nearest District office of the Board if you can assist.

District Offices at: Victoria and Vancouver, B.C.; Edmonton and Calgary, Alta.; Regina, Saskatoon and Prince Albert, Sask.; Winnipeg, Man.; Toronto, London, Fort William and Ottawa, Ont.; Quebec, Montreal and Sherbrooke, Que.; St. John, N.B.; Halifax, N.S.; Charlottetown, P.E.I.

THE SOLDIER SETTLEMENT BOARD
W. J. Black, (Chairman)
Union Bank Building, Ottawa, Ont.

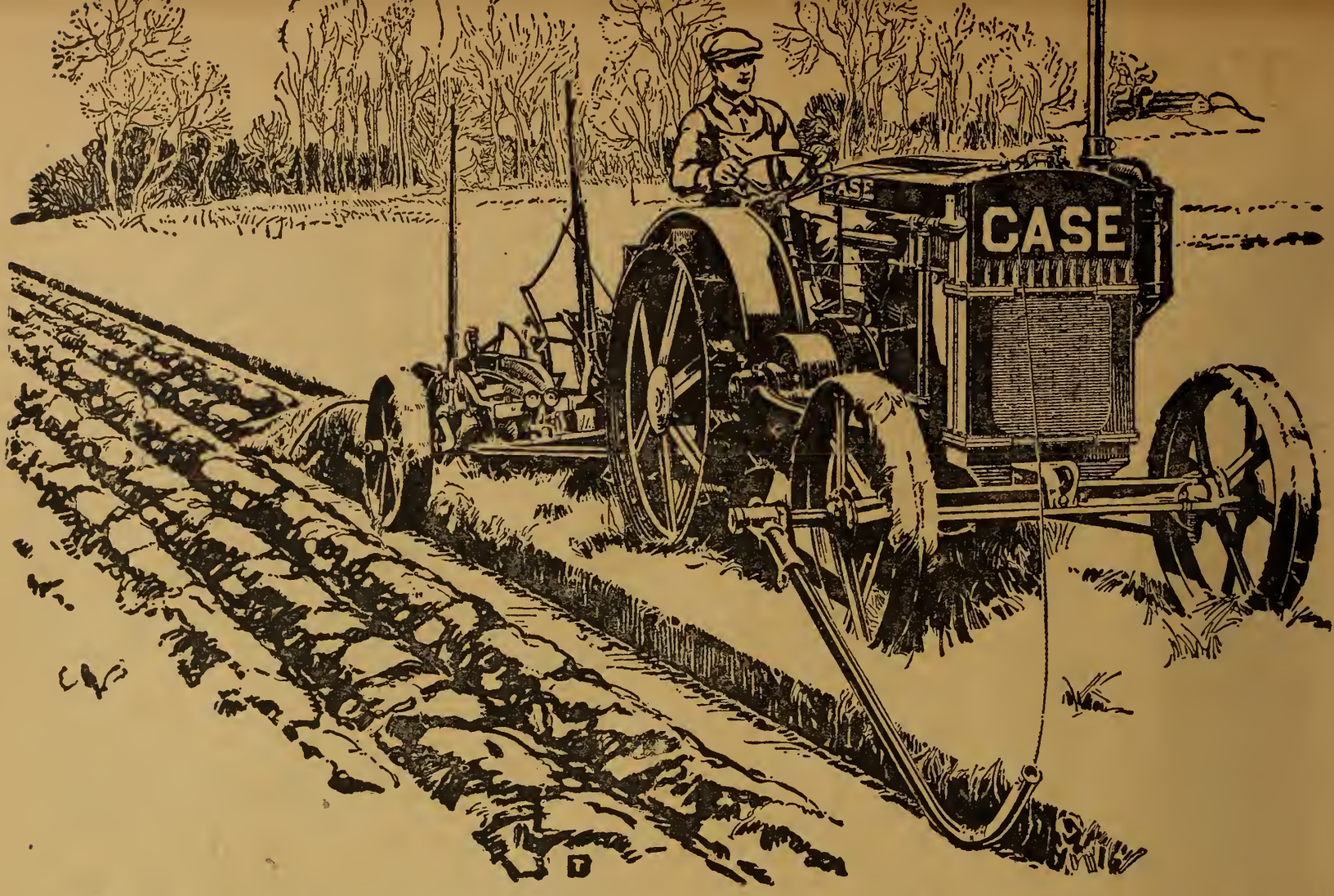
FERTILE EGGS BIG LOSS NOW

dFJM —hY .DBFo.. 1avd weak,

What is an infertile egg? It is one in which the germinal cell has not been fertilized as the result of the hen mating with a male bird and which in consequence is incapable under any conditions of developing into a chick. While hens mated or running with a male may produce some infertile eggs, if the stock is strong and healthy a large majority of the eggs produced will be fertile. On the other hand if the hens have been running without a male for ten days or two weeks the eggs laid by them will be infertile.

A fertile egg placed in an incubator or under a hen will begin to develop into a chick. This development does not need to go far before the egg is no longer usable for eating purposes. For this development of fertile eggs to take place it is not necessary for them to be placed in an incubator or under a hen, for the development will start whenever and wherever they are subjected to the high temperatures which are likely to be encountered during the summer in their journey to market. Since infertile eggs are not capable of this chick development, they make a much more satisfactory market egg and the loss which now occurs in the form of blood rings and eggs with partially developed chicks in them would be entirely avoided if only infertile eggs were marketed.

It will, therefore, be seen that it is of the utmost importance to produce infertile eggs only after the breeding season is over. To accomplish this it is only necessary to sell, kill or confine the male birds so that there will be no males running with the hens.



Wins Ontario Plowmen's Sweepstakes from 26 Competitors

This Remarkable Feat Demonstrates the Superiority of the

CASE

Kerosene Tractor

THIS is the latest record of the Case 10-18 Kerosene Tractor—established in the Ontario Plowmen's Association Sweepstakes, held at Chatham, Oct. 23rd. ¶ This was not a test of speed but of performance, by actual farmers, and results—and the Case won over 17 other makes of tractors. ¶ This is the tractor that won over all competitors at the fuel tests of the Cercle Agricole of St. Blaise, Que. This is the tractor you need on your farm. ¶ The Case 10-18 Kerosene Tractor has a four cylinder valve-in-head motor, set crosswise on a one piece main frame. This frame construction assures permanent alignment of all shafts, bearings and gears. No bevel gears, chains, worms or friction drive parts required. ¶ It also permits of placing the belt pulley on the crankshaft, giving a direct drive. It affords the use of all spur gears which save power. All gears cut steel, enclosed and running in oil. Other exclusive features include the patented Case air washer, preventing dust from entering the motor, thereby prolonging its life. The Sylphon Thermostat keeps the engine at a uniform temperature, important for successfully and economically burning kerosene. Copper fin and tube non-clogging radiator with removable cast frame. Hyatt Rollers for all important bearings. ¶ The Case 10-18 is adaptable for plowing, discing, seeding, harrowing, haying, harvesting, threshing, silo filling, hauling, and many other farm jobs. Holds records for fuel economy. Develops 20% more belt power than rated. Weight only 3500 pounds. ¶ You cannot afford to overlook the outstanding advantages of the Case if you want the most value your money will buy. ¶ Let us show you why the Case Tractor out-distances all competition.

J. I. Case Threshing Machine Co's Products are marketed in Eastern Canada by

The Canadian Fairbanks-Morse Co., Limited

ST. JOHN QUEBEC MONTREAL OTTAWA TORONTO
HAMILTON WINDSOR

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTERED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 25. SUSSEX, NEW BRUNSWICK, NOVEMBER 25, 1919. Number 4.

What The Maritime Egg Laying Contest Shows

A. C. McCulloch, Poultry Supt., Fredericton

The first annual egg laying contest held in eastern Canada at the Dominion Experimental Farm, Charlottetown, P. E. I., was concluded on Sept. 30th 1919, (11 months). Like all contests of this nature, which have been held for a number of years in various parts of this and other countries, it brought to light a great amount of data exceedingly valuable to Maritime poultry raisers. The contest comprised twenty pens of eight birds each. A record was kept of the daily egg production of each bird, the food consumption of each pen, etc. Pens were received from the five eastern provinces as follows: Ontario, one; Quebec, four; New Brunswick, three; Nova Scotia, five; and Prince Edward Island, seven.

Seasonal egg production is a factor which to a remarkable extent, much more than is geenrally supposed, determines the amount of profit or loss in poultry raising, not that poultry raising in general is dependent upon favorable climatic conditions, but some varieties are better able than others to produce well against advertse conditions. For the propogation of the species spring egg production only is natural and necessary, but for the production of food for man in profitable quantities winter and prolonged summer and fall production are essential. As the bird must bear this extra burden to justify her claim to the advantages of civilization, in unnatural seasons, it naturally follows that the one which is least effected, other things being equal, is the most valuable.

In a general sense annual egg production is divided into two parts, winter and summer. A finer division would include spring and fall, but for practical purposes these may in most cases be omitted. The winter season in most sections concludes about March 1st. Production may be calculated from the time a bird begins to lay, but in flocks, especially a more common method is to commence all birds on the same date, usually November 1st. A year's production for such a pen would conclude on Oct. 31st following whether the birds had ceased laying or not.

The following, Table No. 1, gives the production of the various varieties in the contest to March 4th. Weekly reports only are available, hence calculation is made to this date.

	Pens	Total Eggs	Average per Bird
Barred Rocks....	5	1220	30.5
White Wyandottes	3	795	33.1
Rhode Islasd Reds	3	467	19.4
White Leghorns.. and Anconas...	9	1505	20.9
All large varieties	11	2482	28.6
White Leghorns.. and Anconas...	9	1505	20.9

The foregoing shows the White Wyandottes leading with Barred Rocks only 2.6 eggs each per bird behind. This lead was obtained by two of the White Wyandotte pens being in heavy lay when the contest began, but it was soon overcome and surpassed. The total for all the large varieties, eleven pens in all, as against nine pens for the lighter varieties, should make a reasonably significant comparison and shows a lead of 7.7 eggs per bird in favor of the former. It should be remembered these are laid during the season of high prices.

According to popular opinion, birds which do not lay well during the winter will make up the deficit during the following summer. The evidence in the following table is sufficient to dispose of ths claim.

Table No. 2, showing production of various varieties between March 4th and September 30th, the end of the contest.

	Pens	Total Eggs	Average per Bird
Barred Rocks.....	5	4646	116.1
White Wyandottes	3	2289	95.3
Rhode Island Reds	3	2077	86.5
White Leghorns.. and Anconas...	9	7706	107.0
All large varieties	11	9012	102.4
White Leghorns.. and Anconas...	9	7706	107.0

This table shows the large varieties in the same order for summer production as for winter production. The lighter ones obtained a lead over the average of the heavy varieties during this season, which lead was secured in the months of lowest prices as will be shown in another table.

Table No. 3 showing annual egg production of the various varieties.

	Pens	Total Eggs	Average per Bird
Barred Rocks....	5	5866	146.6
White Wyandottes	3	3084	128.5
Rhode Island Reds	3	2544	106.0
White Leghorns.. and Anconas...	9	9211	127.9
All large varieties	11	11494	130.6
White Leghorns.. and Anconas...	9	9211	127.9

One of the most outstanding features of the preceding table is the distinct lead of the Barred Plymouth Rocks over the other varieties. Three of the five pens of Barred Plymouth Rocks are from New Brunswick, from eggs of high laying strains distributed by the Poultry Division of the Department of Agriculture. These three pens which stood first, third, and sixth in number of eggs, laid, have a combined total of 3702 eggs or an average of 154.2 eggs per bird. Of the five pens of Barred Rocks in the contest, four finished within the first six places, first, scond, third, and sixth, in point of total gggs laid.

When different numbers of several varieties or groups are under observation the percentage production is an easy and just way of making comparisons.

The percentage production is the relationship between the actual production and the possible production providing each bird lays every day, e.g., if a hen lays fifty eggs in one hundred days her percentage production is fifty.

Table No. 4 giving percentage production of each variety in 4 week periods.

Table No 4 giving percentage production of each variety in 4 week periods.

	Nov	Dec.	Jan. 28	Feb. 25	Mar 25	Apr. 22	May 20	June 17	July 15	Aug. 12	Sept. 9	Sept 30
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.
Barred Rocks.....	8.3	28.5	26.6	33.5	46.3	57.0	62.6	60.5	55.4	50.0	54.2	48.8
White Wyandottes.	21.1	28.0	23.9	28.0	43.3	58.3	54.0	50.7	45.3	31.9	38.5	37.1
Rhode Island Reds.	5.6	22.7	16.0	14.7	38.2	54.6	49.8	51.7	42.2	29.9	29.9	19.9
White Leghorns.... and Anconas.....	5.4	12.7	16.8	28.8	50.3	62.7	61.7	63.4	51.8	38.2	41.6	21.1
All Heavy Varieties	11.	26.8	23.0	27.7	43.3	56.7	56.8	55.4	49.1	39.6	43.3	29.7
White Leghorns.... and Anconas.....	5.4	12.7	16.8	28.8	50.3	62.7	61.7	63.4	51.8	38.2	41.6	21.1

In the preceding table the egg production under each date is for the four weeks preceding that date, except in November and December, which is for the month, and September 30th, which is for three weeks only, at which time the contest closed. Among other things this table shows the heavy varieties to surpass the others during the winter and also to maintain their production over a longer period. This point in itself is significant of heavy producers. The Barred Rocks compared with the Leghorns, e. g., were surpassed slightly on only three occasions during the contest, and those during the spring. They maintained a uniformly high production throughout which is characteristic of most high annual producers. On the average the bird which commences to lay reasonably early will lay reasonably late the following fall and her inherent ability to lay heavily helps her to hold her own during the flush season or spring months. It naturally follows that the hen which moults early is not likely a heavy producer, whereas the one which carries her faded ragged plumage late into the season takes life as a serious matter and lays as heavily and as late as possible, taking only a few weeks leave to regain her new coat for Christmas. The early moulter takes lif eeasy, doesn't believe in exertion, and is generally more ornamental than useful. Moreover, the early moulter and low layer one year is usually the early moulter and low layer in succeeding years.

The records show that moulting began among the light varieties earlier than among the heavier ones. It was reported first in the week ending July 15th and was rather common among the light varieties during the balance of the month. In August there was very little moulting in either group, but at the end of that month and for the first three weeks of September, moulting was in full swing among the light varieties, but was delayed until the last week of September before it became common among the heavier varieties. About half of the cases of moulting among the heavier varieties were reported during the week ending September 30th. This is not intended to convey the impression that Leghorns moult earlier than the heavier varieties, but to show that by prolonging th laying season the heavier varieties added considerably to their year's true in the case of Barred Rocks. See Table 4. In the five pens of Barred Rocks ten cases of moulting were reported and over half of these were during the last week. The only pen in the contest in which moulting was not reported was a pen of Barred Rocks owned by Molly Neales, Hartland, N. B. This pen rose from eleventh place to sixth during the last four weeks and actually laid more eggs per week the last two weeks of September than any week after June 26th.

The effect of broodiness upon egg production is not well understood. It is common observation that broodiness is much more common among the heavier varieties than among the light varieties. In the contest the relationship was about ten to one. But the heavier varieties laid the greater number of eggs. The question, therefore, was this in spite of or because of the greater amount of broodiness? One naturally says the former. However, it is doubtful if broodiness in moderation decreases production perceptibly. Prolonger or persistent broodiness no doubt does. But it is frequently observed that a hen lays unusually heavily just previous to and just after a broody spell. Her system receives a rest and it is doubtful if any time is lost.

The foregoing is but a small part of the information to be gleaned from the contest reports, but it clearly substantiates some of the more recent observations and reports on experimental and investigational poultry work. More may be reported at a later time. The contest is being repeated and several others in various provinces of the Dominion have been started this year.

1919 New Brunswick Field Crops Competition

WESTMORLAND COUNTY	Wheat		Oats		Potatoes		Turnips	
Name and Address	score	awrd	score	awrd	score	awrd	score	awrd
		$		$		$		$
J. R. Taylor, Lt. Shemogue	95.50	2.52						
Job Peacock, Bayfield	94.75	2.50						
Herbert Turner, Port Elgin	94.25	2.48						
Arthur T. Oulton, Lt. Shemogue	93.75	2.47	91.50	2.79				
Chesley Burns, Bayfield	93.25	2.46			91.00	4.67		
Jas. Simpson, Lt. Shemogue	92.50	2.44						
Edwin Allen, Melrose	90.50	2.39						
James Noonan, Melrose	90.00	2.37			89.50	4.59		
P. G. Mahoney, Melrose	90.00	2.37						
C. F. Allen, Bayfield	90.00	2.37	86.75	2.65				
Silas Allen, Bayfield	90.00	2.37						
Jas. Barry, Melrose	89.75	2.37	88.75	2.70	82.75	4.25		
W. W. Fawcett, Up. Sackville	89.50	2.36	95.75	2.92	96.00	7.93		
August Gallant, Barachois	89.00	2.35						
Milledge Allen, Melrose	89.00	2.35	96.00	2.93	91.25	4.68	96.75	10.76
Thos. Davis, Melrose	89.00	2.35	92.00	2.81				
Joseph Allen, Melrose	88.75	2.34	95.25	2.90				
John Simpson, Lt. Shemogue	88.75	2.34					88.50	7.10
Henry Davis, Melrose	87.00	2.29						
Herbert Stack, Melrose	86.75	2.29			88.25	4.53		
William Savage, Melrose	86.75	2.29	86.00	2.63	85.00	4.36		
Ivan Boudreau, Barachois	86.00	2.27						
Wm. Dunn, Melrose	85.50	2.25	85.75	2.62				
Wilfred Simpson, Lt. Shemogue	85.00	2.24						
Steven Field, Bayfield	85.00	2.24						
Frank Robichaud, Robichaud	84.25	2.22						
W. E. B. Tait, Dorchester	83.50	2.20	93.50	2.85	80.25	4.12	82.25	6.59
Frank Trueman, Pt. du Bute	83.50	2.20	91.50	2.79			82.00	6.57
Woodford Allen, Melrose	83.50	2.20						
Fletcher Strang, Malden	80.00	2.11						
I. W. Kaye, Lt. Shemogue			94.50	2.88				
John Hennessey, Malden			92.50	2.82				
Beverly Irvine, Pt. du Bute			90.75	2.77	80.50	4.13	89.25	7.16
Acomb Allen, Bayfield			90.50	2.76				
W. T. Allen, Port Elgin			87.75	2.68				
Frank Fawcett, Up. Sackville			87.25	2.66	92.50	6.75	92.75	9.44
Thibeau Legere, Barachois			87.00	2.65				
Wm. Copp, Port Elgin			85.50	2.61				
Hallett Allen, Melrose			85.25	2.60				
Andrew Dale, Port Elgin			85.00	2.59				
Frank Mahoney, Melrose			83.25	2.54				
H. J. Walton, Bayfield			82.00	2.50	80.00	4.10	80.50	6.45
Paul Bourque, Botsford Portage			80.50	2.46				
Herbert Brine, Gt. Shemogue			80.25	2.45				
Smith Rayworth, Melrose			80.00	2.44				
Paul D. Bourque, Botsford Portage					82.25	4.22		
Marc K. Thibodeau, Robichaud					80.00	4.10		
B. F. Read, Port Elgin					84.00	4.31	89.75	7.20
Dominique Cormier, Glaude					81.00	4.16		
Job Fillimore, Port Elgin					80.00	4.10		
Bedford Wheaton, Mid. Sackville							87.50	7.02
A. E. Trites, Salisbury							83.75	6.71

SUNBURY COUNTY	Wheat		Oats		Potatoes		Turnips	
Name and Address	score	awrd	score	awrd	score	awrd	score	awrd
		$		$		$		$
T. A. Burpee, Oromocto	81.50	7.55	80.00	3.69	82.50	3.58	87.50	5.85
Geo. Kimball, Oromocto	80.50	7.45						
A. L. Tracey, Freericton Jct			88.50	4.07	85.00	3.69	91.50	8.11
Willard Cambridge, Oromocto			88.00	4.05	82.50	3.58	84.50	5.64
R. D. W. Hubbard, Oromocto			88.00	4.05				
Joseph P. Kitchen, Oromocto			87.00	4.01	80.00	3.47	95.00	9.35
T. H. Estabrooks, Fredericton, R. 1			86.00	3.96	80.00	3.47		
Edward Banks, Oromocto			82.25	3.79	81.50	3.53		
D. W. Mersereau, Fredericton Jct			80.00	3.69	80.00	3.47		
Hayward P. McCain, Oromocto			80.00	3.69	80.50	3.49	80.00	5.34
Wm. Guthrie, Oromocto					91.25	5.96		
R. D. W. Hubbard, Oromocto					91.50	6.97	85.50	5.71
Earnest McFadgen, Oromocto					89.00	3.86		
Chas. Bliss, Oromocto					87.50	3.79		
A. G. Turney, Fredericton,					87.25	3.78		
Wm. McFadgen, Oromocto					86.75	3.76		
E. E. Tracey, Fredericton Jct					83.00	3.60		

RESTIGOUCHE COUNTY	Wheat		Oats		Potatoes		Turnips	
Name and Address	score	awrd	score	awrd	score	awrd	score	awrd
		$		$		$		$
R. L. Hicks, Dalhousie Jct	92.50	7.76	84.25	4.95			85.75	6.92
W. H. Miller, Campbellton	86.25	7.24	85.00	4.99	84.00	4.81	81.75	5.64
Joseph St. Pierre, Arsenault			91.25	5.36				
Arsene Gendron, Arsenault			88.25	5.18				
Solomon Ouellet, St. Quentin			88.00	5.17	84.75	4.86		
John St. John, St. Quentin			87.75	5.15				
Emile Morrissette, Arsenault			86.75	5.09				
Joseph Cote, Five Fingers			82.00	4.81	82.25	4.71		
Auguste Violette, St. Quentin			81.75	4.80	91.00	7.22		
Elyse Labrie, St. Quentin			81.00	4.76			84.50	5.83
Ferdinand Dube, Five Fingers			80.75	4.74				
Mrs. John Beaudry, Belledune River					91.75	8.26	85.75	6.92
Paul Caron, Anderson Siding					89.25	5.11		
Wilfred Rioux					87.75	5.03		
Henry McIntyre, Campbellton							86.25	8.95
Jos. B. Michaud							83.25	5.74

GLOUCESTER COUNTY	Wheat		Oats		Potatoes		Turnips	
Name and Address	score	awrd	score	awrd	score	awrd	score	awrd
		$		$		$		$
John A. Mourant, Caraquet	94.00	2.30			89.25	1.61		
John Nichol, Robertville	93.75	2.29	89.75	1.52				
Thos. J. Loane, Belledune	93.50	2.28	89.00	1.51			90.25	7.16
Wm. Dugas, Caraquet	92.75	2.26						
Robt. Sealey, Canobie	91.75	2.24	90.25	1.53	89.50	1.62	87.25	6.02
Irving Scott, Janetville	91.50	2.23	93.75	1.59	84.25	1.53		
Samuel Poirier, Grand Anse	91.25	2.23	95.50	1.62	86.75	1.57	83.50	3.85
Edward Jago, Clifton	91.25	2.23	89.50	1.52				
J. H. Nichol, Robertville	91.00	2.22	90.75	1.54	86.50	1.56		
Horace Hornebrook, Stonehaven	88.75	2.17	86.50	1.47	86.25	1.56		
John Chamberlain, Stonehaven	88.25	2.15	89.25	1.52	83.00	1.50		
Louis J. E. Roy, Alcida	88.00	2.15	84.50	1.44	86.50	1.56		
Edward H. Cormier, Robertville	87.25	2.13	89.00	1.51	88.25	1.60	83.00	3.83
Stanislas R. Roy, Elm Tree	86.75	2.12	87.75	1.49	83.50	1.51	81.50	3.76
Harold Ellis, Belledune	86.50	2.11	86.75	1.47	84.00	1.52	83.75	3.86
John B. Smith, Tetagouche	86.50	2.11	85.75	1.46				
Perkin Hornebrook, Stonehaven	86.50	2.11	85.50	1.45				
Peter Landry, Mid. St. Louise	86.00	2.10	91.50	1.56				
Antoine Blanchard, Mid. St. Louise	85.25	2.08	84.75	1.44				
Adelard Leger, Caraquet	85.00	2.07			89.75	1.62	83.25	3.85
Irene Blanchard, Caraquet	85.00	2.07						
W. W. Smith, Tetagouche	85.00	2.07	89.60	1.52				
Jos. De Grechey, Robertville	84.75	2.07			87.25	1.58		
Geo. Cormier, Robertville	84.50	2.06	90.00	1.53				
Orville Dempsey, Stonehaven	84.50	2.06	88.50	1.50	85.00	1.54		
Jean Baptiste Cormier, Elm Tree	83.75	2.04	92.75	1.55	84.50	1.53		
John Dempsey, Stonehaven	83.50	2.04	87.00	1.48			81.75	3.77
Joseph Bailey, Belledune	83.50	2.04	88.50	1.50				
Xavier M. Cormier, Caraquet	83.00	2.04	88.00	1.50	82.75	1.50		
David O. Henry, Tetagouche	83.00	2.03			88.00	1.59		
Alfred Cormier, Robertville	81.50	1.99						
Andre Hache, Robertville	80.25	1.96	89.00	1.51	88.50	1.60	84.50	3.90
Jos. B. Cormier, Elm Tree	80.00	1.95	88.50	1.50	85.75	1.55		
Heber Buttimer, Janetville			95.35	1.62				
Pierre L. Petre, Mid. St. Louise			92.00	1.56	80.00	1.45		
Geo. R. Marquis, Shippegan			91.50	1.56	82.50	1.41		
Gaspard Savoie, Savoie Landing			88.75	1.51				
Maxime Robichaud, Shippigan			88.50	1.50				
Prudent Gallien, Caraquet			88.50	1.50				
Temple Hornibrook, Stonehaven			87.50	1.49	86.75	1.57		
Augustine Robichaud, Shippigan			86.50	1.47	88.75	1.61		
Apolitan Fernard, Robertville			86.50	1.47				
Martin Savoie, Savoie Landing			86.00	1.46	87.25	1.58		
Joseph J. Hache, St. Rosette			85.25	1.45	90.50	1.64		
Alfred Cormier, Robertville			85.25	1.45				
Adelard Savoie, Shippigan			85.00	1.44	83.50	1.51		
E. H. Good, Clifton			84.25	1.44	87.50	1.58		
Louis Dugay, Caraquet			84.00	1.43				
Patric Robichaud, Savoy Landing			83.75	1.42	85.75	1.55		
Oliver C. Russell, Shippigan			83.75	1.42				
Amede Ache, Savoie Landing			83.00	1.41	84.00	1.52		
Adelard Cormier, Robertville			83.00	1.41	88.50	1.60		
Michael Shannon, Turgeon P. O.			82.00	1.39				
Jock Luckman, Mid. St. Louise			81.00	1.37	80.75	1.46		
Walter Killoran, Belledune					92.00	4.67		
Eugene Rioux, Caraquet					90.75	3.64		
Rev. Thos. Albert, Shippigan					89.50	1.62		
Louis P. Doherty, Caraquet					89.50	1.62		
Albert McCurdy, Belledune					89.00	1.61		
Edmund L. Roy, Elm Tree					88.00	1.60		
H. H. Good, Salmon Beach					87.50	1.58		
Ambrose Killoran, Belledune River					86.75	1.57		
Jos. Lacroix, Caraquet					85.25	1.54		
Rankin Willis, Salmon Beach					84.00	1.52		
Patrick Albert, Caraquet					84.00	1.52		
Frank Lapointe, Belledune					81.50	1.47		
P. J. McNally, Shippegan					81.00	1.46		
Henry G. Chenard, Caraquet					80.25	1.45		

ALBERT COUNTY	Wheat		Oats		Potatoes		Turnips	
Name and Address	score	awrd	score	awrd	score	awrd	score	awrd
		$		$		$		$
C. C. West, Hopewell Hill	92.00	4.05					89.50	5.15
T. A. Goggin, Elgin	91.10	4.01	90.80	4.77	91.80	8.30	88.00	5.06
A. R. Goggin, Elgin	90.90	4.00	84.60	4.44	87.25	5.04	84.50	4.86
Wm. Tucker, Elgin	90.10	3.96	89.80	4.72			80.00	4.60
Howard Steeves, Hopewell Hill	89.80	3.95					87.75	5.05
Job Stiles, Albert	88.80	3.90	90.00	4.73				
Fred Barchard, Elgin	87.60	3.85					86.50	4.97
F. J. Steevens, Elgin	85.60	3.76	86.90	4.57				
Hanford Gildart, Elgin, R. R. 1	80.00	3.52	87.00	4.57				
J. R. Long, Riverside			94.30	4.95				
Clyde L. Smith, Elgin			91.80	4.82	82.30	4.75	90.75	7.22
S. C. Day, Elgin			91.60	4.81				
Hamilton G. Steeves, Elgin			91.30	4.80			82.00	4.71
James Beck, Elgin			90.00	4.73				
Hartley Styles, Elgin			87.80	4.61			91.75	8.27
Wm. A. Stewart, Elgin			87.10	4.58				
Wm. G. Smith, Elgin			85.50	4.49	86.85	5.02		
A. S. Mitton, Hopewell Hill			84.00	4.41			88.00	5.06
F. J. Smith, Hopewell Hill							87.75	5.05
John McEwen, Elgin					87.50	7.05		
David Barbour, Riverside					87.00	5.03		
Sherman Day, Elgin					83.30	4.81		

1919 New Brunswick Field Crops Competition

NORTHUMBERLAND COUNTY	Wheat		Oats		Potatoes		Turnips	
Name and Address	score	awrd	score	awrd	score	awrd	score	awrd
		$		$		$		$
Thos. Holmes, Blissfield	91.50	2.86						
R. A. Snowball, Chatham	90.75	2.83	87.75	1.92	80.25	2.66	88.50	5.91
Ira Brehaut, Douglasfield	90.25	2.82	86.00	1.91				
Frank Dolan, Reynolds P. O.	89.50	2.79	88.00	1.95	95.25	6.16	91.75	9.12
W. S. Delaney, Chatham	89.25	2.79	83.75	1.86				
Michael Woods, Reynolds P. O.	89.25	2.79			86.75	2.88		
Ralph Searle, Chatham	89.00	2.78						
Henry Gordon, Chatham	89.00	2.78	87.50	1.95	87.25	2.89	86.25	5.76
R. Leslie Loggie, Lower Napan	88.75	2.77	88.50	1.97				
Wm. Scott, Ferry Road	88.75	2.77	89.75	1.99	85.50	2.83		
Herbert Fowlie, Little Branch	88.50	2.76	92.25	2.05				
Fred B. Williston, Bay du Vin	87.50	2.73	85.25	1.89			86.25	5.76
Geo. E. Fisher, Chatham	86.75	2.71	88.25	1.96			80.50	5.38
Hotel Dieu, Chatham	86.50	2.65	86.75	1.93				
Donald McLean, Little Branch	86.00	2.68	93.50	2.08				
Wilfred Gorman, South Nelson	85.50	2.67			82.75	2.74		
James Godfrey, Black River Bridge	84.75	2.65	88.75	1.97				
Wm. Johnson, Newcastle	84.75	2.65	89.25	1.99	90.25	4.99		
F. F. Fowlie, Little Branch	83.75	2.61						
Alfred McLean, Little Branch	83.25	2.60						
P. S. Bremner & Son, Chatham	83.00	2.59	86.00	1.91	84.00	2.78	88.50	5.91
Donald Watling, Black River	82.75	2.58	84.50	1.88				
Clement Dickson, Centre Napan	82.50	2.57	87.50	1.95	83.25	2.76		
Wm. Ivory, Reynolds P. O.	82.00	2.56						
John A. McNaughton, B. River Bdge	80.50	2.51	90.25	2.00	89.25	2.96		
Hugh McLean, Little Branch	80.00	2.50	91.25	2.03				
A. G. Dickson, Centre Napan			94.00	2.09	86.50	2.87	88.25	5.89
Alex. McRae, Blissfield			92.25	2.05	84.75	2.81		
Robert Taylor, Lower Derby			91.50	2.03	84.75	2.81	88.75	5.93
Donald McNaughton, Little Branch			90.75	2.01	81.75	2.71		
Malcolm McNaughton, B. River Bdge			88.25	1.96				
John McKnight, Little Branch			88.00	1.95				
Walter C. Ward, Gilks P. O.			87.75	1.97				
Hugh McDougall, Jr., Hexam			87.25	1.94	86.25	2.86		
F. T. Lavoie, Rogersville			86.75	1.93				
F. D. Jardine, Quarryville			85.75	1.90	80.75	2.68	87.25	5.83
Ernest Mersereau, Blissfield			84.50	1.88	82.00	2.72		
Willard McDonald, Gilks P. O.			84.50	1.88	81.25	2.69		
Thomas E. Powers, Reynolds P. O.			84.25	1.87	82.75	2.74		
John T. Sutherland, Blissfield			84.00	1.86	83.25	2.75	87.50	5.84
Jas. W. Johnson, Tabusintac			83.75	1.86				
G. P. Burchell, South Nelson			82.50	1.83				
Ranseford Gilks, Gilks P. O.			81.50	1.80	81.75	2.71		
Frank Jardine, Chatham					84.50	2.80	89.50	7.98
Geo. Morehouse, Gilks P. O.					84.00	2.78		
Benj. Deroche, Newcastle					82.00	2.72		
Daniel Baldwin, South Nelson					81.00	2.69		
Wm. McKnight, Chatham							85.25	5.69

VICTORIA COUNTY	Wheat		Oats		Potatoes		Turnips	
Name and Address	score	awrd	score	awrd	score	awrd	score	awrd
		$		$		$		$
C. E. Pickett, Andover	95.00	3.81	92.25	4.99	88.75	4.21	95.25	6.94
Donald Innis, Tobique River	94.25	3.77	92.00	4.98			85.75	3.54
Wm. S. Low, Kincardine	93.50	3.74	92.25	4.99				
F. E. Henderson, Andover	92.00	3.68	93.00	5.05	93.75	4.45	89.50	3.70
Alfred Smith, Kincardine			94.00	5.08	95.75	7.54		
John McB. Ellis, Kincardine			92.00	4.98	94.75	6.50		
H. G. Irvine, Andover			91.50	4.95	91.25	4.33	92.50	5.82
Denis P. Bourgeoin, Grand Falls					93.75	4.45		
Mike Jenson, Foley Brook					90.50	4.29		
S. B. Wright, Perth					89.25	4.23		
Ustazarde Arsenault, Bonsecour	88.75	1.96	92.00	1.93	90.85	5.31		
Jaddus Robichaud, Lower Goguen	88.50	1.95	95.50	2.01				
Jacques Johnson, St. Louis	88.25	1.95	90.00	1.89				
Dominique P. Boudreau, St. Pierre	88.00	1.94			83.00	2.11	83.20	3.84
Edmond Cormier, St. Anne	87.75	1.94						
Edward Hannay, Rexton	87.50	1.93	88.00	1.85				
Fred Smith, Notre Dame	87.25	1.93						
David G. Richard, Ste. Anne	87.00	1.92						
A. Wathen McBeath, Richibucto	86.75	1.91	87.50	1.84	84.70	2.16	84.00	3.87
Fabien Arsenault, Bonsecour	86.25	1.90	85.50	1.80	88.00	2.24		
David I. Mundel, Richibucto	86.00	1.90	94.50	1.99	86.50	2.20	82.30	3.80
Onezeime Goguen, Cocagne	85.75	1.89			86.95	2.21		
Jas. Lawson, Mundleville	85.50	1.89	88.50	1.86	83.70	2.13	83.10	3.83
Wm. Jardine, Jardineville	85.25	1.88	87.00	1.83	80.25	2.04		
Henrie Cormier, Hebert	85.00	1.88	90.35	1.90				
Robert M. Girvan, West Galloway	83.25	1.84	86.00	1.81	87.75	2.24		
Lue Maillet, St. Louis	82.50	1.82	90.40	1.90	84.35	2.15	82.00	3.78
Fidele B. Maillet, St. Louis	81.75	1.80	83.00	1.75				
Joseph D. Daigle, Bretagneville	81.25	1.79			83.75	2.13	81.60	3.76
Albenie Cormier, Hebert			93.75	1.97				
Eric Despres, Cormierville			93.50	1.97				
Antoine Cormier, Breau Village			92.75	1.95				
Alex. Lawson, Mundleville			92.50	1.95	84.65	2.16	89.90	6.15
Philibert Despres, Cormierville			91.50	1.92	81.15	2.07		
Howard Lawson, Mundleville	88.75	1.96	90.50	1.90	89.60	2.28	84.70	3.91
Alexander Doucet, Notre Dame			90.25	1.90	85.25	2.17		
Dominique Babineau, St Louis			90.10	1.89	81.20	2.07		
Anezeime Goguen, Cocagne			89.25	1.88				
Robert Johnson, Notre Dame			87.75	1.85				
Philippe Cormier, Hebert			84.75	1.78				
Filias Belliveau, St. Paul					86.25	2.20		
Augustin Petipas, Cormierville					86.10	2.19		
Hypolite T. Daigle, St. Charles					85.65	2.18	90.80	7.19
Harry Parkhill, East Galloway					81.60	2.08		

MADAWASKA COUNTY	Wheat		Oats		Potatoes		Turnips	
Name and Address	score	awrd	score	awrd	score	awrd	score	awrd
		$		$		$		$
Hector A. Daigle, Caron Brook	95.75	2.49	95.75	1.94	86.00	1.75	94.25	6.50
Auguste Daigle, Baker Brook	95.50	2.48	94.75	1.92	89.25	1.82	96.75	7.62
Jos. B. Nadeau, Portage du Lac	95.50	2.48			91.75	1.87		
David Chasse, Clair	95.25	2.48	96.00	1.95	95.75	1.95		
Paul P. Long, Clair	95.00	2.47	95.50	1.94	92.75	1.89		
Jos. R. Levesque, Lake Baker	94.75	2.46	94.75	1.92	91.25	1.86		
Jos. H. Albert, St. Hilaire	94.75	2.46	96.25	1.95	93.25	1.90	91.50	4.37
Auguste Martin, Caron Brook	94.75	2.46	95.25	1.93	84.75	1.73		
Thomas P. Long, Clair	94.25	2.45	95.25	1.93	91.00	1.86		
Joseph P. Long, Clair	94.25	2.45	94.50	1.92				
Denis O. Martin, St. Basile	94.00	2.44	90.75	1.84	92.00	1.88		
Damase Daigle, Michaud	94.00	2.44	87.75	1.78	88.25	1.80	92.25	4.41
Felix Daigle, Michaud	94.00	2.44	93.00	1.88	87.75	1.79		
Hector R. Daigle, Baker Brook	94.00	2.44			94.75	1.93		
Pea Saucier, Caron Brook	93.75	2.44	93.50	1.90	96.50	4.97		
Jos. H. Long, Clair	93.00	2.42			91.00	1.86		
Maxime Daigle, Baker Brook	93.00	2.42	92.00	1.86	89.00	1.82		
Thomas E. Martin, Clair	92.75	2.41	94.75	1.92	89.75	1.83	89.25	4.26
Antoine Ringuette, St. Basile	92.25	2.40	87.50	1.77	90.25	1.84		
Maxime Albert, Albertine	92.00	2.39	93.50	1.90	92.50	1.89	90.75	4.33
Hubert Michaud, Baker Brook	91.75	2.38	90.75	1.84	91.00	1.86		
Narcise Pelletier, Caron Brook	91.75	2.38	94.00	1.90	88.25	1.80		
Theo. Paillard, Clair	90.50	2.35	93.75	1.90				
Baptiste B. Nadeau, Portage du Lac	90.50	2.35	93.00	1.88				
Chrisostome Morin, Clair	90.00	2.34	91.75	1.86	86.00	1.75		
Desire Nadeau, Baker Brook	89.75	2.33	92.75	1.88	91.00	1.85		
Romuald Long, Caron Brook	89.75	2.33	93.00	1.88	91.00	1.85		
Onesime B. Nadeau, Nadeau	89.50	2.33	95.25	1.93	94.00	1.92		
Honore Daigle, Baker Brook	88.50	2.29	95.00	1.92	89.75	1.83		
Pierre Colin, Albertine			96.00	1.95	84.25	1.72	84.25	4.02
Fred N. Albert, Albertine			95.25	1.93				
Fortunat Cyr, St. Hilaire			95.25	1.93	88.00	1.79		
Arthur Nadeau, Albertine			94.00	1.90				
Joseph L. Mercure, St. Basile			93.50	1.90	82.75	1.69		
Hypolite Beaulieu, Lake Baker			93.00	1.88	96.00	3.96		
Achile Martin, Powers Creek			93.00	1.88	95.00	1.94		
Denis Thibodeau, Parent			92.50	1.87	90.75	1.85		
Hilaire Daigle, Caron Brook			91.50	1.85	91.25	1.86		
Elias Daigle, St. Hilaire			91.00	1.84	83.50	1.70	94.00	4.49
Joseph D. Daigle, St. Basile			90.50	1.83	93.50	1.90		
Eustache Soucy, St. Basile					95.50	1.95		
Donat Cyr, St. Hilaire					87.50	1.78		
Jack Mercure, St. Basile					86.00	1.75		

KINGS COUNTY	Wheat		Oats		Potatoes		Turnips	
Name and Address	score	awrd	score	awrd	score	awrd	score	awrd
		$		$		$		$
A. J. Marr, Newtown	94.50	5.27						
Harvey Parlee, Sussex, R. 2	92.40	5.15						
W. H. Venning, Sussex, R. 2	92.10	5.13	93.20	3.82				
W. E. Wallace & Sons, Penobsquis	92.00	5.13	96.20	3.95	86.50	5.07	81.70	3.85
J. H. Jeffries, Sussex	90.20	5.03	86.00	3.53	81.90	4.80	81.00	3.81
McIntyre Bros., Sussex Corner	90.70	5.06	93.20	3.82	89.30	7.23	86.20	6.06
J. H. Bowser, Sussex Corner	89.80	5.01					81.40	3.83
J. A. Marven, Anagance	89.50	4.99	93.10	3.82	85.50	5.01	82.10	3.86
W. F. Mosher, Sussex	88.30	4.92	93.80	3.85	83.00	4.86	82.40	3.88
Hiram Secord & Sons, Penobsquis	87.20	4.86	93.40	3.83	88.00	5.15	83.40	3.93
Herbert Weldon, Penobsquis	80.00	4.45	86.50	3.55				
R. H. Rouse, Corn Hill			93.00	3.82				
E. Roy Raymond, Norton, R. 3			92.60	3.80	83.00	4.86	82.30	3.87
Geo. L. Slipp, Sussex			90.80	3.73				
M. K. Raymond, Norton, R. 3			90.50	3.71			81.20	3.82
H. H. Magee, Quispamsis			89.20	3.66				
J. A. Floyd & Sons, Bloomfield			87.70	3.66			84.20	3.96
W. E. McLaughlin, Lr. Millstream			86.90	3.56	80.50	4.72		
Ephriam Kyle, Parleeville			86.50	3.55	86.80	5.08		
T. Albert Davis, Sussex, R. 2			86.10	3.53				
M. M. Crabbe, Bloomfield			84.50	3.47				
Geo. M. Greig, Apohaqui			83.00	3.40	84.50	4.95	85.60	4.03
J. E. Hoyt, Hampton					90.00	8.27	83.70	3.94
C. E. Dixon, Hampton							88.60	7.17
Jas. McElroy, Sussex Corner							84.70	3.99

KENT COUNTY	Wheat		Oats		Potatoes		Turnips	
Name and Address	score	awrd	score	awrd	score	awrd	score	awrd
		$		$		$		$
Wm. Main, Galloway	95.00	2.10	89.00	1.87	90.00	2.29	88.70	4.09
John C. Mundle, Up. Rexton	94.00	2.07	90.85	1.91	86.05	2.19	84.80	3.91
John Dixon, Jr., Up. Rexton	92.25	2.03	93.00	1.96	85.50	2.18	80.50	3.71
Henry Berthe, Buctouche	91.50	2.02			86.85	2.21		
Wm. C. Clark, Up. Rexton	91.00	2.01	88.25	1.86	85.60	2.18	80.00	3.69
M. McLaughlin, Buctouche	90.75	2.00	90.75	1.91	89.75	2.29	82.20	3.79
M. J. Hickey, Up. Rexton	90.50	2.00	90.60	1.90	81.00	2.06	80.80	3.73
Sylvister Richard, Bretagneville	90.25	1.99	89.50	1.88				
Andrew Dixon, Up. Rexton	90.00	1.99			89.00	2.27	85.50	3.94
Joseph Doiron, St. Louis	89.75	1.98						
Abraham Breau, Cormierville	89.75	1.98	91.25	1.92	89.20	2.27		
Alex. B. Carson, Rexton	89.60	1.98	88.70	1.87	90.80	4.31		
Robt. C. Carruthers, Up. Rexton	89.50	1.97	90.55	1.90	87.00	2.22	85.40	3.94
Felix Micheau, Buctouche	89.25	1.97	89.75	1.89				
Seymour Dixon, Up. Rexton	89.10	1.97	91.00	1.91	86.75	2.21	88.20	4.07
Francois Richard, Bretagneville	89.00	1.96	90.45	1.90				

(See page 129 for other counties)

THE MARITIME FARMER

And Co-operative Dairyman
Registered Trade Mark
Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Frult Growers' Associations; The New Brunswick Frult Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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DATES OF ISSUE.

December (Xmas) - - - - 9—23

NOVEMBER 25, 1919

PEDIGREE DOES NOT MAKE THE BULL

A few well-reasoned words as to the scrub bull question were printed in a recent issue of The Oaklahoma Farmer-Stockman.

"Unfortunately," said the writer, "many men assume that all registered bulls are worthy. While it is true that a well-bred bull may not have developed into a useful individual because of some accident or mismanagement during his growing period, yet it should be recognized that occasionally even in the best of herds individuals are sometimes produced which can be classified as 'registered scrubs.'

"Any pure-bred bull with a mean head, shallow body, narrow chest and extremely long legs shoudl be castrated regardless of his breeding. Such individauls are not only detrimental to those who use them, but bring the breed to which they belong into disrepute. It is unfortunate that all breeders do not have courage enough to castrate such misfits rather than offer them for sale.

"A few instances will serve to show the value of pure-bred sires.

"The highest priced load of grass-fat cattle reaching any of the central markets during 1918 were purchased in Montana from the use of pure-bred shorthorn bulls on grade cows.

"The highest priced load of cattle ever shipped from a central market for feeding purposes, were produced in Colorado by the use of pure-bred shorthorn bulls on a herd of ordinary range cows and sold at $20.75 per hundred.

"The highest price ever paid for a load of fat cattle on the Oklahoma City market was for a load of steers sired by pure-bred shorthorn bulls used in Oklahoma. On the same market 24 head of grade shorthorn dry cows sired by pure-bred bulls were sold directly from wheat pasture netting the shipper slightly more than $100 per head.

"Such illustrations could be multiplied indefinitely, and in every instance the added value of market cattle, whether feeders, grass-fat cattle, butcher stuff or finished beeves, is always traceable to the use of pure-bred, registered sires of merit.

"No carload of cattle sired by scrub bulls has ever attracted attention on the central markets because of the price at which they were sold, unless it was due to the variation downward rather than upward from the average.

"The only place where a scrub can compete with a pure-bred bull is in the hands of a man who insists upon providing for his cattle in such a manner that only an undersized scrub can live. Changing conditions will gradually eliminate such men from the ranks of cattle breeders who look for efficiency."

LAYING EGGS BY ELECTRIC LIGHT

During the past year results have been announced of experiments to show the advantage of having the hens supplied with electric lamps to increase the egg production and reduce costs.

One of the latest to report is the Manitoba Agricultural College where the Birdies were provided with their "reading lamps" from 7 a. m. until daylight and from dusk until 10.30 p. m. It is not meant to infer that they sat and read by the light of the glowing filament. Far from it. The lazy birds simply layed around all over the pen.

The conclusion arrived at was that for neavy winter egg production the use of electric light to supplement the period of daylight is of great value.

Accurate records of the food used and the number of eggs gathered for the period from November 15th, 1918, to March 1st, 1919 gave the following marked difference in cost of egg production:

	Lighted Pens	Unlighted Pens
Number of eggs laid.....	6324	3757
Cost of feed.....	$111.30	$105.60
Cost per egg.....	1.9c	2.8c
Cost per dozen.....	21.1c	33.6c
Cost of light	11.50	

THE SONG OF THE LAZY FARMER

My neighbor says when it is hot that he would rather work than not, at harvesting or haying; he says when he gets up a sweat, and gets as hot as he can get, the work is just like playing. His shirt is open at the neck, he doesn't mind the heat, by heck, his muscles all are limber; he says the heat don't hurt a bit if you don't worry over it, or beat it for the timber.

Now when the sun is beating down and all the grass is dry and brown, I don't feel much like working; I take a jug of lemonade, and long before the hay is made, I feel a lot like shirking. My hired man is young and spry, I let him do the work while I am taking my work easy; I like to keep my pulses cool instead of working like a fool, and get all sweat and greasy. It doesn't pay to get up until you're panting like a pup, or be in such a hurry; instead of keeping on the jump I sit around beside my pump and let my neighbor worry.

GETTING RID OF OLD-TIME METHODS

While farming is growing more complex than it used to be it is also increasing in interest to the men who have studied it as a science and as a business. We have abandoned old methods because new ones yielded a more satisfactory return. We are keeping better live stock because the scrubs failed to pay a profit on high-priced land, labor and feeds. We have used improved methods of selecting seed grains because they increased our crop yields. Many practices have been modified because of the advance in the cost of operating the farms and the difficulty of securing good help. The production of several kinds of crops and the feeding of more good live stock equalizes the farm income and provides profitable employment for the hired hands from month to month and year to year. The farmer of today is endeavoring to place his business on a plane of efficiency that will make it possible for him to count upon cost of production plus a sufficient profit to maintain himself and family in comfort and provide reinvestment in the business to make good unavoidable losses and depreciation.

FARMERS SET GOOD EXAMPLE

The Mail and Empire of Sept. 29th says:

"What we need in Canada is a full appreciation of the utility of hard, steady work. Whatever may be said as to food prices, no one can deny that the farmers set a good example in this respect. If everyone worked on the same ratio we should all be having lower costs of living, and about as much ultimate profit—except the seller of luxuries and promoters of fake schemes. When other nations are in turmoil in industry, the influence of Canada's farmers should be put steadily behind sane, sensible Government that has regard for th interests of th people as a whole, not of special classes, and their special class appeals."

Why, then, deny to farmers a proper proportion of representatives in the Legislature? Argue around it as you will, this country will go steadily on the downward track if the decline in agriculture is not checked.

INFERIOR STOCK SHOULD GO TO THE BLOCK WHEN PRICES ARE HIGH

Never were conditions more favorable for culling herds and flocks closely and sending inferior animals to market. There is no excuse—financial or patriotic—for farmers to retain inferior, scrub animals when the market invites their presence, at prices which will net the owner more than they have ever been worth. But it will not do to delay, for at present prices for feeding matrials inferior animals soon eat their heads off.

Now, that all kinds of meat products are high and the values of good young males are on a reasonable basis, the farmer is best fixed to make a change in policy by marketing all the inferior bulls, boars and rams on his farm and putting in their places superior young males, from the herds and flocks in the country, that are bred in the blood which has proved its calue where it has been properly handled. The accepted time to cash in on scrub males is right now when they will sell for more than enough to pay for better ones to put in their places.

LOSS FROM SCRUB RAM

Says the Dominion Live Stock Branch: "The Markets Representative of the Branch at Montreal, Mr. S. N. Chipman, who assisted the shippers in marketing their lambs, estimates that more is lost to the farmers each year through the use of schub than can be gained under the most improved system of marketing. Quality is counting far more than weight, and scrub stock has been at a discount at all the yards to the xtent of from 4 to 4½ cents per pound. At $2.50 per head the loss on 20 lambs would amount to $50.00 and on 100,000 lambs (5,000 x 200 to $250,000. Can any farmer afford this loss? Canada can't. The Branch would be glad to hear from any farmer who decides to use a good pure bred ram, or ram lamb, this fall as a result of seeing this comment."

Cash Crops and Big Business on the Tobique Valley

By O. C. Hicks, B.S.A., Forage Crop Specialist

There has been big business done in the marketing of cash crops from the valley of the Tobique since the first settler penetrated its fastness.

Still the wonder and admiration of the tourist and sportsman, the Tobique valley proved a bonanza to the lumberman and it now comes to the front as the choicest agricultural section of this province.

The valley is the seat of the largest lumber company operating in Eastern Canada. Here also is the largest farm in the Province and to this district belongs the distinction of having grown the largest and most valuable crop of red-clover-seed ever produced on a Maritime Province farm. To this farm, the theme of this story, situated a mile or so below the "Gulch" red-clover proved a mortgage-lifter — and then some.

Scotchmen never were daunted by a difficult prospect and it was natural that the husbandman's task to Victoria County should have been shouldered largely by Scots.

How well they succeeded since the founding of the colonies of Kincardine and Kintore in1873 in subdueing the rugged surface of this Caledonia of New Brunswick may be inferred from the fact that Victoria tops the list of all the counties in the production of the special cash crop for which the Province is famed. Victoria County potatoes form the bulk of the export trade of this product.

Specialty Cropping Systems

The initiative and perseverance of her people known no bounds. To excel Aroostook County, which won fame through the adoption of a cash-crop system of farming, is the ambition of her farm owners who watch the development across the border where the market is the wet-nurse to specialty cropping.

To one man in particular, Mr. Geo. McLaughlin, the tide in the affair came this summer and he caught it at the flood—in the shape of a bumper clover crop which he harvested for seed.

That Mr. McLaughlin is an opportunist by nature is borne out by the story of how he essayed to "corner" potatoes—for he knows potatoes as well as how to grow them—on the tight little island known as P. E. I. Well, George and a trusted agent spent a busy week among the island farmers and bought all the potatoes in sight—above and below ground—paying a cash deposit to each grower. Then he crossed the mainland pleased with the thought of a job well begun. Arrived at his potato house ,a telegram sent by his agent informed him that buyer No. 2 was hurriedly rebuying these potatoes at an advance price and the farmers besought him to take back his money. A "slump" was due. The reply was "gather up your money." Buyer No. 2 went broke and George had gained a tour of the Island for the price of a round-fare ticket.

A THRESHING SCENE IN THE TOBIQUE VALLEY DISTRICT

The straw-stack is the residue of three thousand four hundred bushels of grain threshed from one barn.

Bees as Husbandmen to the Clover Blossosm

When the writer visited "Red-Clover Farm" about the first of August, the clover field was a sight to gladden the heart of a forage crop specialist. Thirty acres of clover 'en bloc' is a gladsome sight, and the bees, those husbands of the blossoms, were buzzing them to some purpose. An apiary of 20 colonies of busy workers belonging to Mr. C. W. Lewis, Perth, paid their attentions to the clover blooms.

My exclamation as we waded through the verdant growth appeared to please the owner. Plainly he was enthusiastic over this evidence of Nature's bounty. I soon learned that my guide had studied the results ot scientific investigation and drawn upon the experience of other successful farmers and had applied his intelligence to the management of this farm. For instance, on portions of the field the mower had been used and the heavy swaths of hay lay in long coils. Those patches that had showed ox-eye daisy were made into hay so that nothing should be threshed that was not free from weed seeds. In other parts of the field the growth was so rank that the clover seemed not unlike pea-vines. Scarcely any blossoms were borne and these few showed no evidence of bearing seeds. These parts too had been mowed down to be drawn to the barn for hay. Over the rest of the field, about twenty-five acres, the blossoms were beginning to turn brown and many flower-heads already felt plump and firm when pressed between the thumb and finger giving abundant evidence of a good seed crop.

Believes in Crop Rotation

To the question—"How such a heavy crop was started," Mr. McLaughlin warmed up and there followed a grand discourse on the subject of his farming.

He bought the farm four years ago, then on the verge of being an abandoned farm. This year it produced one thousand bushels of grain. One hundred acres were under crop, and next year there will be twenty-five acres more. The soil is good—a rich gravelly loam—just the sort of land to respond to a rotation of clover, potatoes and grain. A strong advocate of the use of high grade commercial fertilizers and the application of lime in the form of ground limestone, Mr. McLaughlin is quite anxious that the Government's policy of grinding limestone rock be put into effect in his county.

That a farm can be made productive through the use of a judicious crop rotation, the plowing down of clover sod and crop residues and the application of commercial fertilizers is substantiated here. Live-stock of the beef or dairy type is not a feature. The teams are sent to the woods for winter, returning in the spring well-fed and champing their bits, ready for the hard work of the cropping season.

The Irish Cobbler Potato

Not contented with the dealer's profit only, potatoes are a big item of the farm crops. About twenty-six acres were planted and harvested. The yield of Irish Cobblers was something over 120 bbls. to the acre, which brought the acre profit into three figures. Here the double row horse-hoe was in use. Up-to-date machinery is a noticeable feature of the farm; a Watson Triplex Sprayer, a side-delivery hayrake and hayloader, low-down slovenwagons, self-binders, etc., all the best of their kind. A series of tanks, for mixing the Bordeau, conveniently arranged stood at one side of the yard and the potato crop showed evidence of having been sprayed religiously.

The Clover Harvest

A few years ago the Department of Agriculture installed a huge clover-huller and for such a crop as that grown at Redclover Farm it proved its excellence. Twenty-five acres of heavy first-crop red clover meant some threshing and Mr. McLauglin early filed an application with the Department for its use.

The clover crop was cut and bound with a self-binder machine and after becoming well dried in the field was drawn to the barn under cover. Then one fine day the work of threshing began. The capacity of that machine was a surprise to the curious who gathered around, while the way the plump purple seed poured out in a steady stream was truly gratifying to him who had sown, watched and waited, when at the end of six days the threshing floor was cleaned up and the whole product of seed weighed, thirty-five hundred pounds was indicated by the scales.

Nor is that all that may be said. Since the war-period began the price of clover seed has advanced 300 per cent. and the sharpest advance is yet to be.

Now, a scientific fact in closing and that is that New Brunswick home-grown red clover seed is worth a good deal more than the imported seed and even at no greater price than fifty dollars a bushel. Mr. McLaughlin will net a tidy sum for his clover seed-crop, the result of his initiative venture.

The Tobique valley has bright days ahead, for its acres can grow this hundred-dollar per acre crop and continue its big business by growing a cash crop which at the same time puts capital into the soil in the form of increased fertility.

Rural Leaders of the Future

Agricultural leaders were never in such demand as they are at the present time. The gradual depopulation of the farms of Eastern Canada and the tremendous trend citywards, which began many years ago, has caused many serious economic problems. Coupled with that came the great war, which accentuated the difficulty and made farming harder than ever, and still the trend continues citywards. The rising generation seems to be dissatisfied with farm life and slowly but steadily they are leaving the farms for work in the city. The result of the whole thing is an increase in the cost of living and a general air of unrest and dissatisfaction. The almost endless chain of strikes that grip practically all Canadian cities is caused by nothing else than that our economic life is unbalanced. There are too many people in the cities both for the jobs available and the high cost of living. That statement may be challenged by some of the more erratic strikers, but nevertheless the fundamental cause of the whole thing is the the high cost of living.

On the other hand the situation in the rural districts has not improved and the same high wages and advanced cost of farming has played havoc with former farming practices. The old systems must give way to the new, and chief of these is co-operation. Farmers now realize that if they are to get the most out of their business they must work together and organize their business similar to the manufacturers and other city business corporations. The demand for leaders in these agricultural movements continues to grow also. Where are they to come from? Certainly it is from the country, but the real work is to pick out the really capable men. This can best be accomplished by having small rural organizations such as farmers' clubs, where rural economics can be discussed. It matters not what form they take and what line of work they follow, they are bound to bring forward men and women who are capable of becoming leaders in the new environments and lines of thought. Such people are not scarce and there is no community but has a few such persons, but the real work is to discover them. Here is where the local clubs or gathering does a most useful work, and, after all, if they do no other good than to bring out a few real leaders their work has been worth while.

Co-operation and united enterprises are bound to continue as leading factors in our agricultural industry, and the call for leaders is sure to become an ever-increasing item towards their prosperity. Therefore we would advise organizations, and support any gathering of rural people that will help to bring out the latent talent and leadership that is lying dormant in every community. Boost your local club.

Gleanings From the Nova Scotia Agricultural College

A MARITIME COLLEGE OF AGRICULTURE

The Nova Scotia College of Agriculture opened its classe for the term of 1919-20 on November 4th, with a splendid body of students. The Senior class numbers 28, the Junior class 63. The size of the latter points to a much larger attendance next year. The number of regular students is the second largest in the history of the College. When we add the special class for soldiers, the total is the largest yet.

An analysis of the records of this year's attendance brings out some interesting facts. One student hails from Scotland, one from England and one from Ontario. Nova Scotia contributes 48, New Brunswick 24 and Prince Edward Island 15. In other words, 50% are from Nova Scotia, 26.3% from New Brunswick and 16.5% from Prince Edward Island. The ratio of students at the College to the total population is highest from P. E. Island, second from Nova Scotia and third from New Brunswick.

A simple and obvious deduction from this is that the College at Truro is now the de facto Maritime College of Agriculture. It provides agricultural education for all three Provinces and the proportion of students from each of the three is about what an outside observer would expect in a Maritime Institution of this kind. Doubtless the total will grow from year to year, and there will be variation in the number hailing from each Province.

All this brings up a question that has often been discussed before, and one that now should be issued as speedily as possible. Why not make the College at Truro a Maritime Institution not merely with respect to attendance, but also with respect to support by the three Provinces? Various bodies have already made declarations pointing in this direction. oFr example, the Dairymen's Associations in all three Provinces have declared themselves in favor of a Maritime Dairy School at which the splendid work now being carried on in a small way at Truro could be greatly enlarged through the better equipment and more extended sources of instruction.

While there is an excellent plant at the Nova Scotia College, and while it is true that the efficiency of its work has been constantly demonstrated by the splendid records of graduates who have continued their studies at Guelph and other Colleges, yet the equipment is much more modest than that of any other College East of Saskatchewan. It is too obvious to require argument that the other two Provinces would be doing their agricultural interests an invaluable service through their own students by making it possible to add to this equipment.

Your corespondent has discussed this matter with Dr. Cumming, Principal of the Agricultural College at Truro, and finds that he is himself very favorable to the participation of all three Provinces in the support of the College and the moulding of its policies. He would go so far, indeed, as to be willing to make any necessary change in the administration of its affairs so as to bring about this end.

Maritime union is a subject that has received a great deal of attention from time to time. It may be that such a union is not practicable along all lines of administration, but, so far as Agriculture is concerned, the interests of the three Provvinces are one, and a policy of Maritime union could easily be worked out. Its desirability is beyond question.

THE DOMINION EDUCATIONAL BUTTER SCORING CONTEST

The Dairy interests of Canada are spread out over a huge territory, and, while good butter is being produced East and West, and all the way between, there is always the possibility of a wide divergence in flavour and quality. This fact has been a drawback in foreign markets in the past, as "Canadian butter" might mean anything. The Dairy Division at Ottawa has for some time been considering ways and means of standardizing this product throughout the Dominion.

During the past summer there has been carried on a butter scoring contest by the Department at Ottawa in co-operation with the Dairy Division in each of the different Provinces, the Province selecting the creameries which should compete, and the Federal Dept. conducting the contest.

Four creameries from each Province were selected. In Nova Scotia the four which stood highest in the 1918 Provincial Competition were chosen. Every month during the summer each creamery sent a fourteen lb. box to cold storage in Montreal, where it was scored by three experts on arrival, and then scored for flavor each month during the season. The final scoring took place in Montreal two weeks ago. To get all possible results from the whole undertaking, the Dairy Commissoneir at Otawa invited representatives from each Provincial Department to be present at these scorings.

To further the standardization of quality, samples of this butter arranged in series, good, bad and indifferent, pasteurized and unpasteurized, etc., will be sent down to the various Dairy Conventions during the coming winter.

A big change has taken place during the past few years in the quality of creamery butter. Butter which would have passed ten years ago as the finest, would not be passed today at all by a close critic. The Dominion Education Butter Scoring Contest gave the leading Dairy authorities in the various provinces a chance to make carcful comparisons between their respective products. Thus a medium has been established through which all the provinces may work toward a common standard.

While this contest was not conducted with any idea of setting one area against another, and while no prizes were offered to the competing creameries, yet it will b encouraging to the Maritime Provinces to know that their product is at present scoring as highly as any in the Dominion. In the last test the highest score was made by a Prince Edward Island creamery, which reached the fine total of 98 points. The highest record made by the other Provinces run as follows: Quebec 97.8, Nova Scotia 97.5, Manitoba 97.2, Alberta 97, New Brunswick 95.6, Saskatchewan 95.2, British Columbia 94.4, Ontario 94.

It is purposed that this competition shal lbe carried on during the season of 1920, and it will be followed with great interest by dairymen in all the Provinces.

WHY NOT RAISE MORE SHEEP IN NOVA SCOTIA?

Every one who visits the Province of Nova Scotia is impressed with its possibilities in sheep raising. The fact remains that this idustry has not developed to as great an extent as had been hoped for, and as the situation would seem to warrant.

In the past several reasons have been advanced for the comparative failure on the part of farmers to take advantage of the "Golden Hoof." Among those the one most frequently urged was the dog nuisance, and representations were made that if drastic legislation regarding dogs were brought about, great improvements would result. There should now be little room for complaint on this score.

Under the legislation at present in force, any person may shoot a dog at any hour of the day or night that is in any way worrying his sheep. In addition to this provision, a tax of not less than $1.00 per annum must be paid for every dog, and, not less than $5.00 for a bitch.

The revenue produced by this tax according to the law, "Shall constitute a fund for satisfying such damages as arises from dogs killing or injuring sheep in the municipality, in cases where the owner of the dog is unknown or unable to pay." Sheep owners who suffer loss or injury by dogs of which the owners are known and are able to pay have resource to the comon law of the land for the collection of damages. Several cases have been reported to the Department of Agriculture of sheep owners rcovring losses sufferod by dogs of which the owners were unknown. It is reasonable to suppose that others who have not been reported have been recouped in the same way. It may be, however, that there are still farmers who are not aware of these provisions of th law. The whole matter is clearly set forth in the 'Statutes of Nova Scotia, Acts of 1908, chapter 26, being "An Act to amend the Sheep Protection Act."

This, however, is not the whole story. Even at the time when the agitation against the dog nuisance was at its height, there were many who said that the reason for Nova Scotia's failure to develop the sheep raising industry lay deeper than this. There was the necessity for more careful fencing, the unsatisfactory prices for the products, and the other incidental difficulties attending this or any other branch of Agriculture.

It may be that something further should be done to help obviate these difficulties, just as the dog objection has been very largely removed. The Department is anxious to encourage sheep raising in Nova Scotia, and the Secretary for Agriculture would like to hear from those who are interested. If you have a sugegstion, pass it along. It must be admitted that some development took place during the war period. It would be unfortunate if such gains were now to be lost, or even if the business ceased to increase. Sheep raising should be one of our great assets in this Province, and with a cold storage plant in prospect, and co-operative marketing of wool and lambs gaining headway, marketing uncertainties will be reduced to the minimum.

The whole subject is a good one to discuss at Farmers' meetings through the Farm papers,by letters to the general press, etc. Think it over. Talk it through; and if you have a proposal to make,write your views down and send them in to the Secretary for Agriculture, Truro, N. S.

HOME GROWN SEED GRAIN

During the past ten or more years, the Provincial Department of Agriculture in Nova Scotia has conducted a Field Crops Competition. The main purpose of this was to encourage the growing of seed oats and wheat especially, at home, instead of buying outside the Province, as the prevailing custom has been. It was very fortunate during the years of war that this practice had been instituted far enough in advance to get a large proportion of our farmers into the way of growing their own seed. Nothing else saved the seed grain situation in a time when it was practically impossible to buy good seed in the usual markets of the world.

While the war was on a large number of fanning mills were purchased by the farmers of the Province. A bonus was paid by the Department to buyers of these machines during 1917. Such good results have followed from the use of home grown seeds that the practice is likely to be established.

The Department, however, is not yet satisfied, and in announcing the prize lists for 1920 it plans to confine competitions entirely to fields sown with registered seed. This registered seed is available from members of the Canadian Seed Growers' Association, and also from a number of men who have participated in the Field Crops Competitions. There will be difficulty in obtaining it if farmers put off ordering their seed supplies until nearly seed time.

aFrmers who plan to enter the Field Crops Competition, and who do not know where to obtain registered seed should correspond at once with the Department of Agriculture and secure a list of persons from whom seed can be secured. Further reference to this matter will appear in the Press later in the season .

MODEL ORCHARDS

It may not be generally known that the Horticultural Division, N. S. Dept. of Agriculture, maintains and oversees some twenty-four Model Orchards in various parts of the Provi ice. The main objects of these are, to demonstrate the adaptability to fruit, raising of districts which are outside the fruit belt proper, and to test the diffierent varieties so as to discover which are most suitable to the conditions prevailing in these districts.

At the Poultry Show recently held in Halifax, samples of apples from sixteen of these orchards were on exhibition. These were taken from districts scattered over the whole Province from Yarmouth to Cape Breton.

These samples were of very high quality, and of a wide range of varieties. Even the casual observer could not but be struck with the possibilities of districts which have never been regarded as suitable to apple growing.

The next Annual Convention of tne Dairymen's Association of Nova Scotia will bc held at the College on the 22nd and 23rd of January. All who are interested in creamery work will be pleased to learn that a series of samples will be on exhibition from the Dominion Educational Butter Scoring Contest at Ottawa.

MARITIME POULTRY ASSOCIATION ANNUAL

The annual meeting of the Maritime Poultry Association will be held at Amherst at the Winter Fair, at the Board Room at 10 a. m., Wednesday, December 17th.

The date for the Nova Scotia Poultry Association meeting has not yet been fixed.

The revival of the Winter Fair this year should result in a largely increased attendance of members of the Poultry Association.

The most carefully planned farms are carrying more cows for a given area than are the farms where there is no regular plan followed. By careful planning a man is enabled to have a perfect balance of everything. Under a carefully worked out system of cropping the farm does not run short of feed at any critical time.

Jottings From the P.E.I. Department of Agriculture

The demand for pure bred rams in the Province of Prince Edward Island is growing stronger each year. The Department of Agriculture during the present season distributed a considerable number of imported rams, which were carried over from last fall on the Government Farm. These rams were one and two years old, good individuals and in splendid breeding condition. They were readily disposed of to breeders throughout the Province. Many orders which could not be filled by the Department were referred to local breeders who had rams for sale, and in this way it is hoped that all demands will be fully satisfied.

The present interest in flock improvement has been growing for some time and is due principally to the education resulting from the co-operative selling of wool as well as the results noticeable in grade flocks where pure bred sires of the right type and quality were used. There is no question that the quality of the wool and the quality and quantity of mutton can be very materially increased by crossing the farm flock with an individual of strong blood lines and proper conformation. Instances have been noted in the Province where the first cross on grade flocks by pure bred rams has increased the average weight for the whole community to the extent of from 10-15 lbs. per lamb. Not only is the weight increased, but the lambs will be of a better mutton form, more uniform in appearance and will present a much more attractive proposition to the buyer than the ordinary stock of indiscriminate breeding.

It is estimated by an expert at the Live Stock Branch at Montreal that farmers suffer more loss each year through the use of scrub sires than can be gained under the most improved system of marketing. The stock yards are placing a premium on quality and a discount of from three to four cents per lb. is being placed on the scrub stock. If we could only impress on the mind of the sheep-raiser, who is using the scrub sire on his flock, the actual amount in dollars and cents he is loosing annually by such a policy, there would be no doubt that more attention would be given to the proper selection of a head for the flock. The difference in price between the scrub and the sire of individuality and character is so little as not to constitute a difficulty in the way of procuring the very best rams.

The P. E. Island Egg and Poultry Association have recently paid 26 cents per lb. live weight for fat fowl marketed through the Association during midsummer. A splendid return for this class of fowl and in comparison with the market quotations, a most satisfactory one to those who have taken advantage of co-operative marketing, and should be an inducement for all farmers to market their products as far as possible in this manner.

All those within reach of co-operative creameries are aware of the benefits of this system of manufacturing and marketing their dairy products, as the price of creamery butter will range from 5 to 10 cents per lb. over the home made product, and the gain in overrun in a ceramery is also of considerable value.

Selling wool through the Wool Growers' Association has resulted in an average price of at least 10 cents per lb., and up to 15 or 20 cents per lb. of an advance in price for the better grades of wool over that paid in the open markets.

The results of the egg circles has revolutionized that industry. In fact it is only by standardizing any product and selling co-operatively that the best market may be procured and retained.

As an example of this, the fruit growers of the St. Lawrence Valley, the home of the most popular desert apple, received $3.00 per barrel more for their No. 1 product the first year after they organized their first Growers' Association and standardized their product, than was paid outside the organization.

We must first guarantee the quality; then through co-operative selling we can command the top market price for any of our farm products.

The Department of Agriculture, through the Rural Science Branch, is encouraging the boys and girls of the public schools to take a greater interest in poultry. The method followed in 1918 was to organize school poultry clubs at school fair centres. The objects of the clubs were:

1. To stimulate an interest in poultry raising among the people of the province.
2. To give a better knowledge of the value and importance of the poultry industry, and in marketing of a first class product.
3. To teach better methods of caring for the poultry and eggs.
4. To show the increased revenue to be derived from well bred poultry where proper methods of management are pursued.
5. To encourage the child to become a producer early in life.

The members of the club decided upon one particular breed of poultry. Each member purchased a setting of eggs from the Rural Science Department. These eggs were from pure bred selected flocks. Unfortunately the pupil did not always receive the eggs in good condition and as a result experienced poor hatches.

To overcome this and to give the members a better prospect for building up a flock, the Department installed a Mammoth Incubator with a capacity of 2400 eggs. Two incubators of the same type were installed by the Co-operative Egg & Poultry Association and a man engaged to operate the three machines. The eggs were all secured through the Association, and only those used which were from selected flocks. The announcement was made to the schools that day-old chicks would be delivered to the clubs first making application. So favorably was this announcement received that in all 12,000 chicks weer ordered. The Department followed its regulation, and those first ordering were supplied. Hundreds of pupils were disappointed because of our inability to fill the orders. The experience gained will enable us in next year's operation to avoid many of the errors made. The boys and girls exhibited their poultry at the school fairs, and at the Provincial Poultry Show held in Charlottetown. The experiment has already shown that it is worth while to work through the schools.

If we wish our boys to leave school for the farm keenly interested in live stock, it is necessary to begin educating them along these lines at the impressionable age. The various ways in which this education is carried on n some of our schools, and the practical results obtained is sufficient evidence that a greater effort should be made to have all our rural schools actively interested in leading our young people to see the prosperous future open to intelligent farmers, that the greatest prosperity rests on the development of our live stock industry.

1919 New Brunswick Field Crops Competition

QUEENS COUNTY	Wheat		Oats		Potatoes		Turnips	
Name and Address	score	awrd	score	awrd	score	awrd	score	awrd
J. N. Inch, Cent. Greenwich			91.25	5.20				
Chas. Lawson, Shannon			89.50	5.12				
W. Teed Inch, Polleyhurst			89.50	5.12				
R. A. Howe, Polleyhurst			88.00	5.03				
Garfield McRae, Shannon			85.50	4.89				
Geo. Machum, Polleyhurst			85.25	4.87	89.75	10.61		
Beverley Pinder, Polleyhurst			83.50	4.77				
Geo. W. Dingee, Gagetown					87.25	9.39		

CARLETON COUNTY	Wheat		Oats		Potatoes		Turnips	
Name and Address	score	awrd	score	awrd	score	awrd	score	awrd
		$		$		$		$
E. Lorne Hume, Florenceville	93.30	4.21	94.70	4.32	82.60	4.07		
Basil M. Kilpatrick, Florenceville	90.20	4.07	84.70	3.87	91.50	7.51		
H. M. Estey, Florenceville	89.90	4.06	82.50	3.77	81.00	3.98		
Otis Shaw, Florenceville	89.00	4.02			87.20	4.29	81.50	9.21
F. S. Taylor, Florenceville	87.30	3.94	86.10	3.93	84.30	4.15	88.10	10.79
H. F. Jewett, Florenceville	83.10	3.75	80.90	3.69	83.00	4.09		
J. A. Mclsaac, E. Florenceville	81.80	3.69			88.30	4.35		
Howard C. Taylor, Florenceville	80.80	3.65			89.50	4.41		
Edward McCain, Florenceville	80.00	3.61	84.50	3.86	86.90	4.27		
A. A. H. Margison, Centreville			88.30	4.03	86.20	4.24		
Fred Kilpatrick, Florenceville			83.20	3.80	80.20	3.95		
Gilbert Stephenson, Florenceville			81.70	3.73				
Percy R. Semple, Florenceville			90.10	6.44				
Bliss McIsaac, E. Florenceville					86.40	4.25		

YORK COUNTY	Wheat		Oats		Potatoes		Turnips	
Name and Address	score	awrd	score	awrd	score	awrd	score	awrd
		$		$		$		$
John Inch & Son, Mth. Keswick, R. 3	93.40	5.27	86.40	3.50	86.60	2.41	89.10	2.97
Leslie Sharp, Mouth Keswick	91.00	5.14	82.70	3.35	91.20	2.53	86.40	2.88
Wm. Moore, Mouth Keswick	90.20	5.09	88.80	3.60	83.00	2.31	88.40	2.94
Alex. Trail, Lr. Southampton	89.70	5.07	85.60	3.47	82.20	2.28	87.20	2.90
E. J. M. Jarvis, Stanley	89.10	5.03	86.30	3.49	82.50	2.29	81.40	2.71
Moses Parent, Lr. Southampton	85.40	4.82	83.40	3.38	83.80	2.33	82.10	2.73
J. Walter Inch, Mouth Keswick, R. 3	81.00	4.58	81.30	3.29	88.00	2.45	87.30	2.91
H. R. Duplissie, Mouth Keswick, R. 1			94.40	3.82	85.10	2.36	93.90	5.13
Woodie F. Clark, Mouth Keswick			93.10	3.76	96.20	5.67	88.00	2.93
W. E. Palmer, Mouth Keswick			90.80	3.67	87.60	2.43	95.20	6.17
Arthur Illingworth, Myshrall Sett			90.40	3.66	83.90	2.33	89.90	2.99
L. D. Gunter, Lr. Southampton			87.70	3.55	94.40	4.62	84.90	2.83
Wm. McKeen, Mouth Keswick, R. 3			87.30	3.53	85.80	2.38	85.50	2.85
Har. C. Ingraham, Lr. Southampton			85.90	3.48	91.30	2.54		
Chester Hallett, Lr. Southampton			85.30	3.45	82.80	2.31		
Thos. T. Stairs, Lr. Southampton			84.50	3.42	90.80	2.52		
Simon Goodine, Lr. Southampton			84.00	3.40	89.30	2.48	92.80	3.09
Henry O. Heustis, Lr. Southampton			84.00	3.40	94.10	2.61	83.90	2.79
E. H. Moffatt, Lr. Southampton			83.80	3.39				
Arthur S Jewett, Mouth Keswick			83.70	3.39	84.30	2.34	88.80	2.96
Harry Morrison, Lr. Southampton					86.00	2.39	86.00	2.86
Hanf. Hagerman, Lr. Southampton							84.50	2.81
Wm. Illingworth, Fredericton, R. 6					89.40	2.49	93.10	3.10
John K. Rosborough, Mouth Keswick					87.20	2.42	85.80	2.86
Wm. W. Mooers, Lr. Southampton					87.00	2.42	87.50	2.91
Percy Hagerman, Lr. Southampton					86.40	2.40	90.10	3.00
Ambrose Hagerman Lr. Southampton					85.60	2.38	84.00	2.80
Thos. Hanson, Lr. Southampton					85.30	2.37		
Byron McFarlane, Lr. Southampton					84.00	2.34		
Harold Brown, Lr. Southampton					83.50	2.32		
George Rosborough, Lr. Southampton					82.00	2.28	86.70	2.88

An additional three dollars and two dollars goes to the first and second highest scores respectively in the wheat and oats classes, when samples of the threshed grain are shown at the Provincial Seed Fair, Fredericton early in 1920.

ECONOMY IN FEEDING

Every animal is by nature endowed with a chemical laboratory suited to its needs, and animals on a first class pasture are able to provide themselves with a perfectly balanced ration.

A perfectly balanced ration returns perfectly balanced values in food products. The milk will contain a proper proportion of bone, flesh, muscle, flavor and nerve producing qualities as well as the fat producing. And milk as a perfect food must not have one quality above normal at the expense of some other quality. Butter fat alone should not be the base of value.

The perfectly balanced ration ensures not only balanced milk values but also the maintenance of the animal in perfect health, every part being fully nourished so that all values are perfectly balanced, the meat being healthy, tender, fine flavored, juicy and nutritious.

Very little if anything in the way of expensive meals or grain is given to animals on a good June pasture, but results secured are all that can be desired. etY with the exception of the aromatic values which have passed off in the ripening and curing processes all the food values are in the hay.

Hay, straw, corn-stalks, fodder-grasses and coarse grains have all the needed food values with the exception of the aromatic qualities of the June pasture. Furnish the animal with an equivalent for these aromatic qualities and your roughage and coarse grains will be converted by the animals into a balanced ration, and you will save expensive grains and meals.

During upwards of thirty years Herbageum has proved to be the efficient and economical aromatic equivalent required. Economical because one pound costing 25c is sufficient for a horse, or a cow, or a hog for one month given twice daily, and one third the quantity is enough for a calf or a sheep or for about fifteen fowls.

It is profitable to use Herbageum regularly for all classes of animals and for poultry. It keeps sheep free from ticks so that sheep dips are not required. Besides the wool clip is heavier and of better quality when sheep are fed Herbageum. Adv.

BUTTER
FIRST PRIZE
The crystal in a good dairy salt must be pure and dissolve readily. These qualities are always assured in
Windsor Dairy Salt
Made in Canada
THE CANADIAN SALT CO., LIMITED
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Don't forget that the brood sow requires a ration of a laxative nature. A little bran and a few roots along with other grains are almost essential to the health of the sow.

Keep Milk Cans and pails scrupulously clean with Old Dutch Cleanser
Old Dutch Cleanser Chases Dirt
Old Dutch Cleanser
Chases Dirt

DAIRYING.

WHEN A MAN BUYS A BULL THE FUTURE OF THE HERD IS AT STAKE

The bull on the dairy farm is generally looked upon as a necessary evil. Certainly he is not kept on account of his sociable disposition or because his owner needs some means of disposing of feed. He is unquestionably a nuisance, but at the same time the future prosperity of the owner depends to a large extent upon what is wrapped up in the bull's hide. Over a hundred years ago one of the greatest cattle breeders that has ever lived said, "The bull is half the herd," and every great breeder since then as he has looked back over a successful career has affirmed the correctness of this statement.

The objective of the dairy farmer is of course the largest possible milk production at the least expense. The success of his efforts in these resepcts will depend largely upon two things: The first is the efficiency of the machine used—in other words, the capacity of the cow to give milk if given a chance. The essential points to be observed in getting the efficient herd are getting the cows with the best possible inherited tendency to give milk and constantly culling out those found by trial not to have the right heredity. In other words, selection and breeding, as long recognized, have to be depended upon to provide a satisfactory machine for the dairyman to use.

The second factor involved is how skillfully the machine at hand is used, and includes feeding and management with all the important details these subjects include. The present discussion, however, is concerned only with the question of getting the efficient machine, the high-producing cow, and really with only one phase of that question.

The question of getting efficient dairy cows for immediate use is largely a problem of selecting the individual. The question of having young stuff coming on of such quality that the herd will increase in production from year to year is mostly a breeding question.

It is generally conceded that, taking all our dairy cows into account, we have to raise at present three cows in order to get two that are satisfactory. In other words, about one-third of the cows raised for dairy purposes are culled out as unprofitable when records are kept. This results in the loss of much good feed, not only in raising these unprofitable animals but in keeping them until their worthlessness is proved and they can be culled out. The objective point of our breeding operations should not be to raise one or two great producers. I look forward to the time wheu, as a result of more skilful breeding, instead of only two or three cows raised being satisfactory, four out of five will be up to standard and later possibly even nine out of ten.

In considering how the proportion of good cows may be increased the first question that has to be settled is this: Is the good cow or the inferior cow born what she is, or made what she is by the feed received and the management when young? I can only take space to say that as the result of an experiment covering nine years, during which no small sum of experiment-station money was spent, we came to the conclusion that the high-class dairy cow or the inferior cow is born that way. She is not made what she is by any special ration or treatment received when young. In fact, with the limits of ordinary practice, the manner of feeding and managing the growing heifer has little if any relation to the efficiency of the mature cow as a milk producer.

If the difference between a cow having a capacity of 10,000 pounds of milk a year and another that barely reached the 4,000-pound class is one of parents, it certainly behooves the dairy farmer to see that the proper parents are provided. It should be remembered that the cow has two parents and both should receive attention. The tendency is evident, especially in recent years, since the keeping of records and the culling of cows

A "renewing" bath —for your bathroom

FLOORS! Walls! Enamel! Bowl! Tub! Of course you want them always ready for inspection! Gold Dust leaves bathrooms with a sanitary sparkle because it purifies as it thoroughly cleanses. It brings a wonderful sweet cleansing to bowls and drainpipes. Be sure to keep a package of Gold Dust in your bathroom —handy for frequent bathroom cleaning!

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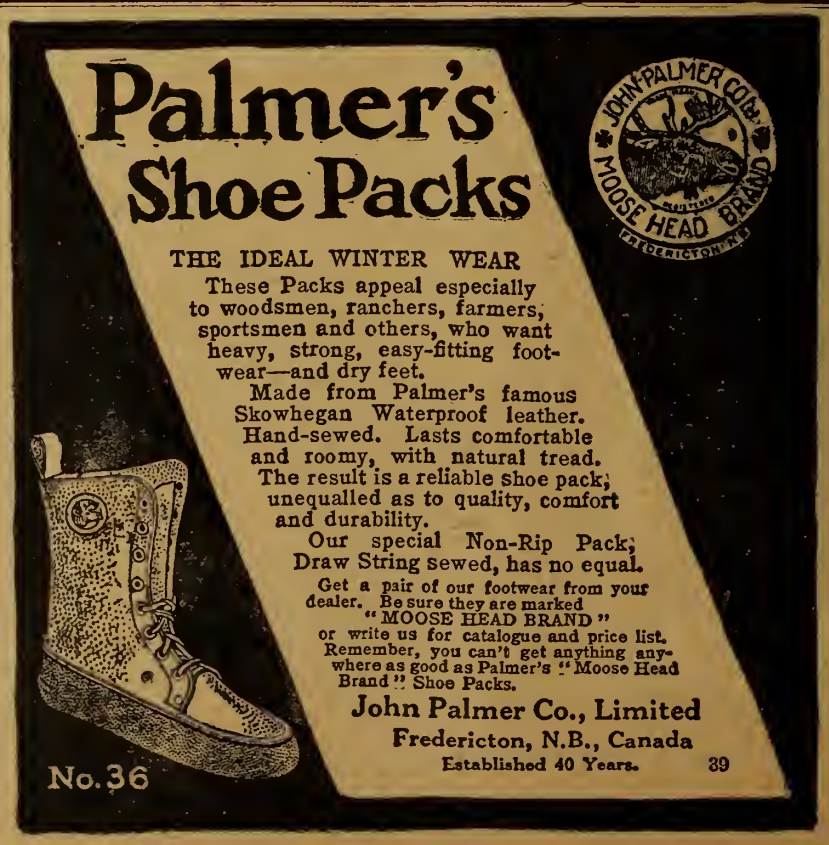
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FREDERICTON, N.B.
THE IDEAL WINTER WEAR
These Packs appeal especially to woodsmen, ranchers, farmers, sportsmen and others, who want heavy, strong, easy-fitting footwear—and dry feet.
Made from Palmer's famous Skowhegan Waterproof leather. Hand-sewed. Lasts comfortable and roomy, with natural tread. The result is a reliable shoe pack, unequalled as to quality, comfort and durability.
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John Palmer Co., Limited
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Established 40 Years.
No. 36
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has been so strongly emphasized, to count too much upon this culling of inferior cows to improve the coming generation. By all means, raise the heifers from the best producing cows, but do not count too much on these heifers duplicating the records of their dams in milking ability.

At one time I made a careful study of the record for twenty-five years of the Jersey herd belonging to the University of Missouri with the object in view of finding out what relation existd between the milk records of the dam and of the daughters.

The results were disappointing. In fact, the daughters of the best cows averaged only slightly better than those from the medium-producing dams. However, when I studied the records of the daughters from the standpoint of the sire the results were striking. Apparently the sire had more to do with the dairy characteristics of his daughters than did the dams of these daughters. This bears out an opinion that has been held by many practical breeders of dairy cattle to the effect that the sire is a more important factor than the dam in transmitting dairy qualities.

Some among those interested in studying animal breeding from a strictly scientific tsandpoint have also suspected this to be true and that milk production is what they term a sex-linked character. Though it is still to be definitely proved the bull is a stronger factor than the dam in transmitting dairy qualities, the probability of this being true adds to the importance of the bull question.

In fact, the more a man studies the question the more he realizes that the whole future of his herd is at stake when he buys a bull. To use a bull with the wrong combination of heredity in a good dairy herd is almost as great a calamity as to burn down the barn. Two or three of the wrong kind in succession will almost put a pure-bred herd out of business, while the right bull may make a herd famous.

If we study the history of any successful breeder we generally find that this success was based upon one or more great breeding animals. This was true as far back as the time of the Collings brothers, the great Shorthorn breeders of the eighteenth century.

Valancey Fuller, in his history of the St. Lambert family of Jerseys, credits Stoke Pogis 3rd as being the main factor in making his family famous. This wonderful bull, like many others, was not appreciated until too late. While an agent was actually on his way authorized to pay $1,000, if necessary, to buy this bull, his owner sold him for $30 to a butcher.

Pontiac, Michigan, at least in so far as the agricultural public is concerned, was put on the map by that wonderful breeding Holstein, Hengerveld DeKol. This bull of good breeding, but with nothing remarkable so far as his ancestry shows, in my judgment was the greatest breeding bull of recent times. When his daughters came into milk, even under the unfavorable conditions unavoidable in the public institution where they were owned, the records were so outstanding that their sire became famous. In this case, fortunately, the bull was retained until his great breeding value was recognized. Today a good proportion of all the record cows of the breed and of the high-priced animals of the Holstein breed carry the blood of this famous sire.

C. H. ECKLES,
Missouri Agricultural College.

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Conclusive Proof

can be furnished that the use of good Shorthorn bulls on the farm or on the range increases the size and improves the feeding qualities of the produce of the herd.

A Shorthorn bull is a profitable investment.

Write the Secretary for free publications

Dominion Shorthorn Breeders' Association

W. A. DRYDEN, *President*, Brooklin, Ont.
G. E. DAY, *Secretary*, Box 285, Guelph, Ont.

20

Shorthorns

ALL HERDS NEED GOOD BULLS

The other day a man from a far distant state came into our office. He had located a dozen purebred heifers. He solicited advice about buying them.

To answer we needed information, so asked: "What are you going to breed them to?" The answere resulted in friendly argument and this ended with the following statement: "I am going to buy just six of those heifers and put the rest of my money in a good bull to breed them to."

Sometimes we wish it were ethical to gamble and this is one of the times. We would gamble a lot that this one decision will account for the man from the far distant state breeding a phenomenal herd of cattle instead of a bunch of common things like he would have bred had he put all his money in females and then mated them with just a common purebred bull.—Kimball's Dairy Farmer.

EXPORT TRADE IN DAIRY PRODUCTS ASSURED

It is the consensus of opinion of Canadian officials who have visited Europe that the future of the export trade in dairy products is assured. In England butter is everywhere at a premium and Canadian cheese continues to hold its good reputation. Mr. H. S. Arkell, Live Stock Commissioner, who has recently returned from overseas, states that the shortage of milk and dairy products in Great Britain is unprecedented. The same is true of other European countries. The scarcity and high price of concentrated feed is to some extent responsible for this. The condition is so general as not quickly to be remedied. It is further responsible for retarding the increase of swine production and the restoring of the normal requirements of fat. This statement from the Live Stock Commissioner should give confidence not only to dairy farmers but to those who are able to raise hogs.

Breeders should co-operate in the stamping out of tuberculosis and abortion. These two diseases exact a heavy toll in Canadian herds every year. The individual breeder may keep his own herd tolerably clean, but it requires the co-operation of all in the fight to rid the country of the enemies of our herds.

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Slush
Manure
Muck

make a nasty combination when you have to clean the stables by the labor-wasting, back-aching, wheel-barrow method—get ready for them—cut out the back ache—do the job in half the time with a

Louden Roller Bearing Litter Carrier

will help you keep your stables and yards sanitary—produce sanitary milk—keep your boys and hired men satisfied.

Well Worth the Small Investment

Louden double beaded rail steel track carries two tons—easy to install—hung in less space—hangs from centre—always straight and level—no side strain.

Roller bearing track wheels—easiest to push under heaviest loads—no brakes—ratchets—clutches to get out of order—absolutely safe. Heavy galvanized all steel bucket—water tight—carries three or four barrow loads.

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Made by us for a generation. Thousands in use. Get interested. Write to-day.

Our 112 page Barn Plan Book is free—not a catalogue—shows 74 barns with floor plans—estimated costs—instructions concrete barn work—barn drainage—ventilation—lighting—strength of materials—framing—roof construction—valuable reference book—easily worth a dollar—will save you many.

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LIVE STOCK.

LIVE STOCK NOTES

As a further contribution to the elimination of the scrub bull, the Dominion Live Stock Branch has this year purchased and loaned to farmers' associations three hundred and fifty pure bred bulls. Over two hundred of these sires were placed in Western Canada, which has for years taken full advantage of this policy of the Branch. Thirty-six bulls went into New Ontario, sixty-two into Quebec, and the remainder to the Maritime Provinces. New Brunswick this years led all of the provinces as regards increase over previous years in the number of applications. This was the result of active steps taken by the Provincial Department of Agriculture through its field officers to encourage and assist in the forming of the necessary associations.

Mr. R. S. Hamer, who as Chief of the Cattle Division of the Branch, has administered the bull loaning policy since the time of its inception in 1913, states that, as a result of his experience in securing upwards of twenty-five hundred pure bred bulls of all breeds, he is convinced that the greatest meance to the success of the anti-scrub bull campaigns now being pushed so strenuously in various parts of the country, lies in the deplorably large percentage of inferior pure bred bulls which are annually offered for sale. Such bulls are dear at any price and will only prove a source of disappointment to those who purchase them to replace grade or scrub sires.

Unfortunately, as has been amply demonstrated during the past three or four years, an increased demand for pure bred bulls of the commercial class to go into grade herds does not result, as is so often claimed, in an immediate improvement in the standard of this class of bulls offered for sale. In fact, the tendency is to retain for sale for breeding purposes bull calves which would otherwise have been castrated and finished as steers. In so far as our beef breeds are concerned, th responsibility for the inferior quality of so large a percentage of the annual pure bred bull calf crop undoubtedly lies in the fact that too many of the smal pure bred herds from which our comemrcial bulls are annually drawn are themselves headed by ordinary commercial or second rate bulls. Many of these herds consist of good substantial, although perhaps plainly bred females. If higher class sires were placed at their head, a marked improvement in the quality of the annual calf crop would undoubtedly result. It is contended, therefore if any real success is to be attained in attempting to secure a wide-spread displacement of scrub bulls by pure bred sires, breeders must, without further delay, centre their attention on developing a market in our smaller pure bred herds for the majority of the high class young bulls annually produced and imported, for too many of which an outlet is now found outside the country.

From January 1st to October 17th inclusive, of the present year, 689,722 cattle were offered for sale at Canadian stock yards. Of that number 212,333 head were cows and heifers.

From January 1st to October 17th inclusive, of last year, 604,504 cattle were marketed and of that number 168,552 head were cows and heifers. The above information discloses the following facts:

During the first nine months of 191h marketings of feamles totalled over 43,000 head in excess of those marketed during the same period of the previous year.

On the basis of total cattle marketings during 1919 and 1918, there was an increase of 2.9 per cent .in 1919. The percentage of females in 1918 was 27.88 and the percentage in 1919 was 30.78. The figures given do not include cutters and canners as these may be considered potentially useless.

The feed shortage is undoubtedly compelling a general continuous liquidation in all parts of the country and much she stock and growing calves are being drawn into the net. For example,, there were marketed in Winnipeg during the last four weeks, 4,349 hardy, thrifty, beef-bred calves. It may clearly be necessary for farmers everywhere to square away but good young heifers and cows are the seed from which Canada is to reap her harvest. The demand in Europe is now coming to a head and if it is possible at all, considerable sacrifice to save them will be well worth the cost. Mr. McCurdy, Parliamentary secretary for the British Ministry of Food, says that there is not enough meat in sight in the world to feed Europe next year.

The policy of Federal assistance to Horse Breeding, which went into operation in 1915, has steadily grown in favor among breeders. That the scheme is popular is quite evident from the steady growth in the number of Clubs, which is prima facie evidence that gfood results are being obtained.

The Chief of the Horse Division of the Live Stock Branch reports that already requests are coming in for Federal Assistance Booklets and the necessary forms required when starting a Club. The new booklet for the

Production Plants on the Hills

Farms, their owners call them—*just farms*

Not so, the student of modern business spending a few weeks in the country. He views Canadian agricultural methods and equipment with amazement, and calls them Production Plants.

In lands and fences, plows and reapers, he sees the modern production plant and its machinery; in dairy produce and grain—its stock-in-trade ; in automobiles, phones and fountain pens—the connecting links.

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plays an important part in modern farming. Its unfailing readiness to write everywhere and anywhere, is an indispensable convenience—no searching for the pen—no throwing out a rusty nib—no looking for the ink—but always at hand—carried safely in any pocket.

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We have to offer a nice bunch of Shorthorn bulls and heifers ages 1 to 3 years.

Also span 4 year old horses, span 5 year old horses, span of brood mares and a choice driver

For further particulars apply to

FRANK C. FAWCETT
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We are offering a number of choice young Shorthorn bulls from six to fifteen months old. They are a splendid lot. We have also several exceptionally good cows and heifers priced right for quick sale.

For particulars phone or write

MORRIS SCOVIL & SONS

It is mighty hard to get help in these days. It would be a great help if the boys could clean the stable. They hate to do the job with a wheelbarrow. It is hard work for a strong man.

It is a very different matter with a BT Manure Carrier. There is no heavy pushing, no planks to lay, no snow to shovel. The work is done in half the time. If the yard is muddy or filled with snow, it doesn't matter because the overhead track is independent of conditions on the ground.

And what about the boys? Mr. C. Hanson of Dixville, Quebec, wrote us "I used to have to drive the boys to clean the stable, and now they fight with one another to get hold of the carrier." Send for our Manure Carrier catalogue and judge for yourself how much labor and time a BT Carrier will save you.

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Please send me a copy of your illustrated catalogue on Manure Carriers. I have answered your questions below.

Are you thinking of putting in a Manure Carrier.....

If so, when.....

How many cows have you?.....

Your name.....

P. O.....

R. R. No..... Province.....

year 1920 is now ready for distribution. Districts intending to form Clubs should write for a supply of these booklets imediately. Those that start early get the work of goranization over during the slack season and are then ready to send Applications in before April 1st, which is the final date for receiving same. These Clubs have the advantage over those that organize later in that they have the pick of the best horses. Good stallions that are not hired early are invariably routed early in the year, thus late comers are forced to take what are left. It is also amongst the horses hired late that most of the animals not up to the required standarde are found, hence the advisability for Clubs to select early. Undoubtedly it will only be a matter of time when the best horses will be hired at least one year ahead, and, in many cases, two and even three years as is now the common practice in Scotland.

The total sales of live stock at Canadian Live Stock Yards during the first ten months of the present year show an increase of 114,800 calves, 191,000 sheep, and a decrease of 6,600 hogs when compared with the sales during the same period of 1918. A very large percentage of the increase during the period mentioned was made during the months of September and October, while the total decrease in hogs was appreciably lessened by the heavy marketings during the two months referred to.

During the month of October there was an increase in live stock sales of 6,100 head of cattle, 15,500 calves, 3,451 hogs and 70,049 sheep, when compared with the sales during the same month of 1918. Despite the increased volume of cattle, the average price on good weights and quality steers was only one cent per pound less than the average for the same class of cattle during October 1918, while the average sales of good quality calves were made at three quarters of a cent above the averag obtaining during October 1918. The tremendous increases in sheep marketings reduced the average of good lambs by about three cents per pound. In the case of hogs it is of some interest to note that the market for hogs during October, despite the heavy marketing at that period, was lower by only one and one twelfth cents when compared with average price during the same month of 1918.

Aside from the problem of the scarcity of feed, the comparison as shown between the volume of receipts and market prices warrants confidence in the live stock industry .

The following extract is from a letter just received from the head of an importing firm in Paris:

"Some friends of mine now seem well disposed to enter into the business. They intend to import for Belgium and North of France through Dunkirk and Antwerp. Animals are specially wanted for milk purposes, and my friends want to know the breed of proposed cattel, also the average production of a cow. It is suggested to send young cows in state of pregnancy for some months, in order to avoid accidents during the voyage. If prices are suitable, we may buy several thousand head of cattle. Payment will be effectuated by bank credit opened in New York or Montreal when giving the order, money delivered against bill of lading."

Copies of the letter are being addressed to various firms and parties likely to be interested in this business and our correspondent will be forwarded the information he asks as soon as it can be obtained.

Our Markets Representative at one of the Stock Yards reports that during the week end October 9th there were over 15,000 sheep and lambs on the market. He graded over 8,000 of these and estimates that there were not more than 300 wethers in the lot. He quoted several instances of lambs

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most stock farmers are turning their attention to hog-raising. Fine, fat, sleek hogs—the fellows that pull big prices at the market—need

Pratts HOG TONIC

as a fattener and conditioner. Sharpens the appetite, aids digestion, and turns the feed into profitable pounds of flesh.

Saves from 15 to 20 per cent. in feeding costs and saves 30 days' time in fattening. You get your hogs to market just that much sooner, and get the use of the money from their sale ahead of the usual time.

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averaging from 68 to 73 lbs. which sold for 12 cents and of other lots of lambs averaging from 64 to 71 lbs, which sold for 13 cents. It will be noted that the 13 cent lambs were of equal weight or lighter than the 12 cent lambs. Our representative reports that the difference in price was ntirely due to the fact that the good lambs were better bred and that a large percentage of males had been castrated and docked.

From April 1st to September 30th, approximately 100,000 cases of Canadian eggs have been inspected for export and passed. 83,503 cases were inspected for export in Eastern Canada and 10 car loads for shipment direct to Great Britain from Winnipeg. In addition to the above, 70 cars moved from Eastern Canada under inspection to Montreal, 19 cars to Toronto, 83 cars to British Columbia and 60 cars inter-provincially between the Prairie Provinces.

It will be remembered that eggs cannot now move interprovincially or for export except under government inspection and in accordance with Standard grade. British importers have strongly commended this action on the part of Canada and give it as their opinion that it will go far to establish Canadian eggs on the British market as eggs of uniform and dependable quality. Our eggs now command a steady premium over United States product and export movement for October promises to be exceptionally heavy provided space can be obtained.—Dominion Live Stock Commissioner.

"The future prospects for the farmer who holds his good stock and builds up his herd are more promising than ever before."

Bare land loses plant food easily. Keep a crop on your light land constantly and turn under as many of the crops as possible.

FARMERS---Will You Write a Letter for Seventy-five Dollars?

In order to secure first hand information of the experiences of successful settlers in Canada, the Department of Immigration and Colonization of the Dominion Government offers

$1,350.00 in Cash Prizes

for the best letters or articles setting forth settlers' experiences in "making good" in Canada. Three prizes of $75.00, $50.00, and $25.00 are offered for each Province.

Try this Competition

There is no entry fee. Literary style, spelling, etc., are not essential. The main thing is the story—the story of your success told in such a way that it will be a help to others who may contemplate settling in Canada.

Competition closes February 14, 1920

For full information see notice in your Post Office, or write ROBERT J. C. STEAD, Director of Publicity, Department of Immigration and Colonization, Ottawa.

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Maple-Leaf—the most famous watch of the Ingersoll line, and the lowest priced

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Radiolite—tells time in the dark. The hands and numerals are coated with a substance containing real radium.

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THE HORSE

WINTER CARE OF COLTS.—FIRST YEAR IMPORTANT

To produce good horses we must look to their welfare from start to finish and there must be no vacation from good care and feed. In the first year of life of the colt we are laying the foundation, building the framework, so to speak, on the lines of architecture we laid out when mating the dam. No matter how well bred the colt may be it must be well developed by proper feeding and management. The plan of the architect must be carried out and this can be done only by keeping the colt in a healthy, growing condition. The colts will grow all the winter through and weigh at one year old from 900 to 1,200 pounds. It is said that a colt is half grown at one year, so a 600-pound yearling will never make a proper draft horse.

What does the colt require First, we may mention exercise. This is, we may mention exercise. This is very essential for the proper development of the body and limbs. During the past few months the youngster has been accustomed to the free range of the open fields. He has exercisd at will on th cool, moist ground so well suited to the best development of his feet. He has nibbled at the tender grass and sought out the sweetest knolls in the pasture. But now he cannot partake of the tender grass, and if kept confined in a box stall as many a colt is during the winter, he is deprived of the necessary exercise which he found great delight in taking and which was immensely helpful to him during his freedom in the pasture.

A colt should have at least five hours' run in a large, open yard every day in the winter that the weather will permit. An all-day run is better still . Too often, even where outside exercise is given regularly, sufficient is not allowed, the colts being left out only an hour or two each day. This is better than none, of course; but this is a case where if a little does a little good more will do more good. Exercise helps to develop every part of the body of the colt and is necessary to maintain his health and vigor. His feet, legs, muscles and body all are benefited as well as his digestive organs. A colt will take all the exercise he needs if given the apportunity, so let him have the privilege. It is no trouble and costs nothing. It pays just as well as good feeding.

We must do the feeding with a knowledge of requirements and keep in mind always that the colt is a young growing animal with a digestive system that is very sensitive to sudden changes of rations and injudicious feeding. No diet is equal to good, sound oats with a moderate mixture of bran twice a day, morning and noon, and oats for the evening meal, being seasoned with a little salt. Whole oats are very nutritious and if properly masticated, as they are generally when fed with bran, are more easily digested than chopped feed of any kind. The hay for the colt should be the cleanest and sweetest obtainable, preferably that containing a large percentage of clover or alfalfa. Pure clover or alfalfa hay with a little timothy makes as good a roughage as can be found. Besides the hay and grain a litle green feed is very helpful to digestion. Carrots or turnips are relished and should be sliced or cut in two before being fed. They are somewhat laxative and help to bridge the gulf between hay and grass. Of course, plenty of fresh water is necessary for three times a day.

The stall for the colt needs to be roomy, light and well ventilated. It should not be too warm. Colts generally have a long, thick coat of shaggy hair which nature intends as a protection and it is a mistake to pamper too much. They will stand very cold weather when outside, provided it is not storming and in side a high degree of warmth is not necessary. The main thing is to keep the stall clean, not allowing manure to accumulate and heat under the feet of the animal, and always affording a liberal supply of clean, dry bedding, wheat straw being excellent for the purpose.

Colts should be guarded against lice and other external parasites. Many a good colt has become very poor in flesh from constant irritation and uneasiness produced by lice and whenever a colt shows unaccountable loss of condition and of thrift, examine him closely for signs of the presence of these undesirable companions. Colts, too, are frequently troubled to a considerabel extent with intestinal worms of various kinds. Some of these parasites are more to be dreaded than others but none of them are desirable guests or in any way beneficial to their involuntary hosts and it is therefore very important to take measures for their removal at once.

W. H. ULMAN.

ROARING, A HORSE DISEASE RATHER DIFFICULT TO CONTROL

A horse that is a confirmed roarer generally has a paralysis of the muscle controlling the left vocal cord and can be cured only by an operation removing this cord. The paralysis of this muscle that controls the cartilage of the larynx is due to a wasting of the left recurrent nerve, which, if in health, would supply the motor force to the muscle. This force being absent, the muscle loses its power and wastes away. Hence, the left half of the muscle drops down, and bars the ingress of the air at each inspiration, which therefore strikes ciolently against the helpless cartilage; hence, the peculiar noise, termed roaring. The cartilage is thus flattened down, and expiration is easily effected, and therefore is free from noise. When noise is heard, both in breathing in and breathing out, it is due to some obstruction in some part or other of the respiratory passages, usually in the larynx. There are, however, other causes for this complaint. Many roarers have been examined after death, and have been found to have no vestige of disease, but some have had the shape of the larynx and upper part of the windpipe materially deformed, crooked, and depressed. This has caused inquiry into other causes of roaring, and some very probable ones have been found. The parts may have been subject to inflammation, and some parts of the air tube may have become thickened and inelastic. In this way the inflammation of stranglers have been communicated to the larynx or the windpipe, followed by some alteration of structure. Roaring is no unusual consequence of strangles.

Roaring Through Tight-reining

A more frequent cause and previously unsuspected, is tight reining. More horses have become roarers through painful pressure on these parts by tight reining than is suspected. This is particularly so with drivers, when teaching them to carry themselves well. The arched neck and elevated head of the driver or draft horse is an unnatural position, from which the animal is always anxious to be relieved. Injury always follows when the throat is violently pressed upon, and especially when it is exposed to the additional danger from impatience of the animal, through suffering the pain that tight reining causes. The injury is materially increased in cases where the horse's head is not well set on, or if the neck is thick, or the paws narrow. These physical conformations are peculiarly effected by the tight reining practice.

The shape of the larynx or windpipe will occasionally be altered, if they be thus squeezed between the jaws and bones of the neck; or if the muscles which expand the opening into the windpipe for the purpose of natural breathing be compressed, they will be incapable of full action, and by degrees will lose the power of action, even when not pressed upon. There-

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OR PAIN KILLER FOR THE HUMAN BODY
Gombault's
Caustic Balsam
IT HAS NO EQUAL

For the Human Body —It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils Corns and Bunions, CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for
Sore Throat
Chest Cold
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Sprains
Strains
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Sore Lungs
Rheumatism and
all Stiff Joints

REMOVES THE SORENESS—STRENGTHENS MUSCLES
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills."
OTTO A. BEYER.
Price $1 75 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet B.
The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

HORSE AILMENTS
of many kinds
quickly remedied with
DOUGLAS'
EGYPTIAN LINIMENT
The best all-round liniment for the stable as well as for household use. Cures thrush, sprains, bruises. STOPS BLEEDING INSTANTLY AND PREVENTS BLOOD POISONING. Keep it handy.
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At all Dealers and Druggists.
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for, the opening not being sufficiently enlarged during rapid breathing of the animal, the air will rush violently through the diminished aperture, and the sound termed roaring will be produced.

A sound somewhat similar to roaring may also arise from a tumor in the nose. In this case it may be possible to remove it. Or it may arise from a thickened state of the membrane of the bronchial tubes as sometimes found after catarrh, laryngitis. The usual treatment for this is blistering. Large horses with long windpipes are more predisposed to roaring than smaller ones; ponies are seldom, if ever, affected.

Treatment for Roaring

The treatment for roaring is very unsatisfactory. If it is occasioned by mechanical injury as in reining, the remedy is obvious, and this mischief is usually done to young horses and the unthinking horseman is the only cause.

Every kind of treatment—from firing down the outside of the throat to the excision of the muscle has been done with only partial success. In the early stage of the disease, whether it proceeds from violent pressure, or in consequence of catarrh or strangles, or the enlargement of some neighboring part, inflammation will be present; then one can be justified in having recourse to blistering. The blisters may at first be confined to the upper part of the throat, but if unsuccessful there, they should extend over the whole length of the wind pipe. If the disease arises from paralysis of the muscle controlling the left vocal cord, it can be cured only by an operation removing this cord.

Horse breeders however, should not forget, that the roarer, whether horse or mare, will often entail this disease on its progeny. The subject of entailment of disease by the parent on the offspring, if given more consideration would eliminate many of the diseases that now affect all live stock on the farm. Therefore any animal that has the hereditary taint towards roaring in its blood should not be chosen for breeding purposes, and all freedom of the harness about the throat and neck should be given to young animals that are put to work before they have reached the years of maturity.

In buying ahorse it is not easy to detect the roarer. Some horses do not even show the symptoms when in moderate exercise. It may however, be easily detected by striking the horse suddenly, or even threatening him with a stick when he will utter a singular grunt or groan. A roarer is considered an unsound animal, for he is incapable of the exertion which may not only be occasionally, but ordinarily required of him.

HORSE WOUNDED BY BARBED WIRE

I have a horse that has got a nasty cut with barbed wire along his breast. What can I apply in order to get it healed?

Answer.—The barb wire cut will necessitate your careful attention, as wire wounds many times prove serious. If you have not discovered the wound until inflammation has set in, the following remedy will be found useful: One half ounce of sulphate of zinc, one half ounce of acetate of lead, two ounces of tincture of arnica in one quart of water. The wound may be bathed with the above three or four times a day until healed.

If a farmer can fence his place without the use of barb wire, he should do it. Using a high fence with the use of a single barb wire will lessen the danger. One can never tell when one of his horses may meet with an accident of this kind, but one feels safer if the fences are in good state of repair.

DRAFT HORSES NEEDED OVERSEAS

The scarcity of draft horses both for city trade and farm work exists not only in Great Britain but on the continent. Belgium is in need of large numbers of moderately priced horses for the use of repatriated peasants. In the Agricultural Gazette for October apepars a statement by Mr. H. S. Arkell, Live Stock Commissioner, who recently visited Europe and found on inquiring into the horse trade that France is in the market for farm horses of the Percheron type. In that country work horses are scarce and worth six thousand francs each. Greece, according to the Live Stock Commissioner, is now making inquiries regarding light horses and dairy catttle.

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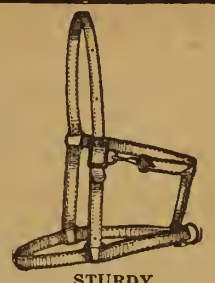

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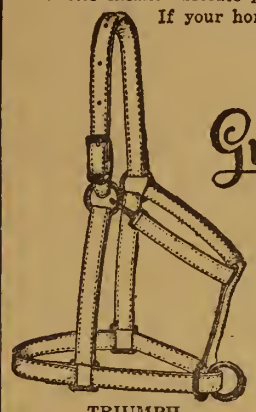

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NAVEL ILL

Some farms are "inoculated" apparently with germ life to such an extent that it is nearly impossible to raise young colts, and sometimes trouble is experienced with the young of other species, such as calves and pigs. I believe that the colt suffers most from his navel trouble, but have seen it in other animals, too. Most men are familiar enough with it so that it needs but little description, but some may not know as much as they would like to.

It should be remembered, then, that this disease may occur at widely varying periods of life, during the very first days after birth or in some cases may only show a swollen joint or a swelling of the navel or attachment of the cord of the belly. Squeezing it may discharge a little pus. So mild a case may show nothing more for several days, but if it becomes worse there will be noticed a tendency for the foal to act lazy and dull, refusing the teat and lying down a great deal. If the temperature is taken now it will be found to be on the rise and in bad cases the fever will be intense.

Hock Joint Swells

Probably most cases show a swelling of the hock joint ,but other points can be found and are involved. If closely examined swelling, heat and pain are also found in the affected joint. Sometimes the tension is so great that the skin breaks and the "joint water" pours out, and it is seen to carry pus with it. Such cases are usually hopeless, and indeed, many of the cases of navel ill, or oit ill, as it is often called, are fatal when far advanced when treatment is started, although in the hands of a good veterinarian who can scrape out the infected cavities and institute vigorous aseptic wound treatment some are saved.

The high mortality in foals that are affected with this trouble however teaches that prevention is wonderfully worth while in fighting the disease on a farm, and fortunately, is usually quite successful when intelligently applied and no part of the program is neglected.

The general rules to observe in fighting this disease are those of sanitation or extra cleanliness. If we are trying to raise young animals in a place with a bad record for infectious disease or which has harbored many animals with wounds and discharging sores, let us assume that the seeds of disease are probably in greater or lesser abundance in all the barn litter and feed yard soil.

If the weather will permit and a good, clean pasture is available, no safer place will be found for the pregnant female to drop her young than in the open, for infection will be less out there than close up about buildings because the sun has in a large measure killed the germ life. If the weather will not prmit of using the pasture, we have to clean the box stalls and goor the very best that brooms and hoes will do it, and get all the sunlight into it that we can. Spray it with a 5 per cent. solution of good coal tar dip in water, and bed it heavily with straw that has not been run over by other animals—be sure it is not soiled with stable infection.

Keep the hind parts of the dam washed clean with a mild antiseptic solution until birth occurs and watch closely for this event, receiving the young animal on the cleanest surface it is possible to provide, and at once disinfect the cord with an antiseptic such as a 10 per cent. solution of tincture of iodine in water, or 2 per cent. liquor cresol compound. Keep the cord covered for several days with a good powder made of equal parts boric acid and powdered charcoal, or a good carbonized dusting powder that your veterinarian or druggist can supply as a rule from the shelf.

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Mrs. M. Summers, Box 309 Windsor, Ont.

POULTRY.

NOVA SCOTIA'S FIRST ANNUAL EGG LAYING CONTEST

Nova Scotia's First Annual egg laying contest is now in full swing. The pens were closed to visitors two weeks ago, and records began on Nov. 1st. There are thirty pens in the contest, nearly all of them pullets. The contest will run until Sept. 30th, 1920. Each pen contains five birds, and no male birds appear in this contest.

The houses have been erected at the East of the plot occupied by the Poultry Department, on freshly seeded ground. The equipment has been inspected by Dominion experts and pronounced the very best possible. Each pen contains four trap nests, a dry feed hopper, grit and shell box, a hopper for hard grain, a small wooden feed trough and a record file.

A systematic record will be kept and published week by week of the number and weight of eggs produced by each hen in each pen. Records will also be kept of the quantities of feed used, so that full data may be at hand at the close of the contest to make an accurate estimate of the cost of producing the eggs.

The main object of the whole program is to stimulate the egg production of Nova Scotia. According to the latest census figures the average hen in Nova Scotia now produces about 80 eggs per year. At present prices for feed this would not much more than maintain the hen. An increase of 10 to 15 eggs per year from each hen would mean an immense economic gain to our farmers. It is believed that this and other similar contests will fully demonstrate the possibility of making even larger gains through selection of the best birds, selection of the most productive strains, proper housing, cleanliness, fresh air and pure water.

Interest in this first contest is running high already, and will doubtless grow keener as the records come out from month to month. The following is the list of breeders who have entered pens in Nova Scotia's First Annual Egg Laying Contest.

Pen No. 1.—E. C. Griffin, Port Williams, N. S., R. I. White, Pullets.

Pen No. 2—John R. McDonald, Box 344, Glace Bay, S. C. White Leghorn Pullets.

Pen No. 3—John R. McMullen, Truro, N. S., Barred Plymouth Rock Pullets.

Pen No. 4—Wm. A. Reynolds, 3 Edinburgh St., Halifax, White Wyandotte Pullets.

Pen No. 5—J. W. Williams, Wolfville, N. S., White Wyandotte Pullets.

Pen No. 6—Robert H. Reid, New Glasgow, White Wyandotte Pullets.

Pen No. 7—Dr. H. W. Cain, Falmouth Sta., N. S., Rhode Island Red Pullets.

Pen No. 8—Wm. Beasly, 17 Seaforth St., Halifax, Buff Wyandotte Pullets.

Pen No. 9—J. Everett Spencer, Mira Gut, C. B., S. C. Whit eLeghorn Pullets.

Pen. No. 10—Evangeline Poultry Yards, Wolfville, N. S., White Wyandotte Pullets.

Pen No. 11—W. W. Osborne, New Glasgow, S. C. Buff Leghorn Pullets.

Pen No. 12—E. C. Griffin, Port Williams, R. I. Red Pullets.

Pen No. 13—F. E. Jackson, North Sydney, Barred Plymouth Rock Pullets.

Pen No. 14—James McIntyre, Dominion No. 4, C. B., S. C. Leghorn Pullets.

Pen No. 15—W. J. McKinnon, Truro, N S., Ancona Pullets.

Pen No. 16—Duncan C. Fraser, Antigonish, Barred Plymouth Rock Pullets.

Pen No. 17—C. F. Gallant, Caledonia Mines, C. B., White Wyandotte Pullets.

Pen No. 18—Nat. Doherty, Franklin St., Halifax, Barred Plymouth Rock Pullets.

Pen No. 19—Miss Helen King, Box 765, Halifax, Buff Orpington Pullets.

Pen No. 20—Mrs. Jos. Milligan, King's Head, Pictou Co., White Wyandotte Pullets.

Pen No. 21—Messrs. Perry & Son, Billtown, N. S., S. C. Brown Leghorn Pullets.

Pen No. 22—Edison E. Eagles, Box 34, Windsor, White Leghorn Hens.

S. C. Ancona Pullets.

Pen No. 23—H. H. Hull, Glace Bay,

Pen No. 24—A. A. Sutherland, Westville, N. S., Rhode Island Red Pullets.

Pen No. 25—C. B. McMullen, Truro,

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N. S., S. C. Rhode Island Red Pullets.

Pen. No. 26—William Buy, Glace Bay, R. C. Brown Leghorn Pullets.

Pen No. 27—John Retson, Truro, N. S., Rhode Island Red Pullets.

Pen No. 28—W. H. Henry, Shubenacadie, N. S., Rhode Island Red Pullets.

Pen No. 29—Robert H. Evans, Box 192, Trenton, S. C. White Leghorn Pullets.

Pen No. 30—W. A. Warren, Bridgetown, N. S., Barred Plymouth Rock Pullets.

Summarizing the list it will be noticed that there are six pens of White Wyandottes, six pens Rhode Island Reds, five pens White Leghorns, five Barred Plymouth Rocks, two pens Anconas, one each of Rhode Island Whites, Buff Orpingtons, Buff Leghorns, Buff Wyandottes, Single Comb Brown Leghorns and Rose Comb Brown Leghorns. There is thus a fine variety of breeds and strains. Reports will be sent out from time to time giving full details of the progress of the contest. The manager of the Poultry Department at the Agricultural College will be prepared to give information relative to any of the pens in the contest at any time.

SPRAY CHECKS MITES IN POULTRY HOUSE

Frequent cleaning and a liberal use of a good insecticide will aid materially in preventing an outbreak of mites in the poultry house. For spraying over the walls, floors, perches, nests and dropping boards, the Ohio Experiment Station recommends the following solutions:

(1) Three parts of kerosene mixed with one part of either crude carbolic acid or commercial cresol.

(2) Kerosene emulsion made by dissolving half a pound of hard soap in a gallon of water by gentle boiling and then adding two gallons of kerosene; one part of this emulsion is mixed with six parts of water.

(3) Lime-sulphur solution as recommended for dormant spraying of fruit trees.

(4) Cresol disinfecting solution made as follows: Put 3 1-5 quarts of raw linseed oil in a 5-gallon crock. Dissolve 1 pound 6 ounces of commercial lye in another container starting with half a pint of water and adding more very slowly if it is needed to dissolve the lye. After 3 hours very slowly add the lye solution to the raw linseed oil, stirring constantly until a smooth liquid soap is produced. Then very slowly stir in 8 1-2 quarts of commercial cresol. For most work a 5 per cent. solution with water is used, or about 12 tablespoonfuls to a gallon of water.

After the litter and nest material are removed from the house, the inside should be sprayed thoroughly with one of these solutions. A spray pump is effective to force the material into crevices. Since the mites are especially numerous on perches and nesting boxes, these should also be well sprayed with the insecticide. Care should be taken not to get any spray on the eggs as it gives them an undesirable flavor. A second application about a week later is necessary to kill mites that escaped the first treatment or hatched out afterward.

These small, blood-sucking mites are perhaps the most injurious pests of fowls. They feed on the birds at night and congregate in swarms under roosts or in nest boxes in the day time. They may so overrun a poultry plant as to make it almost uninhabitable if measures are not taken to prevent their spread.

MAKE HENS LAY IN THE HEN HOUSE

How many farmers have ever stopped to think how much time they lose and inconvenience they suffer, to say nothing of the loss in number and quality of eggs, by allowing hens to lay all around farm buildings? It is always easier to ask a question than to answer one, and many people believe that it is next to impossible to prevent hens from laying out of doors during the summer months. While that is true to a large extent it is not impossible, and there are many farmers and poultry keepers who have little if any trouble in that regard. There are some farms where the poultry are allowed free range, and yet they always lay in the places provided for them. Why so? There must be reasons, and a few of them are not hard to find.

In the first place it is natural for the hen to seek a cool place to lay, and that certainly is not possible in the average henhouse, consequently if they are expected to lay there some provision must be made to cool the building. That may be done by removing the windows, opening the trap doors, and leaving the door open when possible. Then the place must be cleaned out, and that should be done before the hot weather sets in. Fresh, clean straw scattered on the floor will make the place more comfortable and healthy, and the nests sohuld be cleaned out and filled with clean straw at frequent intervals. Another method that is used by some poultrymen, and apparently gives good results is to spray the inside of the henhouse with cold water on very hot days. It not only settles the dust but cleans off the walls and ceiling, thereby lowering the temperature several degrees. Of course that can only be done where there is an elevated water tank, but they are a common thing on the farms of Central Canada. Still another aid in keeping the hens from laying all over the place is to have no hiding places for them around the buildings. If the board or rail fences are replaced with wire ones, the rubbish piles removed, the large weeds kept cut (especially burdocks), and the many odd similar hiding places removed or closed up, the hens will lays their eggs in the nests provided.

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

My business is not to make myself,
But to make the absolute best of what God made.

—Robert Browning.

TRUSTEES

As he climbed into the buggy John Wells shook his head and scowled. Jacob Ritter, who was holding the reins, had climbed in only a few moments before. He had scowled also.

On one side of the road was a sixty-acre corn field, dotted here and there with one-year-old stumps, which would be removed before the next rotation should be sowed. Opposite was a two-acre field, in the midst of which was a square, box-like building of unplaned boards not six weeks from the trees. Fresh stumps were around the building, as they were in the two immense corn fields on either side.

The building was the school house, half a mile from the nearest dwelling. In the school house were thirty pupils gathered from five miles around, and a teacher imported from the east.

"Parson's work," grumbled Jacob Ritter, as he brought down his whip with unnecessary vigor across the horse's back.

"None o' his relation, either, for an excuse," added John Wells morosely. "We might 'a' put up with a poor cousin o' something for the sake o' the parson. But this one's brung here here for her su-perior attain-ments," drawling out the words bittrely. "Superior fiddlesticks! She's about as big as your whip handle Jacob, an' willowy 'nough for a ten-year-old to get around with ex-cuses."

A half mile of the new road was jogged over in silence. "No. 5 school over in Ridge county's got a woman o' forty with a hand like a man's," said Jacob. "An' I did hear she spelled the whole dictionary through when a girl. Ain't no unruly boy goin' to get around her."

"My cousin Jim's boys go to a school jest over the line t'other way," observed Wells, "an' they say they never tried to browbeat their teacher but once. That was thir lesson. An' they're ten an' seventeen years old, an' their teacher's a woman. But she weighs a hundred an' eighty, Jim says."

"I, wouldn't be surprised if Miss Susan Hope—our hope," sarcastically, "weighs nigh on to eighty."

Ritter's face broke into something like a grin, and he looked at his companion with a side glance. "Reckon mebbe it's some wounded pride on our part," he remarked. "I b'lieve I did brag a little to that man teacher from the Ridge. Goin' to have a teacher that would take our school right to the top, even if 'twas new. Seemed good to think our fust school might be the banner one o' the whole country roudn. Huh! It's all along o' what the parson said 'bout bein' a top notch. I did hunt for the Ridge man to come over to see my crops with an idee of invitin' him into our school. But I reckon I shall be too busy."

"Too late for Jim," confessed Wells lugubriously. "I was over with him two days an' visited the school. Saw the teacher yank a whisperin' boy out o' his desk quicker'n lightning an' rush him up to the platform with his feet scursely touchin' the oor. My, but wa'h't the other boys scared! Jim felt proud, an' said he was comin' over to see ours."

"Oh, well, half this day wasted," mumbled Wells, as he slid from the buggy in front of his house. "But 'twas in the way o' duty, as trustees a visiting their school, even if we did sit for two hours listenin' to things that wan't neither readin' nor arithmetic, though I will say in justice that she, our Susan, kept the children interested."

"So could you and me, playing peek-a-boo with 'em," snapped Ritter.

"Maps an' globes have their places," observed Ritter. "I ain't speakin' ag'in 'em as desirable things, an' hope we may have a few when we get a teacher with enough discipline to use 'em right. You noticed the dictionary on the table, which Miss Hope brought herself, an' how one o' the boys walked right up to it without raistin' a hand an' without waitin' for permission. She told me something 'bout honor among scholars, but 'tain't discipline. They need clubs. But good-bye," tightening his reins. "Time I was to work."

The corn in the fields ripened and here and there over the country appeared parallelograms of rich, moist earth, plowed for the fall wheat. Then one day Ritter's buggy again stopped in front of Wells' house.

"Howdy," said Ritter. Then, as Wells climbed in. "Queer goin's on in the school."

"Queerest in all the world," assented Wells. "If she'd whaled the last one o' them big boys an' then throwed teh whole lot through a winder, I couldn't 'a' been half so suprised. Fact is," looking at Ritter apologetically, "I 've been wantin' to go over for the last three weeks to see how she done it, an' would have been willin' to drop the corn cuttin' an' plowin'."

"But ye felt a little shy 'bout actin' friendly after all we said an' hinted an' looked that day we visited," grinned Ritter. "Anyhow, that's the way I felt. An' I thought 'twould be jest as well to wait a little longer an' see for certain how things were goin'. In spite of all we've heard an' seen, it don't seem possible that cnip could be behind movin' them."

Wells nodded. "Strangest thing to my mind is the Riggles boy," he said. "Twenty years old an' never did a lick o' honest study in his life, an' only went to school to pester teachers. An' now he an' Miss Hope can be seen most any time walkin' along the road with their heads bent down. Seems he's a nat'ral stone hunter — mineralogist I b'lieve they call 'em—an' nobody ever suspected it, not even he as its bein— something useful. Now they say he's tudying them kind of books day an' night, with her helpin', an' that she declares that the whole country's going to be proud o' him some day. Soon's he gets a little more knowledge she intends to write to a friend an' have him started in a special school o' that kind."

"Yes, Sam Riggles is—I mean was —the hardest case we had," agreed Ritter. "Even farmers got so they wouldn't hire him on 'count his pesterin' ways. But he wa'n't much worse than Bill Tysen an' Patsy Wade. They were all in the same gang. An' now my boy says Bill is goin' to be a lawyer—he always did have arguryin', hectorin' ways—an' Patsy settin' out to beat the other scholars on the very studies he knew the least of, an' what the'd been laughin' at him about. I don't understand how she ever got round 'em, except that she treated the boys jest like she would one o' the board or the superintendent himself, an' they got to holdin' their heads pretty high up in consequence. Gener'ly folks have made 'em feel 'bout what they thought of 'em."

"Noticed any difference in your own boys?" asked Mr. Wells. "My Nick's a nat'ral farmer an' hates books. But our Susan got to talkin' with him 'bout soils an' what this crop needs an' what that crop needs, an' what rain an' sunshine does for land, till she's actually got him to lookin' into books to see if such things are really in print. I declare, it beats me to see Nick sittin' up evenin's porin' into books that he'd kicked across the floor a month or two ago. Of crouse, her knowledge is all book learned, but it's amazin' how near she hits to the truth. Nick's told me some o' the things she's said 'bout soils an' crops, an' I declare they sound jest like an old farmer."

"My boy Tom's plan is to be a merchant," sighed Ritter, "an' he don't seem to take much interest in crops. He's always been good at figures, but skittish 'bout other studies an' ready for any sort of skylarkin'. Now she's got him into bookkeepin' and algebra an' other things that bear on merchandisin', an' he's settin' down to real hard work. An' I do hear Miss Hope has found at nat'ral bent in quite a number of the bigger boys an' is gettin' them all into workin' harness."

They jogged up a long slope in silence. On one side was a man drilling in wheat; on the other a gang plow with points slanting into rich soil at the ends of the newly turned furrows. They nooded to the man on the drill, who nodded back.

"Jask Wilson was down to the school, I heerd," remarked Wells, with a grin. "Jest carried away with the teacher, an' says if he was the whole board without no rules he'd put her in for life."

"Wouldn't wonder if Steve Hall's visitin' today," said Ritter, glancing towards an idle gang plow. "His girl Anna's takin' music lessons from Miss Hope, I hear. She's boardin' to their house now. Yes," as the yreached the summit of the slope, with a view of the school house on th level below, "there's his bugyy under that tree."

"Wondr is we'll be carried away like the rest of 'em," speculated Wells. "With all this talk an' our children dooin' so well I sort o' feel like apologizin' for the way we acted on our other visit."

"We mustn't let ourselves be drawn in too fast," warned Ritter. "Of course, we're bound to let her have some o' the fixin's she's askin' for; but some had better be carried over to another year. It's always best to go slow."

That's so," agreed Wells. "But here we are."

As they entered the school room Miss Hope came forward and gave them her hand, conducting them to chairs beside Steeve and near the table. They seated themselves with the awkward consciousness that the chairs were of the teacher's own providing, possibly borrowed from the place she boarded at.

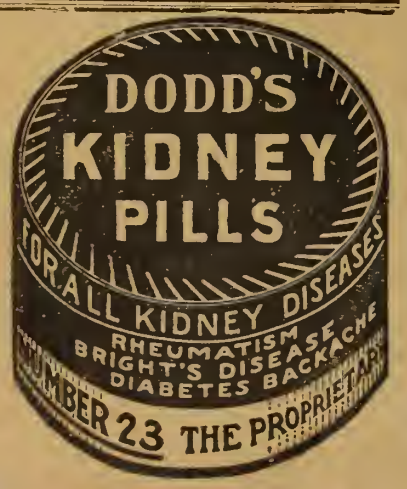
It was nearly two hours later when they returned to their buggy and they did not speak until they had passed over the slope and were in front of Wells' home. Then as Wells dropped to the ground, Ritter looked down at him with a questioning smile.

"Gave here everything she asked for," he said peprecatingly.

"Yes, everthying," Wells assented. "But I'd about made up my mind to that before we went in."

DRESSING UP YOUR CHRISTMAS GIFTS

Did you ever look forward to receiving Christmas parcels every year from certain people, just because they were put up in dainty wrappings and tied with bright colored ribbons? These people seem to have the wonderful talent of making a gift perfect. Perhaps their rememberances, from a monetary sense, are tiny, but they al-



Now sold in a new *waxed board* package — a great improvement over the old lead package

RED ROSE TEA "is good tea"

Sold only in sealed packages

124

ways typify daintiness and appropriateness.

Sister Mary's Christmas Packages

Sister Mary is one of these. She sends the most charming of Christmas packages, and they are never in succeeding years the same. To begin with, her packages usually arrive in an unmolested condition because she makes it a point to send them before the Christmas rush. They are therefore handled in less confusion and without the heavy traffic that is unavoidable later on; and the message "Please do not open until Christmas" pasted upon the wrapping bears its own command.

Months before she has held the Christmas thought in mind and has saved all the immaculate wrapping-paper that has come into the house. Boxes of desirable sizes have been hoarded for the same purpose, even from the preceding Yule-tide. Magazines are searched throughout the year for appropriate pictures to embellish these boxes and to give them the holiday spirit "from the very first peep," as she expresses it.

With an unstinted supply of snowy tissue-paper she paces each gift in a sizable box; and last year she wrapped each box in a mossy shade of green tissue-paper. She next tied it securely with white satin baby ribbon and pasted oved the entire upper surface of the box a picture of a Christmas or winter scene, or one approriate to the recipient.

Each Year She Makes Them Different

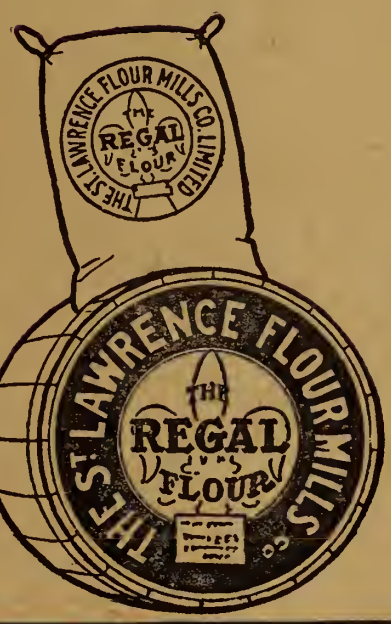
When several packages were going to one family, as they were to her brother's children and to ours, she packed them into one large box, sprinkled artificial snow-dust over the mossy green mass within and wrapped the large box in green tissue, tying it with a wider width of white ribbon. About this was put strong Manilla paper tied with stout cord so that the dainty contents were intact when received. Red, of course, is the universally used color, and one friend has the knack of using it to the best advantage.

She ties boxes wrapped in glazed white paper with bows of cherry-colored ribbon, and moire-papered packages with holly ribbons. Red ribbons on red glazed paper are relieved by gilt lettering on the package, while sometimes a verse of holiday cheeriness or a Christmas motto is inscribed on her all-red package in white ink.

Sometimes the quantities of ribbons required by the giver of many presents make too deep an inroad into her Christmas pocket money, but there are means of making packages attractive other than tying them with ribbon. Gold and silver cord serve the purpose equally well and are much less expensive. One girl saves the tissue ribbons that bind handkerchiefs and other merchandise, and while these are too soft in texture to make ornamental bows, she has a deft way of adorning a package by putting the ribbon around in bands and fastening the ends with a monagram of sealing wax of a harmonizing color.

One particularly dainty package which I received from her was wrapped in sheet cotton that had been treated to "snow storm" of glistening particles of isinglass, while bands of yellow tissue ribbon were caught on the top of the snowy pile by a great,

The Big Value in
FLOUR



IN THE HOMES of the people, far and near, "REGAL FLOUR" is known for its high and uniform quality; it is known as the most important factor in bread baking success.

THE ST. LAWRENCE FLOUR MILLS CO.
LIMITED
MONTREAL

COWAN'S COCOA

MAKES CHILDREN ROBUST.

WRITE FOR RECIPE BOOKLET.

THE COWAN COMPANY LTD. TORONTO.

G14

Head Ached So Bad

HAD TO GO TO BED.

When the liver becomes sluggish and inactive it does not manufacture enough bile to thoroughly act on the bowels and carry off the waste matter from the system, hence the bowels become clogged up, the bile gets into the blood, constipation sets in and is followed by sick and bilious headaches, water brash, heartburn, floating specks before the eyes, and painful internal, bleeding or protruding piles.

Milburn's Laxa-Liver Pills regulate the flow of bile so that it acts properly on the bowels, and stirs the sluggish liver into activity.

Mrs. E. Bainbridge, Amherst, N.B., writes:—"I take pleasure in writing you of the good I received by using Milburn's Laxa-Liver Pills for headache. I was so bad I had to go to bed, and could not sit up. A friend told me about your wonderful medicine, and two vials have made me as well as I can be."

Milburn's Laxa-Liver Pills are 25c. a vial at all dealers, or mailed direct on receipt of price, by The T. Milburn Co., Limited, Toronto, Ont.

splashing bronze monograd.

Red and Green Cord for Tying

Even red and green cord is suitable for binding the Christmas box, and only lack of tidiness could detract from its use. Boxes wrapped in soft tones of yellow or brown fastened together with bands of harmonizing shades of passe-partout are all that lan be desired for novelty and attrartiveness.

The bestower of gifts who lives in the country need not despair for beautiful wrappings, but she must prepare her commodities before the season. Let her save the long reed-grasses for tying purposes, while birch bark is undeniably lovely not only for making gifts but also ror covering them. Careful clusters of pine-needles when tied to a box with reed-grasses will become a refreshing sight for city eyes. The leaves of al most every tree are glorious for orna menting packages if they have been carefully pressed and gilded, while the bright autumnal tints should be preserved in their natural colorings. Baby pine cones can be picked while still tiny, and gilded, or else dashes of white carefully touched upon the innumerable edgings give the effect of snow and are picturesque additions to the top wrapping of any parcel.

Add a Touch of Holly

In the parts of the country where the holly and mistletoe grow it should be known that sprigs of these typically Yule-tide buds and their glistening leaves attached to gift offerings are invariably welcomed most gleefully by those less fortunately situated. In small places it is often difficult to secure suitable boxes for transporting gifts, but clever fingers can be made to fashion even prettier home-made receptacles. Designs are first sketched on a nice piece of pasteboard, and thn cut out with a sharp knife, holding the pasteboard flat on a board, or better still, it should be tacked in place.

Doily cases, rolls for centrepieces, glove and handkerchief boxes can be made in this way. And the add to the gifts by expressing to the recipients that you have given them your thought throughout. — Copied from December, 1912, Number of the Woman's Companion.

MORE THAN MONEY

What one busy woman found she could do to help a delicate child in need of a good home and nourishing food may point to a wide field of endeavor for the woman on the farm or in the suburbs. Busiest of the busy, with her own house filled to the eaves with children and not a penny to spare when she read of the needs of a little child of four, she supplied the need by taking fresh eggs and milk to him from the farm when she went to town twice weekly to sell eggs and dairy produce. Everyone has something to share—rosy apples for the newsboy, a few fresh eggs for an invalid, a basket of fresh vegetables for the woman with many children—things which, in the plenty of the country seem too little to give, are luxuries to city eyes and bring health and pleasure.

AN ENEMY OF MANKIND

A Subtle Foe to Deal With

The subtle, unsuspected enemy, which, taking hold on the kidneys, saps them of their strength and vitality, rendering them inactive and unable to remove the poisons and waste substances from the blood, should immediately be dealt with. All who suffer from backache, pains in the sides, sciatica, rheumatism, neuralgia, constant headaches, constipation, that helpless feeling of lassitude; stiff, swollen joints, hands and ankles, sore muscles, sleeplessness, floating specks before the eyes, irritability, should at once begin treating the kidneys with Gin Pills, which are by far the most effective remedy for diseases of this vital organ.

The first sign of pain in the back or side is warning enough. Do not delay. Once the kidneys and bladder get out of order, most serious, and often fatal consequences are likely to follow in quick sequence. Get a box of Gin Pills today, and correct the derangement before it is too late. At all druggists or dealers, 50c. Money refunded if not satisfied. Free sample on request.

The National Drug & Chemical Co. of Canada, Limited, Toronto. United States Address, Na-Dru-Co., Inc., 202 Main St., Buffalo, N.Y. 250

THRIFT RECIPES FOR NOVEMBER

(From the Modern Priscilla)

Economy Lunch Cakes

1 can salmon.
1 onion.
½ pint cracker or bread crumbs.
3 large boiled potatoes or 4 small ones.
1 egg.
Salt to taste.

Empty the contents of the can of salmon in a mixing-bowl, remove bone and skin, add boiled potatoes, onion chopped fine, crumbs, egg, and salt. Mix well. Make into cakes one-half inch thick and fry until brown.

Sausage Roll

4 cups flour.
1 cup ice-cold water.
Salt.
4 tablespoons lard.
4 pounds sausage.

Rub the lard into the flour with the tips of the fingers, add salt, mix with cold water, stirring with a knife. Cut in small quantities, and roll the pieces thin. Place a moderate-sized sausage in each piece; roll the dough over, wetting the edges where rolled in. If preferred the sausages may be pricked and baked for ten minutes before placing them in the dough.

Date Cake

1 cup chopped dates.
1 cup sugar.
1 tablespoon fat.
1¼ cups flour.
½ cup chopped walnut meats.
1 cup hot water with 1 teaspoon soda.
1 egg.
1 teaspoon vanilla.

Pour hot water and soda over dates and let stand while mixing other ingredients. Cream fat and sugar and add eggs beaten light. Then add dates and hot water. Add flour, vanilla, and walnut meats and bake in loaf forty-five minutes. One medium sized loaf.

Mrs .W. F. K., Michigan.

Good Plain Cake

2 cups sugar.
3 egg yolks.
3 cups flour.
3 egg whites.
Pinch salt.
½ cup fat.
1 cup water.
4 teaspoons baking powder.
1 teaspoon flavoring.

Cream sugar and fat together. Add beaten yolks of eggs and gradually water. After mixing thoroughly add three cups sifted flour, reserving little in which baking powder is added. Beat for about five or ten minutes before adding the remainder of flour and baking powder and lastly fold in the whites of the eggs and flavoring and salt. Three layers or two medium-sized cakes.

Mrs. R. M., District Columbia.

HALLAM FUR FASHION BOOK 1920 EDITION—FREE

Write for your free copy of Hallam's Fur Fashion Book which contains 48 pages and cover, illustrating over 300 beautiful Fur Garments, all genuine photographs of the articles just as they are and real people wearing them. It shows you a much greater variety than you can see in most stores and will save you many dollars. It is absolutely free. Address as below.

John Hallam Limited
1608 Hallam Building, TORONTO.
THE LARGEST IN OUR LINE IN CANADA

We have already given away $5.000 FREE. $200.00 more IN CASH and numbers of Merchandise Prizes will be GIVEN AWAY at an Early date.

1st Prize, **$50.00** in Cash. 2nd Prize, **$40.00** in Cash
3rd Prize, **$35.00** in Cash. 4th Prize, **$25.00** in Cash
5th to 9th Prizes—Each **$10.00** in Cash.
TOGETHER WITH MANY MERCHANDISE PRIZES

Herewith will be found the picture of a Log Hut in the Woods. At first glance all you see is a man, a woman and a dog. If you look closely the faces of 8 other persons will be found. Can you find them? It is no easy task but by patience and endurance can be accomplished.

You may win a cash prize by doing so. Many have done this as will be shown by the names and addresses which we will send you. If you find the faces mark each one with an X, cut out the picture and send it to us, together with a slip of paper on which you have written the words "I have found all the faces and marked them." Write these nine words plainly and neatly, as in case of ties, both writing and neatness are considered factors in this contest.

This may take up a little of your time but as TWO HUNDRED DOLLARS in cash and many merchandise prizes are given away, it is worth your time to take a little trouble over this matter. Remember all you have to do is to mark the faces, cut out the picture and write on a separate piece of paper the words, "I have found all the faces and marked them."

WE DO NOT ASK YOU TO SPEND ONE CENT OF YOUR MONEY IN ORDER TO ENTER THIS CONTEST

Send your answer at once; we will reply by Return Mail telling you whether your answer is correct or not, and we will send you a complete Prize List, together with the names and addresses of persons who have recently received over Five Thousand Dollars in Cash Prizes from us, and full particulars of a simple condition that must be fulfilled. (This condition does not involve the spending of any of your money.)

Although these persons are entirely unknown to us, they are our references. An enquiry from any one of them will bring the information that our contests are carried out with the utmost fairness and integrity.

Winners of cash prizes in our late competitions will not be allowed to enter this Contest.

This Competition will be judged by two well known business men of undoubted integrity, who have no connection with this Company, whose decisions must be accepted as final.

Your opportunity to win a good round sum is equally as good as that of anyone else as all previous winners of cash prizes are debarred from entering this contest.

Send Your Reply Direct to
GOOD HOPE MANUFACTURING COMPANY
46 ST. ALEXANDER STREET, MONTREAL, CAN.

Butterscotch Pie

1 cup brown sugar or ½ cup white and ½ cup brown.
1 cup milk.
Vanilla.
3 tablespoons flour.
8 tablespoons butter.
2 egg yolks, well beaten.

Mix flour and sugar. Add egg yolks well beaten and milk. Add butter and cook in double boiler until thick. Add flavoring. Put in baked crust and make a meringue of egg whites. Place in a very moderate oven and brown slightly. Serves six.

Mrs. G. P. F., Missouri.

Spanish Chocolate

1 quart sweet milk.
4 tablespoons grated chocolate.
1 teaspoon vanilla.
1 cup sugar.
2 tablespoons corn-starch.

Scald milk. Mix sugar, chocolate, and corn-starch with some cold milk and add this to hot milk, stirring constantly, till it boils. Boil until chocolate is entirely melted. Remove from stove, add vanilla, and beat. Cool, place in freezer and freeze. Serves six.

Mrs. E. P., District Columbia.

Salad Dressing

1 cup vinegar.
2 tablespoons flour.
Pinch of salt.
1 teaspoon fat.
½ cup sugar.
½ teaspoon mustard.
Speck black and red pepper.

Heat vinegar and sugar nearly to boiling point. Mix mustard and flour dry, then add cold water to make smooth paste, on which pour the hot vinegar and sugar, stirring all the time. Put mixture on stove, add butter and cook until thickened. Chill. Makes one and one-fourth cups dressing.

Mrs. A. E. A. D., New York.

Creole Meat Loaf

1 pound chopped beef from round.
½ cup bread crumbs .
1 teaspoon salt.
½ cup tomato pulp.
1 egg yolk.
¼ teaspoon pepper.

Bake in a covered pan or individual molds in a muffin-tin for one-half hour. Uncover and bake twenty minutes longer to brown. Serve with a tomato sauce if desired. Serves ten.

Mrs. H. P. F., Massachusetts.

Real Home Made Pie—

Yes, Ma'am!
Real homemade Pie!

With top and under crust that truly melt in your mouth—and a generous filling of your own delicious homemade preserves or home-grown fruit.

That's a pie worth eating, and worthy of your baking, and it's the kind of pie you can make every time with

BEAVER FLOUR

MILLED OF BLENDED WHEAT

"Beaver" Flour equals any of the "special pastry flours" because it is, in itself, a special pastry flour—being the choicest Ontario fall wheat, blended with western spring wheat to give it strength.

This is why Pies, Cakes, Cookies, Tarts, Doughnuts, Buns and Fancy Pastry —when made with "Beaver" Flour—are so light, so flaky, so uniformly good.

This is also why the Bread and Rolls—made with "Beaver" Flour—have a delicate, nutlike flavour that is totally lacking in western spring wheat flours.

Just try "Beaver" Flour for anything you are baking—and see what happy results you get, every time.

DEALERS—write for prices on Feed, Coarse Grain and Cereals. 200

THE T. H. TAYLOR CO. LIMITED, - - CHATHAM, Ont.

MINARD'S "KING OF PAIN" LINIMENT

I was cured of terrible lumbago by
Minard's Liniment
—Rev. Wm. Brown.

I was cured of a bad case of earache by
Minard's Liniment
—Mr. S. Kaulbach.

I was cured of sensitive lungs by
Minard's Liniment
—Mrs. S. Masters

Manufactured by the
Minard's Liniment
Yarmouth, N.S.

Coffee Tapioca

4 tablespoons minute tapioca.
½ teaspoon salt.
¼ cup nut meats cut in small pieces
4 tablespoons marshmallow cream.
1½ cups boiling coffee.
6 tablespoons sugar.
2 tablespoons lemon juice.

Bring coffee to coiling point . Add to tapioca and cook until clear and thick. Add salt and sugar and lastly the nuts, cream and lemon juice. Serve cold with or without cream. Serves five.

R. S. E.

Banana Fritters

1 cup flour.
¼ teaspoon salt.
¼ cup milk.
1 egg.
1 tablespoon lemon juice.
2 teaspoons baking powder.
1 tablespoon sugar.
1 tablespoon melted fat.
2 bananas.

Mix and sift dry ingredients. Separate the egg and beat both yolk and white until light. Add milk to first mixture, then the egg yolk. Add the bananas which have been put hrough a ricer and lemon juice. Fold in stiffly baten white . Drop by tablespoons into deep fat and brown. Sprinkle with powdered sugar and serve with lemon sauce. Serves five.

S. B.

Corn Fritters

1 can corn (2 cups.)
1 teaspoon baking powder.
1 cup flour.
¼ teaspoon paprika.
2 teaspoons salt.
2 eggs.

Mix and sift dry ingredients. Add to corn; then add yolk of eggs, beaten until light, and fold in stiffly beaten whites. Drop by spoonfuls onto a hot, well-greased griddle, and cook as you would griddle cakes. Serves five.

Mrs. A. H. M., New Hampshire.

Shamrock Salad

Green peppers.
Mixed nuts.
Cream cheese.
Lettuce.
Mayonnaise dressing.

Select deeply indented green peppers, and, after washing them and removing seeds, stuff with cream cheese solidly mixed with chopped nuts. Place on ice until cold and then slice them desired thickness. Each slice will resemble a shamrock. Arrange on a nest of lettuce leaves and garnish with mayonnaise dressing. One pepper makes two salads.

Mrs. J. B. D., West Virginia.

Scalloped Carrots and Potatoes

6 medium sized potatoes.
5 medium sized carrots.
Milk.
Salt.
Pepper.
Fat.
Bread crumbs.

Prepare potatoes and carrots for scalloping, slicing them in one-eighth-inch slices. Put a layer of potatoes in buttered baking dish, sprinkle with salt and pepper; then a layer of carrots with salt and pepper and dot over butter; repeat with potatoes etc., Add hot milk until it may be seen through top layer. Have a layer of buttered crumbs on top. Cook about one and one-fourth hours or until the vegetables are soft. Serves four.

Mrs. M. T. V. D., New York.

It is more difficult to succeed as a master breeder of livestock than it is to become a master artist in the painting of pictures and the carving of statues.

Kidneys Were Bad After The "Flu"

Sat Up to Turn In Bed.

That awful epidemic, the Spanish influenza, that swept Canada from one end to the other a short time ago, left in its wake a great many bad after effects. In some cases it was a weakened heart, in others shattered nerves, but in a great many cases weak kidneys have been left as a legacy.

Where the kidneys have been left weak as an after effect of the "Flu," Doan's Kidney Pills will prove to be just the remedy you require to strengthen them.

Mrs. Harvey D. Wile, Lake Pleasant, N.S., writes:—"Last winter I was taken sick with the "Flu," and when I did get better I found that my kidneys were very bad, and at night I had to sit up to turn around in bed. I used Doan's Kidney Pills, and found that they did me a wonderful amount of good. I also recommend them to my husband, and he started in to use them. I will always recommend them to anyone who is bothered with kidney trouble, for they are wonders."

Doan's Kidney Pills are 50c. a box at all dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

See that our trade mark, a "Maple Leaf," appears on the box.

HOW CHRISTMAS CUSTOMS CAME ABOUT

Why Do We Keep Christmas?

Christmas celebrates the birth of Jesus Christ. The religious event is observed by the Protestant, Catholic and Greek churches on diversified dates in different parts of the world. The festivities of the day may be traced to the ancient rites celebrated in Scandinavia, Rome, Greece and Egypt, where the pagan people feared, as the days shortened in the darkest month of the year, that the sun was dying, and observed a time of rejoicing when the sun began to stay with them a little longer each day.

The leaders of the early Chirstians church endeavored to adapt the harmless features of the heathen sun festivals as a conciliation to those who had broken with their old beliefs and vowed their allegiance to the new faith. But, despite their effort to control, Christmas resulted in orgies not to be countenanced by the Christian church. Revelry continued in England until some years after the coming of the Puritans to America the Roundhead Parliament abolished Christmas for twelve years, and in America the Court of Massachussetts followed suit. But Christmas must be kept, and it was later re-established in more sane fashion by the law in both countries, because the people were unwilling not to keep the festival.

Why We Celebrate on December 25th

Nobody knows whther that is the exact date on which Christ was born, or what people first celebrated the festival on that date. After the triumph of Chrisitianity the prejudice of the early Christians against the celebration of birthdays as heathenish died out. Some time between 337 and 352 Pope Julius directed Saint Cyril to ascertain the correct date. He reported that the Western Churches observed it on December 25th, although other churches kept the day in January, April, May, March and September. Pope Julius, so satisfied with Saint Cyril's report, set December the 25th as Christmas Day, and our observance of that date has come down to us from that decision.

Santa Claus and Christmas Stockings

Saint Nicholas seems to have been the original of our Santa Claus. He was the Bishop of Myra about the year 300, and was very popular because of his good deeds and kindness, especially to the children, whose patron saint he is supposed to be. An old legend says that he wished to bestow a gift surreptitiously upon an old nobleman who, though poor, did not want any one to know of his poverty. When the good Bishop reached the house, he saw the gentleman asleep by the fire, so he climbed to the top of the chimney and dropped his gift therein, thinking it would fall on the hearth. But it so happened that the money fell into one of the old gentleman's stocking, which his daughter had hung up to dry, where it was found and used as a dowry for his eldest daughter. And the old story says that Saint Nicholas never failed to put a gift in the stockings which were hung for him thereafter whenever a daughter of the house was to marry. When our Saint Nicholas comes around on Christmas Eve, we look for gifts in our stockings.

The date of the Bishop's death, December 6, is observed in many countries, and the closeness of his feast to that of Christmas Day has probably confounded the two celebrations. Santa Claus seems to be the name by which the good spirit of Christmas is most generally known.

Why Mistletoe Never Decorates a Church

Druids regarded religiously the mistletoe, which they called "All Heal" and offered it on their alters. The church adopted this custom but the mistletoe was purposely omitted by reason of its figuring in pagan religious rites.

Another reason given is that in olden times its use was abandoned in church decorations because it set the young folks to reading the marriage service, and holly was subsituted to indicate the dark monotony of matrimony and the many thorns with which it was beset.

Why We Sing Christmas Carols

Singing Christmas carols is a custom so old that even the origin of the word is in doubt. The first carols were modelled on the songs written to accompany the choric dance and caroling, a combination of dancing and singing, which found its way from pagan rituals into the Chirstian Church.

In the year 589 the Council of Toledo forbade dancing in the church on certain days, and in the following year all secular dances in the church were forbidden. However, the custom did not die out until about the year 1209.

Many of the carols dating from the fifteenth century have the characteristics of folk songs and preserve curious legends Carol singing flourished during the sixteenth and seventeenth centuries, and the greatest English writers, Milton and Ben Jonson among them produced some beautiful carols. A century later Charles Wesley wrote the famous, "Hark, How the Welkin Rings," better known now as "Hark, the Herald Angels Sing."

The earliest printed collection of carols was issued in 1621. It contained the famous "Boar's Head Carol," which is still sung every year at Oxford College. The carol exists in France, where it is known as "Noel" and it is also existent in Germany and Italy, although the custom has died out in Scotland and some of the Continental countries.

Why Cattle are Supposed to Kneel

There are many superstitions regarding the special endowments of animals and birds during the Christmas season, some being presumed to be gifted with speech, others with an intuition to worship, etc.

The tradition that cattle kneel in their stalls doubtless arises from the fact that Christ was born in a manger. The Spanish are very kind to all cows, because on the Holy Night they are believed to have breathed upon the Christ Child to keep him warm.

The story is told of an Indian creeping cautiously through moonlit Canadian woods on Christmas eve, saying "Me watch to see deer kneel. Christmas night all deer kneel and look up to Great Spirit." It is thought, however, that some harm will speedily come to the one who successfully spies upon these animals.

Why Christmas Centres Around a Star

When Jesus was born in Bethlehem it was the boast of Rome that "Milarium Aureum," the Golden Milestone, from which her great military roads diverged, marked the centre of the

After Five Years of Heart Trouble

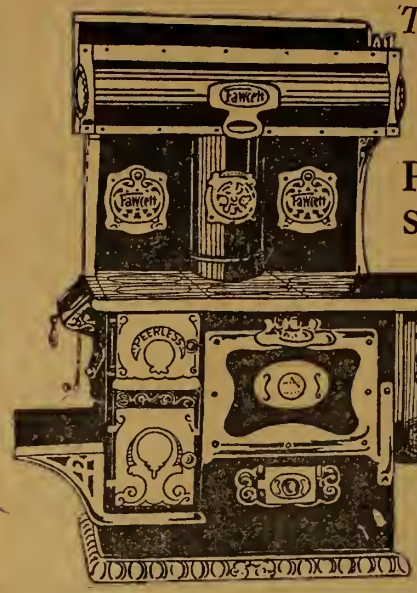
MRS. BREWER TURNED TO DODD'S KIDNEY PILLS

Now She Is Telling Her Friends Who Advised Their Use the Good Dodd's Kidney Pills Have Done.

Imrie, Alta., Nov. 20.—(Special)—Advised by her friends to use Dodd's Kidney Pills for heart trouble from which she had suffered for five years, Mrs. Mary Brewer, well-known and highly respected here, is telling how much she benefited from the treatment.

Heart trouble is nearly always caused by defective kidneys, which fail in their wark of straining the impurities out of the blood. The work of the heart is made too hard when it has to propel blood thick with impurities to all parts of the body. The result is, of course, weakness and disease.

That Mrs. Brewer's trouble came from her kidneys is shown by her symptoms. "I suffered from rheumatism, gravel, stiffness of the joints, backache and headache," she states. "My sleep was broken and unrefreshing. I was nervous and my limbs swelled. My skin itched and burned at night. It was after a doctor had failed to cure me I tried Dodd's Kidney Pills. I must admit they did me a lot of good."



The Fawcett

PEERLESS STEEL RANGE

for coal or wood

The Fawcett Range gives you better cooking, greater kitchen comfort, saves time, work, fuel, and money. "Enjoy life—use a Fawcett."

THE principal thing a woman wants to know about a range is that it is a good baker and the Peerless is one of the best on the market. It is built to give the best of service at all times. It saves fuel and gives the maximum amount of heat for all fuel used.

CHARLES FAWCETT LIMITED

SACKVILLE, N.B., CANADA

Ask your dealer or write direct

MARVEN'S

WHITE LILY BISCUITS

ARE MADE IN MANY VARIETIES TO PLEASE PARTICULAR PEOPLE

THEY TASTE GOOD AND ARE GOOD

THEY SURELY SATISFY

SOLD IN BULK -- IN PACKAGES -- IN TIN PAILS

J. A. MARVEN, LTD.

BISCUIT MANUFACTURERS

MONCTON HALIFAX ST. JOHN

world. Today that stone is in fragments, while from the star that marks in the Church of the Nativity in Bethlehem the place where Jesus was born, and commemorates the star that shone in tne heavens o'er Bethlehem on the first Christmas night, radiates the influence that uplifts mankind, civilizes the world and makes all men brothers.

How the Christmas Tree Came To Be

Saint Winifred, who was, in the Eighth Century a missionary to the Scandinavians, is credited in an ancient legend with having caused to be set up the first home Christmas tree. He tried to show the people that the Druid priests had made them worshippers of trees only, and not of a living God; and on Christmas eve he hewed down the great oak tree around which they had gathered to offer a human sacrifice. As it fell a young fir tree seemed to appear miracuously beyond it, and Winifred said to the people: "Here is the living tree with no stain of blood upon it, that shall be the sign of new worship. See how it points to the sky . Call it the tree of the Christ Child. Take it up and carry it to the chieftain's hall. You shall go no more into the shadows of the forest to keep your feasts with secret rites of shame. You shall keep them at home, with laughter and songs and rites of love. The thunder oak has fallen and I think the day is coming when there shall not be a home in all Germany where the children are not gathered around the green fir tree to rejoice in the birthright of Christ.

THE AUTUMN OF OUR LIVES COMPARED WITH THE AUTUMN OF NATURE

Nature in the passing years gives to each a certain beginning, a period of growth, a time of completion, and a time of rest.

The autumn comes to us when the summer is ended, when the struggles and all energy well-nigh spent. To the completion of all that is useful and needful is added the mysterious change that gives to nature her glorious coloring pictures of such splendor and majesty that the greatest of artists cannot begin to imitate it. Life as it is given to mankind follows the life of the year in vegetation. Childhood, youth, maturity, come and pass to most of us all too rapidly, then comes the autumn of life when we feel that we must go gradually and as gracefully as we can down the winter decline.

To those of us who have had our youthful eyes on the right goal this period of life should offer the greatest pleasure. If in youth we have tried to live honestly, to fill life with right-living, to have love for our neighbors, and devotion to our Heavenly Father, we may have the feeling in the autumn of life that we have attempted to do what was worth while, and that we have accomplished the effort during the passing years. We have the satisfaction that comes to all who succeed, and we can know, to some extent, how well we have done, for we can measure the love of others for us by the love we have shown them or have for them, and we can know in our own souls, by looking within, how much or how little we are devoted to our Creator. The power of youth, the knowledge of maturity were all working towards the completion of character, and it is given to each of us to be able to ascertain a fairly accurate opinion of the results.

But the autumn of the year always brings with it some shade of sadness, perhaps for a summer of drouth or blight, perhaps for the dreary outlook of a winter unprovided for. So does also the autumn of life come to some of us with some sense of feelings far removed from real peace or pleasure. It may be that this, the thoughtful time of life, is tinged with many regrets that we did not look on life differently in our younger days, and that we did not set our eyes on the better way. It may be that with our knowledge of life, gained through all the years, we are made sad by the carelessness and wastefulness we see in others who are still young, who have not had their eyes opened to life's meanings and may some time give anything could they live over again the years now being wasted. And then, most sad of all is the autumn to those who see the winter coming without provision for it, who see the sorrows of age approaching, and are unable to look forward with faith to another springtime, where a new life awaits to lead one joyously into an existence in close relationship and blessed communion with the Father, our Creator.

WHO WILL BE MARY-PICKFORD'S LEADING MAN? $2500.00 XX PRIZES! FOR THE BEST ANSWERS.

Do You Know These Five Actors' Names?

1. Plain Rachelich 2. Learn a Lass 3. Jet Black Rig 4. Sell Raw Hip 5. In for a Bad Glass Uk

CANADA'S own and beloved Mary Pickford is about to produce one of the greatest moving picture plays of her career. It is a story abounding in love and humour, pathos and happiness.

Miss Pickford's big problem now is to select a capable actor who will be suitable as her leading man in this great production. She can pick from all the greatest moving picture actors of the world, but her selection is now down to the five favorite movie actors whose pictures are shown above. One of these five will be chosen by her to play the Leading Man's role in this great new movie production.

Do you know the Names of these five Favorite Players?

The object of this contest is to recognize and name these five most prominent movie actors. After you have recognized them, and in order to help you name them correctly, we have put their right names underneath their pictures in jumbled letters. Unscramble these letters, put them into their right order and you will have their names. In case you are not familiar with the names of the most popular moving picture actors today, the names below will help you.

Names of Some of the Favorite Players

Fred Huntley, Allan Sears, Owen Moore, Milton Sills, Jack Pickford, Charlie Chaplin, Charles Ray, Elliot Dexter, Wallace Reid, Francis Ford, Dustin Farnum, Henry Walthall, Warren Kerrigan, Jack Gilbert, Harold Goodwin, William S. Hart, Thomas Meighan, Antonio Moreno, Stuart Holmes, Francis X. Bushman, William Farnum, Robert Harron, Douglas Fairbanks, Earl Williams, Ralph Lewis, Tom Moore.

These Magnificent Prizes Given for Best Correct or Nearest Correct Replies

1st Prize,	1920 Chevrolet Touring Car, Value		$990.00
2nd Prize,	1920 Ford Touring Car, Value		$740.00
3rd Prize,	$150.00	14th Prize,	$5.00
4th Prize,	100.00	15th Prize,	5.00
5th Prize,	50.00	16th Prize,	5.00
6th Prize,	25.00	17th Prize,	5.00
7th Prize,	20.00	18th Prize,	5.00
8th Prize,	15.00	19th Prize,	3.00
9th Prize,	10.00	20th Prize,	3.00
10th Prize,	10.00	21st Prize,	3.00
11th Prize,	10.00	22nd Prize,	3.00
12th Prize,	10.00	23rd Prize,	3.00
13th Prize,	$5.00	24th Prize,	3.00

And 25 Extra Prizes of $1.00 each.

$500.00 Additional Cash Prizes will also be awarded.

First Prize VALUE $990.00 Or its equivalent in Cash.

This Great Contest is Absolutely Free of Expense Send Your Answers Today!

This great contest is absolutely free of expense and is being conducted by the Continental Publishing Co., Limited, one of the largest and best-known publishing houses in Canada. That is your guarantee that the prizes will be awarded in absolute fairness and squareness to you and every other contestant. Frankly, it is intended to further introduce EVERYWOMAN'S WORLD, Canada's Greatest Magazine. You may enter and win any of the prizes, whether you are a subscriber to EVERYWOMAN'S WORLD or not, and, moreover, you will neither be asked nor expected to take the magazine or spend a single penny of your money to compete. Here is the idea.

EVERYWOMAN'S WORLD is so popular everywhere that it now has the vast circulation of 100,000 copies a month, but our motto is "*Everywoman's World in EveryWoman's Home.*" We want more Canadian readers to become acquainted with this famous publication. Therefore, when we acknowledge your entry to this contest, and you know your standing for the prizes, we shall send you a copy of the very latest issue and a review of many of the fine features soon to appear, without any cost to you. We shall also send, free of charge to all qualified contestants, a charming photo of Miss Mary Pickford with reproduction of her autograph in her own handwriting. Then, in order to qualify your entry to be sent on for the judging and awarding of the big prizes, you will be asked to assist us in carrying on this big introduction plan by showing your copy to just four friends or neighbours, who will appreciate this really worth-while Canadian magazine and want it to come to them every month. You will easily fulfill this simple condition in a few minutes of your spare time.

How to Send in Your Solution

Use one side of the paper only, and put your name and address (stating whether Miss, Mrs., Mr. or Master) in the upper right-hand corner. If you wish to write anything but your answers, use a separate sheet of paper.

Miss Mary Pickford, as Honorary Judge and three independent judges, having no connection whatever with this firm, will award the prizes, and the answer gaining 250 points will take first prize.

You will get 20 points for every name solved correctly, and 40 points will be given for general neatness, punctuation and spelling; 10 points for hand writing, and 100 points for fulfilling the conditions of the contest. Contestants must agree to abide by the decision of the judges. The contest will close at 5 p.m., May 31st, 1920, immediately after which the answers will be judged and prizes awarded.

DON'T DELAY! Send your answers to-day. This announcement may not appear again in this paper. Address your entry to:—

Movie Editor, Mary Pickford Contest,
Dept. **514** **EVERYWOMAN'S WORLD, TORONTO, ONT.**

Spanking Doesn't Cure!

Don't think children can be cured of bed-wetting by spanking them. The trouble is constitutional, the child cannot help it. I will send **FREE** to any mother my successful home treatment, with full instructions. If your children trouble you in this way, send no money, but write me to-day. My treatment is highly recommended to adults troubled with urine difficulties by day or night. Write for free trial treatment.

Mrs. M. Summers
BOX 309 **WINDSOR, Ontario**

PILES Do not suffer another day with Itching, Bleeding, or Protruding Piles. No surgical operation required. Dr. Chase's Ointment will relieve you at once and as certainly cure you. 60c. a box; all dealers, or Edmanson, Bates & Co., Limited, Toronto. Sample box free if you mention this paper and enclose 2c. stamp to pay postage.

LUBRICATE, LUBRICATE AND STILL LUBRICATE

"Is Everything Oiled?" Should Be the "Eternal Question"

If this article could be printed in red ink or in some extra strong kind of italics, it ought to be done, though no other were thus accentuated, for lubrication is far and away, the most vital subject connected with the care and maintenance of motor cars. There are many "chances" that a motorist can take with his car and "get away with them," without injury. He may skid his car without hitting the curb, careen around corners on two wheels without tipping over and shave a 5-ton truck without losing even a hub-cap, but he cannot neglect lubrication without paying the penalty. The consequences are inevitable and will infallibly become aparent later is not at the time. Just as sure as two working surfaces run dry, they will wear out and nothing can prevent them. All operative parts of a car must be lubricated all the time and not part of the time by fits and starts. There must be no break in the condition of perfect lubrication, for such an interval may be sufficient to destroy or irreparably injure expensive parts. After injurious wear has occurred, flooding the affected surfaces with oil, is fruitless, and repentance is of no avail. Lubrication must be absolutely continuous and uninterrupted or its purpose is defeated. If two new cars of the same model were taken out upon the road and one of them were stopped by being run into a telephone pole, while the other was run until it stalled for lack of lubrication, it is not at all unlikely that the former car would be worth the more, for the damage to it would be mostly upon the surface, and such as could, at reasonable expense, be fully repaired, but the other car would probably have received vital injuries of a concealed and deep seated character, such as scored cylinders, and pistons worn out, wrist-pins and burned-out bearings, the repair of which would entail costly replacements and very extensive labor. Damages from lubrication failures are concealed and cankerous and the difference between these two supposititious cars is somewhat that between two men, one with a broken leg, the other with a leaky heart. Engines may be carbonized and mechanism made sloppy by too much oil, but no car was ever permanently injured by excessive lubrication while practically all are injured by fitful or insufficient oiling. It is hoped that we have "put this across," for it is the most important "Hint For The Motorist."

ESCAPING GREASE CAUSES CLUTCH SLIPPAGE

W. L. writes: . Grease from the transmission case of my car, works out along the shaft into the bell-housing that surrounds the cone-clutch and, getting onto the leather lining, causes it to slip There is a felt washer in the transmission housing that is supposed to prevent this. Can this be packed tigh enough to prevent the escape or is some grease expected to pass into the clutch housing and drop out of the hole in its bottom? Would a cork packing be better than the felt?

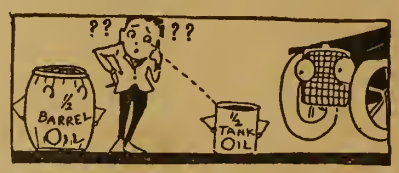
Answer: A new felt washer of liberal size, so that it fills very tightly, will very likely stop your trouble temporarily, but we doubt if it will per-

manently, as the felt compresses very soon. No grease is supposed to pass the washer, but what does is supposed to escape through the hole in the housing. We hardly think that a cork packing would be better than the felt. If there is room on the shaft, between the clutch and the transmission housing, try winding a narrow strip of felt spirally around the shaft, fasteing it tightly in place with shellac and a wire band at each end. Wind the spiral in the direqtion which will cause it to act to carry back towards the transmission housing any grease that works out of it. If you cannot do this, you might make a split ring out of brass and fasten it around the shaft, making the ring of fair size, with a sharp edge. The tendency would be for any grease, working along the shaft, to be thrown off of the edge of this into the housing, from which it would escape, rather than following along to the leather lining.

OIL INQUIRY

J. W. writes: I have a half tank of heavy oil and a half barrel of medium oil and am short of room to store them in . Is there any harm in mixing them together in the same receptacle?

..Answer: Assuming that they are both the same kind of oil, cylinder oil we imagine and differ only in body we cannot see that it will do any

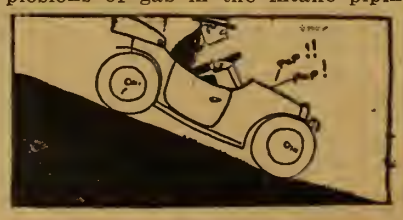


harm to put them together. The result will be an oil with a oody intermediate between the two constituent oils and, if you have use for an oil o. such a body, we can see no objection to making the mixture .

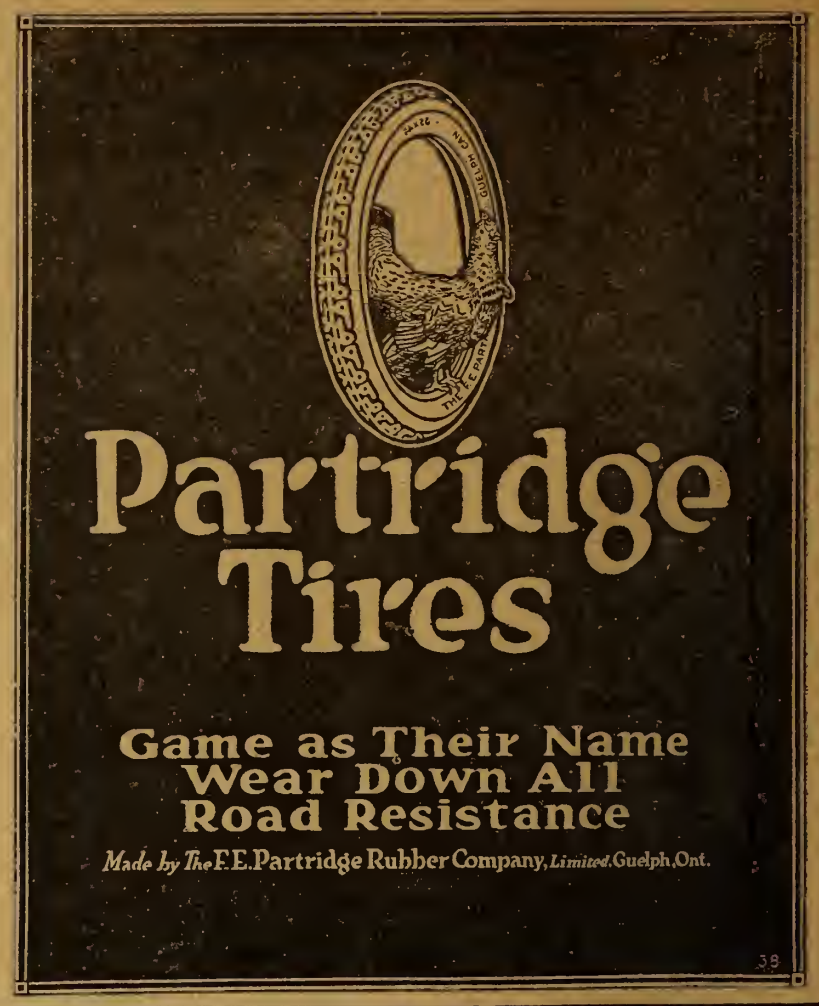
CAUSE OF BACKFIRE WHEN COASTING

E. W. asks: What is the cause of the explosions that occasionally are heard when a car is coasting down a hill with the engine in gear and throttled way down?

..Answer: These are probably explosions of gas in the intake piping,



caused by flame persisting in a cylinder through its power and exhaust strokes and until the inlet valve opens to take in the next charge. When an engine is being turned over by the forward motion of its car, going down hill, it frequently is caused to run very much faster than it would turn itself over with the very small amount of gas furnished it through the nearly closed throttle and so short a time elapses between firing and the next intake opening that ignition of the fresh charges sometimes occurs. When very closely throttled, considerable burned gas remains in the cylinder in proportion to the very small fresh charge drawn in, and this, together with possible air leaks, tends to make the combustion rather slow and favors the persistance of the flame the inlet valve next opens.


Partridge Tires
Game as Their Name
Wear Down All
Road Resistance
Made by The F.E. Partridge Rubber Company, Limited. Guelph, Ont.

REPAIR TIRE TREAD CUTS.—THEY ARE "THE LITTLE FOXES THAT SPOIL THE VINE"

The tread is the water-and-dirt-proof protection of the vulnerable body of a tire and is also the best wear-proof material available. It is like the tight roof of a house that keeps the timbers from decay. If its tread is kept intact, a tire lasts until its body is worn out mechanically. When, however, the tread is cut, the tendency is for this cut to deepen, under driving stresses, until it extends entirely through. Then its edges begin to loosen, the cushion material pulverizes and works out, tread separation progresses and dirt and water enter to mildew and rot the fabric. The dirt, constantly being forced in, pries the tread loose over a constantly increasing area and a blister forms, which, in time, breaks, leaving loose flaps of tread which fail to protect the fabric from road friction. The fabric, already deteriorated by dampness, then wears down rapidly until a blow out occurs. Every householder who repairs his roofs, before plastering begins to fall, ought to repair his tire cuts before the fabric is injured. Cuts should be looked for frequently and, at their first appearance closed with cement and plastic. If they are neglected too long, they cannot be repaired so readily. Many tire dealers repair tread cuts free, as part of their "service," thus relieving the owner of an irksome though important maintenance operation.

WORN OUT HIGH SPEED CLUTCH

T. A. M. writes: My Ford, when changing from low to high gear, gives a series of jerks, lasting from thirty to fifty feet, after which it runs smoothly as long as high gear is engaged. This car is an old one and can it be that additional discs are neded in the cluach, or is there some other explanation? The engine is in good condition and the fault cannot lie there.

Answer: We fancy that the trouble is this: One set of clutch discs carry projections, which fit into keyways in the inside of the transmission

drum and, after long usage, there is considerable wear of the projections and of the keyways. This permits the discs, when slid along the shaft to "cock up" somewhat, instead of keeping exactly parallel and, when this happens, there is a tendency toward a chattering action such as you describe, which continues until the discs have been flattened together as they should be to give full contact surface. We are afraid that you will have to renew the transmission drum and the large discs of the clutch.

HARSH CLUTCH ACTION

E. W. writes: My car starts on low gear with a jerk, but somewhat less jerkily on reverse. What is the mat-

ter and how can the defect be remedied?

Answer: If yours is a leather faced conc-clutch, try softening the facing with neatsfoot oil, but if the leather is too thin or has been burned, you will have to replace it. If there are springs between the leather and the clutch body and these have become weak, they should be replaced. In case your clutch is of the lubricated multiple-disc type, you may need to use a llttle heavier oil on the discs to cause them to grip more gradually. If this is a dry disc clutch, the facings may have worn thin and need to be renewed. Not knowing what your car is, we cannot tell what form of clutch you have. Is the pedal adjustment correct, so that the motion of the engaging parts is slow at the instant that they come in contact? The less pronounced jerk in engaging reverse is due to the lower gear ratio and the fact that the transmission of power is more indirect, with more lost motion that gives a slightly greater cushioning effect to the sudden clutch action.

BRAN TO STOP RADIATOR LEAKS

A. D. S. writes: The radiator of my car has several small leaks in it and a friend tells me that, if a quantity of bran is put into the water and the engine is run, these leaks will be stopped up. Is this a good thing to do?

Answer: We do not advise it. Bran, if put into the water, will often find its way into leaks and plug them, but it also is likely to clog the fine passages, especially those of cel-

lular radiators and, by coating the lnside surface of the tube, it reduce thir capacity for giving up heat from the water to the air. As it is impossible to make solder stick to other than a perfectly clean metallic surface, the use of bran and other similar materials makes a soldered repair more difficult. There are radiator erpairing compounds less objectionable to use than bran, but in our belief a soldered repair is more permanent and satisfactory than any other kind, although it costs more at the time.

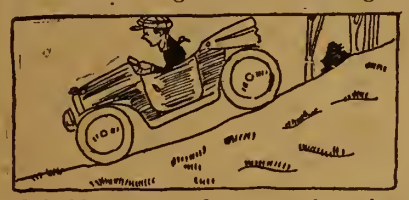
TOO RICH OR TOO LEAN, WHICH?

Many motorists do not keep in mind the fact that, with a car in perfect mechanical condition and its engine satisfactorily ignited, performance and economy depend mainly upon one factor—the character of the fuel mixture. A fraction of a turn on a carburetor adjustment is often capable of determining whether a car shall "eat up" the hills or shall balk at the slightest grade and whether it shall be thrifty or spendthrift with fuel. The question "Is my Carburetor Correctly Adjusted" is of paramount importance and one which every motorist should frequently ask of himself or others. If the answer is "Probably Not" it is then the problem to find out whether the fuel mixture furnished is too rich or too lean in gasoline and to correct the proportion of air and feul. The following suggestions should enable one to decide whether the mixture is too rich or lean. Among signs of over-richness are fouling of the insulation of some or all sparkplugs with black, dry soot; the rapid carbonization of the engine; low fuel economy as compared with that of similar cars; irregular missing at times and explosions in the muffler; unusual heating of the radiator; slow acceleration and inability to attain normal speed or pulling power; black smoke in the exhaust and a yellow or yellow-edged flame to the exhaust, when viewed as it leaves the muffler cut-out. It is only when the mixture is very gretly over-rich that many of these signs are apparent. Indeed an unnecessarily rich mixture may be used without causing sooted and short-circuited plugs, or dimunition of power, and the most reliable sign of moderate over-richness is low gasoline economy and the ability of the engine to run powerfully before it is hot, even though the carburetor is not choked. A lean mixture is indicated by, hard, starting, unless fully choked; liability to stall; slowness to get into full action after a cold start; explosions in the intake and carburetor; inferior acceleration and pulling power, with no great lack of speed on level roads; some tendency to overheat; a tendency to "labor" when heavily loaded at low speed; perfect freedom of plugs from gasoline soot and a short greenish-blue exhaust flame from the cut-out. Even a moderate degree of unde rrichness so reduces engine power as to make the use of a car so affected almost out of the question, which over-richness may be quite extreme without producing so pronounced an effect upon pedrformance; for which reason, over-richness is more common than under-richness and longer tolerated.

BRAKING WITH THE ENGINE

C. M. asks: Does it do any harm to make the engine hold back while the car is going down hills, instead of using the brakes?

Answer: No. It is considered the best practice. In coasting hills, the throttle should be closed as much as possible, the clutch kept engaged and the brakes applied only sufficiently to assist the braking effect of the engine

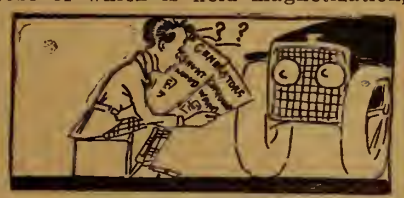


and hold car speed to a safe value. This procedure greatly reduces the rate of wear of the break linings. Some people also, cut off the spark and, with engines that tend to overheat, this assists the cooling process. On very steep down grades, some operators engage a lower gear, throttle the engine and switch off the spark. This gives the engine a powerful retarding effect that calls for very little help from the brakes.

SHUNT AND COMPOUND GENERATORS

V. F. W. asks: What is the difference between a shunt wound and a compound wound generator? What is meant by a series winding?

Answer: The difference is in the method of applying the current which excites the field magnets. In the tormer, there is a circuit the only purpose of which is field magnetization,



which consists of rather fine wire, wound in many turns around the field magnets. This circuit commences at one brush and ends at the other main brush—or at the "third brush"—and carries a relatively small current but nearly the full voltage generated. The latter type is a combination of a shunt wound and a series wound generator. Its magnets carry not only the shunt winding, but also a series winding, which is a coil of a rather small number of turns of quite coarse wire that carries the whole useful current produced by the generator. The series circuit starts at one main brush, includes the series field winding and ends at the other main brush. In a compound generator the shunt and series coils may both act to increase the field magnetism or the latter coil may act to reduce the magnetism produced by the shunt coil. The latter is usually the case with motor car generators.

FRONT CYLINDER OILS SPARK-PLUG

P. J. S. writes: The spark-plug, in number one cylinder of my Ford, carbonizes so rapidly that I have to clean it every other day, in order to stop the engine "skipping." The plugs in the other cylinders do not carbonize. Do you think I need a

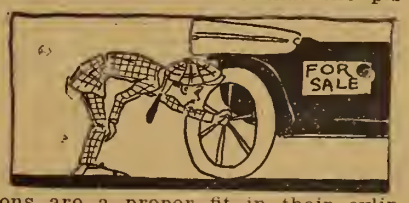
ne wring at the top of this piston or what is the cause of this trouble?

Answer: The chances are that you will have to have not only a new top ring, but a full set of rings for this cylinder before long. If you find by cranking the engine over the compression stroke of this cylinder, that there is considerable hissing of gas past its piston and that the resistance to motion of the crank soon ceases, new ring at the top of this piston or ever, before changing piston rings, you might try the expedient of drilling a one-eighth inch hole through the oil supply pipe so that a part of the oil is discharged into the splash basin of number two cylinder and not all of it into the front compartment. This is sometimes found to prevent excessive oiling of number one cylinded—a failing which is quite common with these engines.

INSPECTING A USED CAR

A. N. writes: Please inform me what parts should be specially inspected in buying a second hand automobile?

Answer: In a general way the working parts which have bearing surfaces that are subject to wear. You should make sure that the pis-



tons are a proper fit in their cylinders, so that good compression may be insured, that the bearings of the engine shafts are not loose and likely to cause pounding noises; that the road wheels are not wabbly on the axle ends; that there is no undue looseness in the steering-gear; that the spring ends have not worn out their eyes and pins; that the unversal joints have not developed excessive lost motion, that the transmission gears still have their teeth intact and their bearings in adjustment and that the clutch is in good operative condition, and that the brake linings and operative devices have not worn to a dangerous extent.

MALTESE CROSS TIRES

STAMINA

Stamina—that is the word—stamina, the in-built quality to endure. It is this enviable quality which empowers Maltest Cross Tires to yield mileage in excess of xpectations.

Ask your dealer to show you the new Non-Skid Treaa

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FEEDING THE BREEDING HOGS

Swine that are used for breeders need different feed from those that are to be fattened for the market.

The breeding hog should not be fat at any time that is, fat from the market standpoint. They should be kept growing on nutritious food from the time they are pigs and should never be fed the amount of corn, sugar beets and other fattening foods that the market hogs sometimes get. Excessive fatness destroys the power of breeding in many animals. The professional breeder takes care to so feed his animals that are to be sold for breeers, that they will do good work when they go into the hands of the farmers who buy them. Very frequently, however, some farmers begin at once to undo the work of the breeder by feeding corn in excessive quantities. Among the feeds that should be given is skimmilk, which is very good, as it contains a large amount of protein, and is bulky. Clover is an exceptionally good feed in the green state and even clover steamed proves very nutritious. Oilmeal cake contains much nutritment of the right kind. When alfalfa can be had it is also good . Oats in various forms furnish the exact kind of nutriment most serviceable for the breeding animals.

The sow that is carrying pigs needs a large amount of protein food on account of the extra bodies she is building up. But care must be taken not to have too much protein in proportion to other elements as starch parts are also needed. The starch forming elements should be five or six times the protein elements. This is about the composition of oatmeal. Bran is highly nitrogenous feed and should be balanced with something else when it is fed. All plants that have pods are rich in protein and are thus good materials out of which to make food for the breeding hog. The fall of the year is not nature's season for pig growing. The weather is cold, green food is gone when they need it most and the pigs must be kept in a large part of the time to keep them out of the storms and snow. What nature fails to supply must be supplied by us—warm bed, feed in abundance, and plenty of water. It is absolutely necessary to give fall pigs the best care one possibly can. Young pigs carried through winter are harder to fatten for it takes a quantity to get them into a condition where they will not be stunted. If they are any ways old enough at all sell them for the most you can get and put your crop into young hogs again in the early spring.

An item which is as important as any is to give brood swine in winter, water or slop from which the chill has been removed. A slight trial at feeding slop slightly warmed in freezing weather will tell its own story. Hogs will partake of considerable more of warm drink than of cold and do not suffer the chilling eflects. No animal can consume a lot of ice cold food and drink in cold weather. It chills their bodies just as a cold meal serveg in an unheated room chills the human body. It works havoc with the digestive organs.

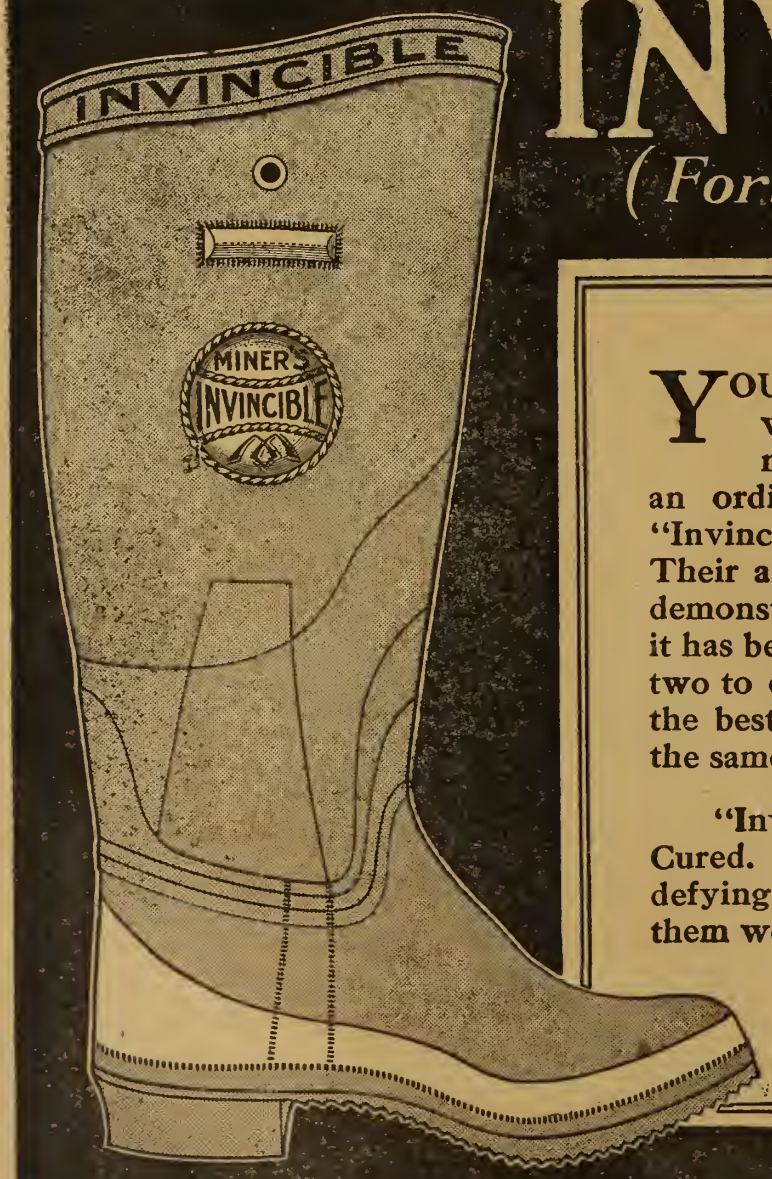
Another thing experience has taught is that sows or pigs (or any other hogs for that matter) should be kept off the manure pile during the winter. The manure heap not only causes colds in the head but also is in a state of heating more or less continuously. Pigs that are permitted free access to the barn yard always go to the manure pile to sleep in preference to their own bed. They do this on account of the warmth generated by the manure. And this is where the harm is done. When they pile up in the manure they are heated by a steaming process. The vapor from the manure makes them wet and when they get up and go out into the cold again they are easily chilled. The result is that they will turn no profit for the food consumed. Young pigs, especially, are easy chilled and should be kept away from the manure heap.—L. K.

COW POX DISEASE IN DAIRY HERDS

One of the most annoying diseases that affects the udder of a cow is that of cow pox. It is never considered seriously by the average dairyman, but when once it has got a hold on a herd it materially lessens the milk yield. It affects the teats, and renders milking difficult or almost impossible. It is also very contagious and is communicated by a germ reproduced by the disease. Before a pox becomes discoverable by the eye, a milker can feel it as a hard nodule under the skin. The cow will show uneasiness at milking because of the pain saused when the milker's hand passes over the part in the teat where the pox is situated, and will ultimately make its appearance. In a few days these nodules appear at the surface in the form of round, inflamed spots, somewhat raised above the skin, and depressed or pitted in the centre. In three or four days the spots will be found to contain liquid matter, and, is care is not taken, they will become broken and become raw sores, that are difficult to heal. Many times they end in results disastrous to the utility of the cow and cases are recorded that have ended fatally.

The Contagious Stage

After a time the liquid, that first appears in the pox becomes a thick yellow pus, which dries into a scab, and in time becomes loose and falls off, being replaced by a newly formed skin. It is at this stage that the



INVINCIBLE
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YOU can wear them around the barnyard and they will withstand the chemical action contained in manure, which so rapidly destroys the life of an ordinary boot. That is just one reason why "Invincibles" have taken so well with the farmer. Their ability to withstand chemical action has been demonstrated in chemical factories and pulp mills where it has been proved that they outwear the ordinary boot two to one. They do that in these industries where the best boot procurable is necessary. They will do the same thing for the farmer.

"Invincible" Rubber Boots and Shoes, are Pressure Cured. It is the high Pressure Process and the time defying materials that go into "Invincibles" that makes them wear so long.

The Miner Rubber Co., Limited. 2

milker generally gets anxious over the annoyance it causes at milking but is unconscious that he has spread it perhaps all over the herd. He exercises his special attention to get this first pox cured and no sooner has it vanished than another appears. This is its history as it appears to the milker, when one case is out of the way, another appears, and in the herd, and it may continue for a whole season, almost defying all efforts to get rid of it.

The disease spreads readily from cow to cow, is usually conveyed by the milker whose hands or clothing become infected with virus. It is also readily communicated to mankind, and is sometimes found in horses.

The matter contained in the pox is the true vaccine virus used for inoculating persons as an antidote to the once dreaded form of small pox so fatal a century ago. The virus often remains permanently in a barn, and will cause every heifer which comes to milk in it to contract the disease. When this is found to be the case the barn should be thoroughly disinfected by sprinkling the floor freely with carbolic acid and white washing the walls, and the stalls and fittings.

Cure and Prevention

When once a scab has formed it is best to allow it to get thoroughly dried before taking it off. To remove the scab before it has dried up will only spread the disease more and more on the animal affected and over others that may come in contact with it. To prevent the scabs coming o fftoo early the teat should be rubbed with vaseline jelly, which is both softening, and is an tntiseptic being a preparation from petroleum. A daily dose of one ounce of hyposulphate of soda in the feed should be administered, as long as the pox lasts on the teat. This dose should also be given to the other cows or heifers in the herd as a preventative or as a means of very much lightening the results of an attack upon them.

The ailment is a blood disease, and as the blood has been subjected to the action of a special virus by which the disease has been produced, the milk therefore being a direct product from the blood, will be more or less contaminated. The cow should be kept warm and free from exposure to rain or inclement weather, so as to prevent complications. Sometimes the disease passes off with a very slight eruption with scarcely any trouble to the cow first affected, but it will spread very quickly to others, and these will experience a core serious attack and prolonged illness. Dairymen should be on the guard at all times and use all necessary precautions as soon as they perceive the first inlications of the disease in their herds. All sick and affected animals should be isolated. They should be milked after all others are finished, and the person who milks them should not go near the clean and unaffected cows. The one ounce dose of hyposulphate of soda should be given daily in the feed for at least ten days, gradually reducing it after that period to one-fourth the dose. A slight fever prcedes the outbreak in the udder, and the above medicine has a cooling effect and lessens the spread of the disease.

ARGENTINA A COMING DAIRY COUNTRY

That Agentina is makin a wonderful growth as a dairy country is shown by recent figures given in the reports on foreign markets issued by the U. S. Department of Agriculture. From this repor we note that a recent shipment of butter from Argentina consigned tothe British Government consisted of 129,000 cases, representing a net weight of 7,266,486 lbs. It was valued at $2,644,833.40. The exports of butter for the first three months during the current year amounted to 5,800 tons, or more than was exported during the whole year of 1916.

Many enquiries from South America for cows are being received in the United States and the figures just quoted indicate that there will be a vast market in the Latin-American countries for purebred dairy cattle.

WONDERFUL RESULTS OF GRADING UP

Albert Klevesodil, of Shawano, Wis., formerly owned a scrub bull. In 1911 he hauled milk to a cheese factory, and during the year he delivered 44,228 pounds. Hhe then purchased a purebred sire to cross with his scrub sires. The first cross produced 14 of his present cows and six of his present milking heifers. From the same number of cows he had in 1911, last year he delivered 152,605 pounds of milk. Eight years of crossing with a purebred sire made a difference of 108,337 pounds of milk in his herd.

MILK IN THE CHILD'S DIET

A state-wide campaign for more dairy cows in Florida finds a convincing argument in the results obtained by a home demonstration agent who conducted experiments for several months in one of the counties of that state to determine the value of milk in the diet of children. Of the 2,000 children weighed and measured, those up to or above the standard were found, almost without ,exception, to be receiving generous rations of milk. Those much under the standard had been getting little or no milk. Furthermore, when milk was added to the diet of the underweight children, they began, almost immediately, to show gains. With this evidence before the people of that section, it is not surprising to learn that dairy cows are rapidly increasing on their farms. The right way to enthrone a truth is to demonstrate it.

FIRE!

Agents wanted in every locality to handle our Threshers, Woodcutters, Engines, Steel Ladders, etc.

Protect your home with a strong, permanent ladder. Write us today.

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WALLACE MACHINE WORKS, Limited
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When the Pastures are Covered with Snow—

During the long months when stock must be kept in close quarters, what shall we substitute for the pleasant health-giving pasture lands which keep stock in perfect condition ? The only solution is a **scientific balanced ration,** one that will replace the herbage so necessary to good digestion. Given good digestion, all stock must thrive. Help your stock secure digestive power this winter by using

CANADIAN PIONEER STOCK FOODS

a perfectly balanced ration for all stock

Thin horses become fat and sleek, cows produce larger yields of milk, hogs fatten up rapidly when fed on Canadian Pioneer Foods.

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MARKETS.

LIVE STOCK MARKETS

Toronto, Nov. 22.—Cattle, receipts 3,100. Trade was steady, choice butchers having an active demand. One choice steer, weighing 1,170 pounds, sold at $13.76 and a straight load of equal weight at $13.00 per 100 lbs. Choice cows had a brisk trade a few sales being made at $11.50 with good cows at $9.75 to $10.50. Canners were steady, with stockers and feeders having a ready sale. Quotations: Heavy beef steers, $13.00 to $13.75; butcher steers, choice, $12.00 to $13; good, $10.50 to $11.50; medium, $8.00 to $9.50; commonfi $6.00 to $7.50; butcher steers, choice, $11 to $12.00; medium, $8 to $9.50; common $6 to $7.50; butcher cows, choice, $9.25 to $10.50; medium, $6.50 to $8; canners and cutters, $5.25 to $5.75; butcher bulls, good, $9.25 to $10.50; common, $6 to $7.50; feeding steers, good, $9.75 to $10.50; fair, $9.00 to $9.50; stockers, good, $8 to $8.75; fair $7 to $8.

Calves.—Receipts 164. The calf trade was steady, numerous sales being made at 16 to $18 per hundred. Quotations: Choice $16 to $18; medium $13 to $15; common $7 to $11.

Milch cows, choice, $125 to $175; springers, choice, $100 to $150.

Sheep.—Receipts, 4,771. The lamb trade developed a stronger tone during the day and a few sales were mad at an advance of 25c. Quotations: Ewes, $7 to $9.25; lambs, $13.25 to $14.25.

Hogs.—Receipts, 2,700. Packers refused to advance their bids and commission firms were forced to accept a cut of $1 per hundred on all hogs.

Quotations: Fed and watered basis, Selects, $16.75; lights $14.75; heavies $15.75; sows $11.75 to $14.75.

FRESH EGCS AT NEW HIGH LEVEL

Montreal, Nov. 22.—The demand for new laid eggs still continues much in excess of the supply and prices have advanced on all Canadian markets. On the farmers' market the retail price ranged from $1.10 to $1.30 per dozen. On the Ottawa market up to 95c was paid, and on the Vancouver market $1.20. From some country districts reports state indications point to hens and pullets beginning to lay more freely pullet eggs being particularly noticeable in the average current receipts. It will be some time however, before the increase in production will matrially influence the market. The average current receipts still contain an excessive quantity of stale held stock, which is very unsatisfactory. Ontario country truck shippers report having paid from 60c to 65c for straight gathered eggs during the past week, and making sales at 68c to 70c f. o. b. Some States' fresh reported arriving at Toronto costing 66c f. o. b. Chicago.

The situation in British Columbia is being helped by importations of States and Australian fresh, the latter jobbing at 70c.

Storage eggs are moving into consumpton freely at a slight advance in price for the better grades. Undergrades are dull and unchanged. United States storage eggs are coming in freely to supply local consumption in the alrge centres, and smaller distributing points are also importing some. They cost from 54c to 55c delivered Toronto.

Glasgow, Nov. 20.—Market improving; Irish jobbing 50s., noo allotments arriving. Canadian fresh 38s., storage 35s., States storage 30s. to 32s 6d. Demand brisk for aCnadian fresh and storage. States in eettbr sympathy. Supply aCnadian scarce; States plentiful; retail 3s 3d to 5s 6d.

THE PROVISION MARKET

Montreal, Nov. 22—In spite of the report from Toronto yesterday that packers were not operating and standing out of the market for a cut in prices of 50c to 75c per 100 lbs., a stronger feeling prevailed in this market today and prices were 10c per 100 lbs. higher, with a good demand, and sales of selected lots were made at $17.25 to $17.35 per 100 lbs. weighed off cars, the bulk at the outside figure and some drovers asked as high as $17.50. On account of the colder weather there was a better demand from butchers for country dressed light weight hogs, and as supplies were not large, prices advanced 50c per 100 lbs., with sales at $22 to $23 per 100 lbs., btu there was no change in city abattoir fresh-killed hogs, which sold at $25.

The market for smoked and cured meats was without any new feature to note, prices for all lines being steady under a fair demand from local and country buyers for small lots to meet actual wants, and a steady trade was done, with sales of 8 to 10-lb. hams in a jobbing way at 35c to 36c per lb., 12 to 15 lbs., at 33c to 34c and heavy weights at 32c, while breakfast bacon sold at 43c to 44c, Windsor selected bacon at 45c to 47c, and Windsor boneless bacon at 48c to 49c.

There continues to be a steady demand for lard for domestic account and the market is fairly active, with sales of pure leaf grades at 31c per lb. in 20-lb. wood pails, and at 32c in 1-lb. blocks.

The receipts of provisions today were 100 packages lard, 230 boxes hams and bacon and 7,823 packages tinned meats.

Chicago, November 22.—Assertions that there had been foreign repudiation of purchases of lard counted as a special weight on the provision market. Prices closed unchanged to a setback of 52c. Future quotations were:

	Open	High	Low	Close
Mess Pork, per bbl.—				
May	.....	$32.00	$31.50	$32.00
Jan.	.....	.....	.....	$33.50
Lard, per 100 lbs.—				
Nov.	.....	25.10	25.00	25.00
Jan.	23.50	23.75	22.95	23.32
Short Ribs, per 100 lbs.—				
Jan.	.....	19.00	18.45	18.45
May	18.50	18.55	18.15	18.15

Cash prices closed:—Pork, nominal. Lard, fi25.10. Ribs, $19.25 to $20.50.

DAIRY PRODUCE TRADE

Montreal, Nov. 22.—The receipts of butter today were 711 packages, as compared with 176 for the same day last week and 2,213 packages for the corresponding date a year ago. In sympathy with the further advance of 1c per lb. in the New York market yesterday and the continued good demand for supplies here for both local and export account, a strong feeling prevails in the market and prices are steadily tending towards a higher level. A good business was done and the market is fairly active, with sales of round lots of finest creamery at 65½c per lb. The market for oleomargarine is stronger and prices are 1c per lb. higher, with sales in a jobbing way at 38c per lb. in 1-lb. blocks.

We quote wholesale jobbing prices as follows:

Pasteurized creamery...66c to 66¼c
Finest creamery.....65½c to 65¾c
Fine creamery.....64½c to 64¾
Finest dairy.....59c to 60c

The receipts of cheese today were 1,830 boxes, as against 3,259 for the same day last week and 2,735 for the corresponding date a year ago. There was no important change in the condition of the market today, business being rather quiet owing to the absence of any important demand, but the general impression here is that what few lots of cheese are on the market unsold will all be wanted sooner or later and probably at much higher prices.

Belleville, Ont., Nov. 22.—At today's meeting of the cheese board there were offered 573 boxes of colored. About 300 sold at 28½c. alance sold after the board at 28½c.

New York, November 22.—Butter, firm. eRceipts, 16,499 tubs. Creamery, higher than extras, 72½c to 73c; creamery extras, 92 score, 72c; firsts, 62½c to 71c; packing stock, current make, No. 2, 49½c to 50c. Cheese, steady. Receipts, 4,692 boxes. State, whole milk, flats, current make, specials, 32½c to 33c; do. average run, 31½c to 32¼c; State, whole milk, twins, current make, specials, 31½c to 32c; do. average run, 31c.

MILLFEED AND ROLLED OATS

There were no new developments in the market for millfeed, the feeling being still unsettled on account of the continued cutting in prices by the smaller Ontario millers. The demand for supplies is only fair for the season with sales of car lote of bran at $43 to $45, and shorts at $50 to $52 per ton, including bags, ex-track, while broken lots of pure barley meal is selling at $68, mixed grain moullie at $66, and dairy feed at ..56 per ton, including bags delivered to the trade. The market lots of standard grades quoted at $4.50 per bag of 90 lbs., net cash, and at $4.55 with terms for prompt delivery, and it is reported that these prices are being shaded in some cases.

THE BALED HAY MARKET

Montreal, Nov. 22.—A good steady trade continues to be done in baled hay and the market is moderately active with a firm undertone. The demand is principally from outside buyers for supplies and, in consequence, there is no accumulation of stock on spot to speak of. The trade for local account is quiet, with sales of car lots of good No. 2 timothy hay at $24 to $25, No. 3 timothy hay at $22 to $23, and clover and clover mixed hay at $21 to $21.50 per ton, delivered.

ORDERS ISSUED BY WHEAT BOARD

Winnipeg, Nov. 22.—The Canadian Wheat Board today ordered that until further notice, bran and shorts maximum wholesale prices shall be $45 and $52 per ton, respectively, net weight in 100 lb. jute sacks f.o.b. Montreal.

Another order provides that the standard of flour manufactured in Canada be the standard set by the Canadian Wheat Board and designated as government standard spring wheat flour, and government standard winter wheat flour, and that the maximum wholesale price for the former shall be $10.90 per barrel, basis 98 lb. net jute bag, and for the latter $10.10 per barrel f.o.b. Montreal.

It is ordered that no flour mills in Canada shall enter into calls for delivery of flour, bran and shorts for a period in excess of thirty days, and that all sales shall be made subject to regulation of the board.

The above order means that the maximum prices of bran and shorts in the Maritime Provinces, in car lots, shall be Bran, New Brunswick points, $47.90 per ton; Sackville to Halifax, $48.19; Sydney, 49.20.

Shorts, New Brunswick, $54.90; Sackville to Halifax, $55.10; Sydney, $56.10.

If you can use a car of feed with a few barrels of flour, write the Maritime Farmer. Get your neighbors to co-operate with you. We have other feeds in car lots at cost to offer readers. BE YOUR OWN MIDDLEMAN.

BLASTING FOR TREE PLANTING

There is no longer any question regarding the relative advantages of blasted holes over spade-dug holes for tree planting. Dynamite has established its claim; but there is considerable discussion of the idea that fertilizer driven into the soil by blasting would result in better growth of trees so planted. Blastng does not act this way. It simply makes available the fertilizing elements in the soil.

Fertilizer is a good and powerful medicine, but medicine is not always needed. Able physicians prescribe fresh air, water and exercise as a prompts the question, is not blasting alone sufficient stimulus for tree development?

To answer this problem, let us see just what happens when a tree hole is blasted. Soil that is loose and sandy to a depth of five or six feet needs no blasting; but when the ground is hard and tight, blastisg is very helpful. A flat spade, especially in damp clay, tends to pack the earth tighter around the sides of the hole and the tree roots have a hard struggle to penetrate the soil in search of food and water.

Blasting mellows the ground to a depth of five or six feet asd throughout a circular area four to five feet in diameter, making it easy to dig the hole and plant the tree correctly.

It creates a porous, water-absorbing condition in the subsoil that makes the tree comparatively drouth-proof, stopping the big, first year loss.

It makes root growth easy and makes tons per acre of new plant food available, hence speeds up the growth of the tree and makes it fruit one to two years earlier.

It creates drainage and prevents stagnation of water on the surface.

In old orchards that were planted by the old methods and have ceased to bear well, it is of great value is rejuvesating the old trees, causing them to yield heavily.

It helps to destroy fungus, nematoid and other orchard soil diseases, hence makes it possible to plant new orchards where old ones have been removed without waiting several years to rest the land and get rid of the diseases.

At a cost of little or no more than of old-style planting, it causes at least a year's earlier return on the investment in new orchards and greatly increased returns theerafter as compared with spade-set orchards.

Fruit Packages

We Manufacture Strawberry Boxes and Crates for same, 6 qt. Baskets, Apple Boxes, Box Shooks, Apple Graders, Wheelbarrows. Now Is the time to lay In a supply of Fruit Packages for the coming season. We have a good stock on hand, order early and ensure prompt shipment. Price on application to

Hantsport Fruit Basket Co., Ltd.

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SAVE YOUR DISCOUNTS BUY !

Gasoline & Kerosene Farm Engines, Engines to run your Pump, Cream Separatorfi Washing Machine, Pulper, Grain Grinder, Wood Saw, etc., and all these machines from:—

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We collect or discount sale notes, cash produce cheques—by mail when desired—and make advances to responsible farmers.

We extend courteous, friendly service to our farmer customers at all times.

Paid-up Capital $ 9,700,000
Reserve Fund - 18,000,000
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We invite your account. Special facilities for banking by mail. Thirty-three branches in New Brunswick. Head Office, Halifax, N.S.

36A

In soils where plant food is lacking, fertilizing should be resorted to; but not before the trees have been given access to the life-giving humus which needs only breaking up to make it available.

PROTECT FRUIT TREES FROM MICE

(Experimental Farms Note)

Thousands of trees are injured in Canada every year by mice, and in the newer districts a large number by rabbits also. All this could be prevented if the farmer or fruit grower would use the information available and protect his trees from mice. Some years there is less injury than othrs, and this fact leads to carelessness, and when a bad year comes the trees are unprotected.

While the depredations from mice and rabbits in winter vary from one year to another, depending on the scarcity or abundance of food, the number of mice which are in the vicinity, and the character of the winter, the injury is always greatest when the orchard is in sod, and when there is rubbish lying about; hence the latter should be removed before the winter sets in. As mice may be expeced in greater or less numbers every winter, young trees should be regularly protected against their ravages. Mice usually begin working on the ground under the snow, and when they come to the tree they will begin to gnaw it if it is not protected. A small mound of soil from eight to twelve inches in height raised about the base of the tree will often prevent their injuring the tree, and even snow tramped about the tree has been quite effective, but the cheapest and surest practice is to wrap the tre with ordinary building paper, the price of which is small. Tar paper is also effectual, but trees have been injured by using it, and it is well to guard against this when building paper will do as well. After the paper is wrapped around the tree and tied, a little earth should be put about the lower end to prevent the mice from beginning to work there, as, if they get a start, the paper will not stand in their way. It may be stated, however, that among several thousand young trees which have been wrapped with building paper for years at the Experimental Farm, Ottawa, there have been practically no instances where the mice have gnawed through the paper to get at the tree. The use of a wire protector, or one made of tin or galvanized iron, is economical in the end, as they are durable.

There are a number of washes and poisons recommended for the protection of fruit trees and the destruction of the mice and rabbits, but none of these is very satisfactory, as, if the mice or rabbits are numerous, the poison has not sufficient effect upon thesm to prevent injury altogether. The following method of poisoning has been found fairly successful for mice, but rabbits are very difficult to deal with.

Make a mixture of one part, by weight, of arsenic with three parts of corn meal. Nail two pieces of board each six feet long and six inches wide together so as to make a trough. Invert this near the trees to be protected and place about a tablespoonful of the poison on a shingle, and put it near the middle of the run, renewing the poison as often as is necessary.—W. T. Macoun, Dominion Horticulturist.

LOCATING THE POULTRY HOUSE

In locating a poultry house it is best to select an elevation having a natural drainage away from the building, for damp ground means cold ground. If the house can be built in the lee of a windbreak or a hill, or in front of farm buildings, so much the better. A dry, porous soil such as sandy or gravelly loam, is preferable to clay soil, for the former is more easily kept in a sanitary condition. If it is impracticable to select a soil that is naturally dry, the soil should be made dry by thorough underdrainage. A purely sandy soil should not be selected, for a soil not good enough to support plant life is unfit for poultry.

As sunlight and warmth are essential to success, the buildings should face the south; other things being equal, they will be warmer and drier. When a direct southern exposure can not be obtained a southeastern is preferable to a southwestern exposure, for fowls seem to prefer morning to afternoon sun. A gentle slope facing the south is the most suitable.

TIMES PER DAY TO FEED POULTRY

Some poultrymen feed their flocks twice a day. The best plan is to feed fowls in confinement 3 times a day and those having free range in summer twice a day. When there is a very long interval between feeds it is difficult to keep fowls busy which are kept in confinement. Idle fowls often contract bad habits, such as feather pulling and egg eating, besides going out of condition from lack of exercise.

In case it is not convenient to feed three times a day, the moistened mash may be fed in the morning, and at the same time the noon feed of grain may be scattered in the litter, which will keep the fowls busy a great part of the day.

For those who can not conveniently feed their fowls early in the morning a good plan is to scatter grain plentifully in the litter after the birds have gone to roost. This grain will furnish feed for the early morning.

Some poultry keepers can look after their fowls only once a day. If this is in the morning, moistened mash may be fed, followed by throwing grain in the litter to furnish feed for the remainder of the day. If it is in the evening, before dark, a moistened mash may be given, and either after the fowls go to roost or in the morning, before daylight, grain may be scattered in the litter for eating during the day.

FARMERS' SALES NOTES

Farmers with Sales Notes will be well advised to turn them over to this Bank for collection.

The Bank will relieve you of all trouble in making presentation, and payments will be credited to your account promptly.

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Sales Notes supplied without charge.

THE CANADIAN BANK OF COMMERCE

PAID-UP CAPITAL - - $15,000,000
RESERVE FUND - - $15,000,000

THE HANDY CALF PEN

One of the most convenient ways of handling calves is to run them in small pens with only a small number together. In one side of the pen provide a row of stanchions, one for each calf, and far enough apart to prevent their reaching and sucking each other's ears. A long, narrow manger, just enough to hold a pail, may be constructed in front of the stanchions. The manger is better to be made of cement or material that may be washed, or better still of galvanized steel, which is the most sanitary material procurable. If the calves are tied in the stanchions while they are being fed milk and then a little chop is thrown into the bottom of the pail or manger when they are done with the milk, they will eat the chop instead of sucking each other's ears. Where stanchions cannot be had and there are only two or three calves, they may be tied to keep them from sucking each other.

DISINFECTANT—BARRENNESS

Would like your advice on the following questions: What is the best disinfectant to be used for irrigating herd sire before and after service; also the best instrument to be used? What is the bst treatment for barren cows?—W. F. W.

It is common to use a one per cent. solution of coal tar disinfectant, or similar solution of hypochlorite of soda, or a quarter per cent. solution for the cleansing and disinfecting of the sheath and penis of the bull. A fountain syringe and a hard rubber nozzle serve for the purpose.

There is no certain remedy for barrenness as the causes are many and different, but it always is well to haxe a trained veterinarian massage the ovaries, by way of the rectum, two or three times at intervals of a week and he should also open the mouth to the womb if abnormally closed, or treat the womb if pus or mummified fetus is present.

DEPRAVED APPETITE

I have sixteen head of cattle and the most of them chew sticks and bones or any kind of rubbish and there seems to be something they want they are not getting. They have had all the salt they want and have ben out on good pasture. They have clover pasture and will go right out of the clover and look around for something else and the losing flesh. They have ben grained with barley and oats.—R. W.

Feed oats and wheat bran and twice daily add one ounce of bicarbonate of soda. The cows crave some ingredient lacking in this feed. The above treatment often proves remedial. If it does not in these cases, mix bonemeal or precipitated phosphate of lime in the feed, starting with two teaspoonfuls daily twice and increasing the amount if found necessary.

FREE SAMPLE
of Hallam's Paste Animal Bait

Enough for 2 or 3 sets—attracts all flesh eating animals—is put up in tubes (like tooth paste)—not affected by rain or snow. Economical to use, handy to carry.

Also Hallam's Trappers and Sportsmens Supply Catalog—48 pages, English and French—showing Animal Traps, Guns, Ammunition, Fish Nets, etc. All at moderate prices.

Sample bait and catalog Free for the asking —send to-day.

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Address in full as below

To John Hallam Limited 508 HALLAM BUILDING, TORONTO.

COSSAR STOCK FARM
Lower Gagetown, N. B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

Orders now booked for EWE and RAM LAMBS for fall delivery, several extra good animals for sale out of Ewes clipping 10 to 12 lbs. and sired by an Imported Ram weighing about 400 lbs. with a clip of 18 lbs.

BREED LEICESTERS the Sheep with THE HEAVY FLEECE.

G. C. Cossar, Proprietor. J. Melkiejohn, Agent.

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For Sale—Registered stock. Male or female.

T. D. BLAIKIE,
Great Village, N. S.

ELMHURST FARM

Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $2.00 per 15.

R. R. BLACK, Proprietor
Oxford Junction, N. S.

Elmwood Stock Farm
OFFERS FOR SALE:

Two choice young Holstein Bulls, 15 and 19 months old, sired by Dutchland Pieterje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad, "the world's greatest bull," 101 A.R.O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

Pure Bred Shorthorns For Sale !

Am offering for sale my herd of pure bred registered Shorthorn cattle. These cattle range in age from 7 years to 3 years, or a little less, with one bull calf two weeks old, and are all fine in type and color.

I have also exceptionally good grade cattle of various ages for sale. All will be sold at a reasonable price and offer an unusual opportunity to anyone desiring to start a berd of choice stock or to renew an old berd.

J. E. HETHERINGTON, - Codys, N. B.

Springbrook Farm Ayrshires !

Females, all ages. Also a number of bull calves ranging from one month to eight months. Sired by the prize winning bulls "Morton Mains Amanth" Imp. and "Cherry Bank Cicero."

McINTYRE BROS.
SUSSEX CORNER, - - N. B.

AYRSHIRE CATTLE. KARAKULE-ARABI SHEEP

We are offering two Ayrshire Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

For particulars and prices write

THE EASTERN KARAKULE-ARABI SHEEP CO., LTD. WINDSOR, N. S.

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Two yearling Gurnsey bulls, well grown, and good pedigree, $50 eacb. Two yearling beifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

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Dual Purpose Shorthorns

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Lawndale Stock Farm
Jerseys and Shorthorns (Pure Bred)

Jersey Offerings for the Summer of 1919—

A few registered mature cows due to freshen tbe coming fall and winter.

Several yearlings, bred and not bred, registered and grades.

Several pure bred and grade calves, male and female.

Shorthorn Offerings for Summer of 1919—

Two yearling beifers, very thrifty.

One bull calf, dropped Jan. 15th, 1919.

Several pure bred calves, male and female, by Imported Englisb dual pnrpose Sborthorn bull, out of splendid producing dams.

We can supply intending purchasers a choice list of either Jerseys or Shorthorns to select from.

Come along witb your inquiries.

Apply for information to

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

Holstein Herd Averages 18812 lbs. Milk

A herd of 13 purebred Holsteins last year averaged 18812 lbs. milk and 638.57 lbs. fat.

Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in HOLSTEIN CATTLE send for booklets—they contain much valuable information.

Holstein-Friesian Association of Canada
W. A. CLEMONS, Secretary.
ST. GEORGE, - - ONTARIO

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Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

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Barry P. Hill, Great Village, N. S.
T D. Blaikie, Great Village, N. S.
John N. Cbuta, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

F. W. C. Nase, Nerepis, N B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B.

Ayrshire Cattle

E. Cbaldecott, Monkham's Farm, West Merigornisb, Pictou Co,, N. S.
C. A. Archibald, Truro. N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

YORKSHIRE PIGS

E. Cbaldecott, Monkbam's Farm, West Merigornisb, Pictou Co., N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
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We are offering some choice young Shorthorn bulls of the milking strain, ages 3 months to 15 months.

Also a limited supply of heifers, one and two years of age.

For particulars apply to

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett
Upper Sackville, - - - N. B.

AYRSHIRES BULLS !

fit for service, bred from heavy producing stock.

FRED S. BLACK & SONS,
Springvale Farm,
AMHERST, - - - N. S.

Advertise in the Farmer.

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Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

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Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, tbe world's record cow. Only one otber 41-lb. bull in Canada.

We have young bulls for sale whose two nearest dams (both Canadian champions) average as bigb as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yonge St. Radial) JEFFERSON, ONT

BELLEVUE STOCK FARM
Shorthorn Cattle and Shropshire Sheep

The early maturing and good doing sort—bred from Show stock in every cross. Offering tbirty ewe lambs and shearling ewes to avoid crowding winter quarters. Also a few ram lambs not booked yet.

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We are offering for sale calves of both sexes, sired by Dutcbland Pieterje Count, a bull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Jobanna Lad, who bas 101 A. R. O. daughters, 4 over 32 lbs., 7 over 30 lbs., three of tbem world's records for 365 days. If you want something choice, come and see these calves or write for further particulars.

We will also book orders for young Yorkshire pigs for next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewbere

C. C. H. EATON, - - - CANARD, N. S.

COBEQUID FARM HOLSTEINS

We have a number of fine young r egistered bulls, to offer. They are sired by Prince Colanthas Canary B., a nd out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daugbters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter eacb in seven days. These cows bave in turn been bred to "Riverdale Lyons Ecbo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter eacb in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a beifer calf or two. Get your orders in quick, tbey won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

QUALITY BRAND
Rabbitry and Poultry Yards

Amherst, Nova Scotia
E. I. PEEL & SON, Proprietors

Breeders of pedigreed Hares, White Rock and White Leghorn Fowl.

Black Siberian Hares, tbe most profitable fur bearing animal living, price per pair..$25.00
Silver Siberians, price per pair..... 5.00
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Tbe above prices apply to stock under 3 mos. old
Day-old White Leghorn Cbicks, price 25c each. D. W. Young's stock, as good as money can buy.
White Leghorn 260 egg strain, for hatching.....$2.00 per 15
White Leghorn, No. 1 exbibition stock for hatching.....$4.00 per 15

We Guarantee Safe Delivery. Terms Cash with Order

Glenrane Farm Holsteins

We bave for sale a number of Cows due to freshen in Sept. & Oct. also yearling Heifers & a few Heifer Calves. We still have a few Bull Calves 8 & 9 months old.

Our berd bull Homestead Hengrueld Rooker is also for sale after September. These cattle are all from stock backed by official records,

We will have a litter of York pigs due Sept. also our stock boars 16 months old for sale. These are the finest type of York pigs.

One Oxford grown Ram and a number of grade Ewe Lambs.

ROBT. HICKS
WEST BATHURST, - - N. B.

Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages. Have some good cows to fresben soon. Am booking orders for ram lambs for fall delivery. Write or pbone for prices and description.

J. ROBIE MacDONALD,
Shubenacadie, - - Nova Scotia
Successor to J. MacDonald & Son

Five Ayrshire Bulls for Sale !

From good milking strain. All fit for service.

Prescott Blanchard,
Truro - Nova Scotia

ELMHURST STOCK FARM

Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S.

Advertise in the Farmer.

Made in the Maritime Provinces

QUALITY and SERVICE GUARANTEED

WALLACE ROOT PULPER

Side Wheel Reversible knife. Root pulper for pulping and slicing. Roller bearing. A convenient, strong, easy running Pulper.

SUSSEX WOOD CUTTERS

LONG SWING

Made in three styles. Long Swing as shown in cut, 4 ft. 3 ins. between balance wheel and saw. Short Swing, 3 ft. 3 ins. between bal. wheel and saw. Flat Roller Table, 4 ft. 3 ins. between bal.wheel and saw. Balance wheel 150 lbs. Frames made of heavy birch mortised and bolted together. Tables made of heavy sheet steel. Saws 28 ins. Simonds, supplied with each machine unless otherwise specified. Sussex Wood Cutters are not made to cut kindliug wood, they are built to cut those heavy birch and beech sticks which you will have to cut and stand up to it day after day.

SUSSEX FOOD COOKERS

Stoves of heavy sheet steel
Made in 3 sizes:

No. 30 cap. 1 bbl.
No. 40 cap. 1½ bbl.
No. 50 cap. 2 bbls.

SUSSEX LITTLE GIANT THRESHERS—A few new ones and a second hand machine left for quick sale.

You will need one of the above articles. Write us now for full particulars and prices. It will pay you.

PROMPT SERVICE AND QUALITY OUR AIM. AGENTS WANTED IN EVERY LOCALITY.

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Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on, as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex N. B.

FOR SALE—Barred Rock Cockerels, $2.00. MRS. DENNIS LELAND, Pennfield Ridge, N. B.

FOR SALE—Shropshire Lambs, two rams and eight ewes. $30 each. JAS. I. STEWART, Amherst Point.

FOR SALE—At a bargain two (2) Apply KEYES CO., Elmsdale, Hants Co., N. S.

FOR SALE—Two litters of Yorkshire Pigs. Registered and not Registered. Get my prices. W. HERB McINTYRE, Box 525, Campbellton, N. B.

FOR SALE—Pure Bred S. C. Black Minorcas and White Wyandotte Cockerels, bred from prize stock. Price $3.00 to $5.00. E. H. TAYLOR, Shediac, N. B.

PORTRAIT AGENTS write for prices, prints, finishes, frames, glass Free sam les to our customers. Complete new line subjects. Quality and service the best.—MERCHANTS PORTRAIT CO, Toronto.

LADIES WANTED—To do plain and light sewing at home; whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING COMPAMY, Montreal.

GREAT WHITE LIGHT BURNERS—The lamp burner that doubles the light you get from your oil lamps. We have a few dozen to offer at 18c each, postpaid. They are a big investment for any person using oil lamps. In large size only. —THE MARITIME FARMER, Sussex, N. B.

THREE HUNDRED KEGS first quality wire nails, ixed sizes, suitable for repair work around farm buildings and other premises. Price $3.50 per 100 lbs. Apply by mail to "NAILS," care of Office Maritime Farmer, Sussex, N. B.

Advertise in the Farmer

Willow Glen Shorthorns!

Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst. N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

A. N. GRIFFIN,
New Mines - - - N. S.

Chester White Pigs for Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

FOR SALE

Jersey bull "Siccawei Figgis' Lad", No. 12184 C. J. C. C. Solid colour, born August 24th, 1918, sire "Fox's Abbess Lad O'Dreamwold"; 2nd, sire "Pedros' Grey Fox"; 3rd sire "Champion Flying Fox"; dam "Figgis' Daisy" by "Fontaine of Meadow"; 2nd dam, "Figgis of Meadowveiw" by "Hood Farm Rogis' 9th"; 3rd dam "Hood Farm Bonnie". This young bull won 2nd prize in his class at Sherbrooke and Ottawa Fairs, 1919. First prize being won by "Siccawei Mona's Fox", his half-brother.

For price, etc., write

"SICCAWEI FARM"
NORTH HATLEY - - - QUE.

Valley View Farm Berkshires

We have two litters of extra good young pigs ready to ship. Some good boars ready for service, and a number of young sows, bred, or ready to breed. All are of the same breeding as the heaviest prize-winners at the N. B. Shows, and will be sold at reasonable prices.

J. R. SEMPLE & SON, TRURO, N. S.

WISH-TON-WISH STOCK FARM

Breeders of Big, Smooth, Heavy Producing Holsteins

The kind that fill big pails the year through. Can sell a few good bulls fit for service and some choice Bull Calves; also some Heifers and Cows due to freshen soon. Write or 'phone for description and prices.

HARDING BROS., Proprietors, WELSFORD, New Brunswick.

FOR SALE!

Our Shorthorns are about ready for the block. Parties wishing to start a herd can do so at reasonable prices from us. If not sold for breeding purposes, will go for beef. Both sexes, all ages. Come and see them before buying.

A few very nice Berks for sale.

L. M. ANDERSON, Sackville, N. B.

"KINGSBROOK FARM"

Shropshires and Cheviots

We are offering for fall delivery a number of Shropshire Rams, both Shearling and Lambs, and as well a few splendid Ewes.

In Cheviots we have a limited number of very choice Rams to offer.

The largest Pure Bred flock of Shropshires and Cheviot Sheep in the Province, also largest prize winning flock in the provinces at the Fall Fairs.

JOHN H. KING & SON, Sussex, N. B.

COMMISSION MEN PAY MORE

Dealers pay more for cattle that have been dehorned. The hides are worth more and the flesh has less bruises. Write for booklet telling about the KEYSTONE DEHORNER. R. H. McKenna, 219 Robert Street, Toronto.

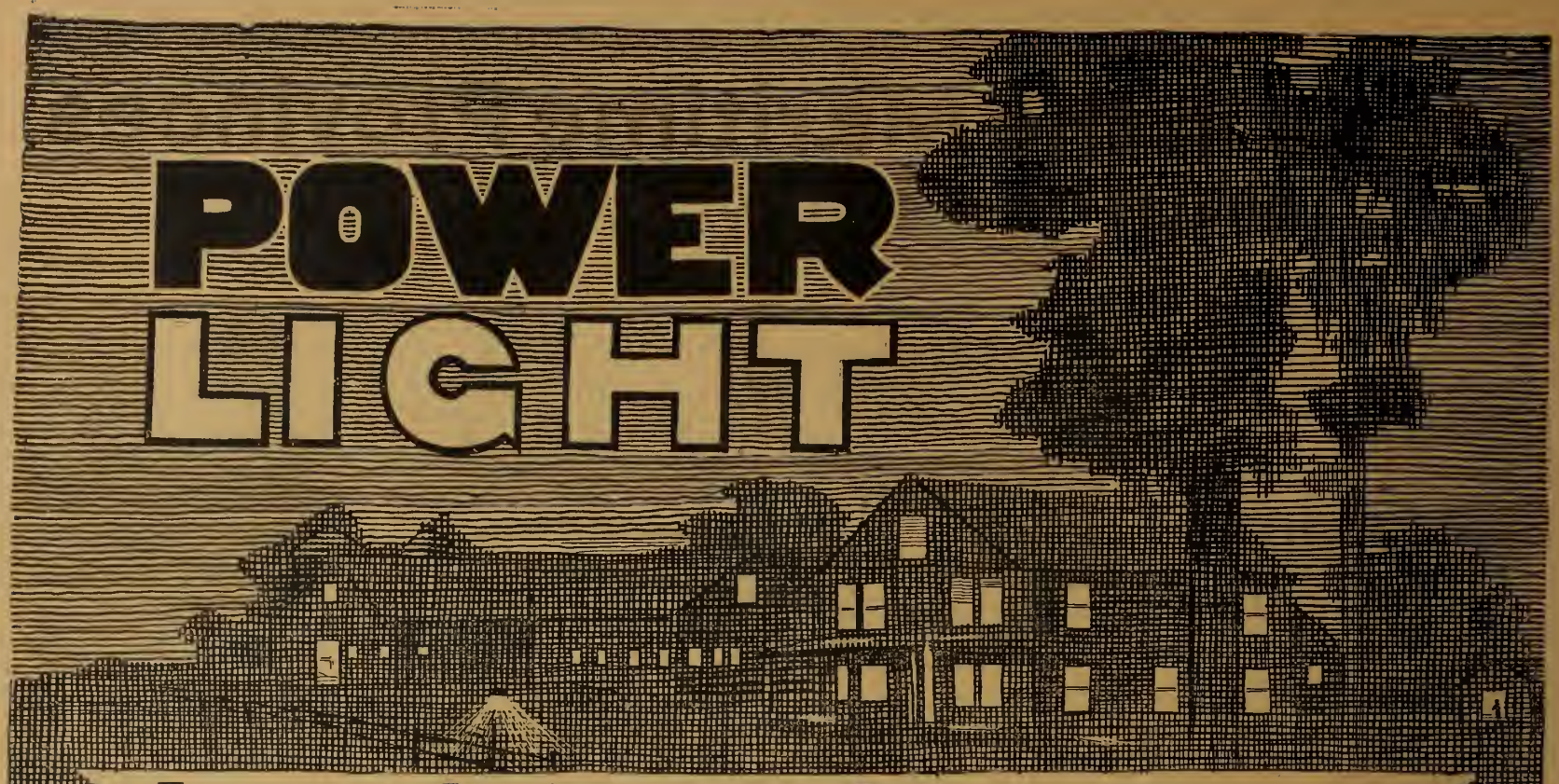
Butter Parchment at Farmer Office

Minard's Liniment Co., Limited.

Gentlemen,—In July, 1915, I was thrown from a road machine, injuring my hip and back badly and was obliged to use a crutch for 14 months. In Sept. 1916, Mr. Wm. Outridge of Lachute, advised me to try MINARD'S LINIMENT, which I did, with the most satisfactory results and today I am as well as ever in my life.

Yours sincerely,

his
MATTHEW x BAINES.
mark



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Never in the history of isolated electric generating systems was there an ideal so reliable, so successful as *Northern Electric Power and Light* It has all the finishing touches to make it the most complete, efficient, reliable, economical electric Power and Light System that modern science has devised—truly it is a great achievement

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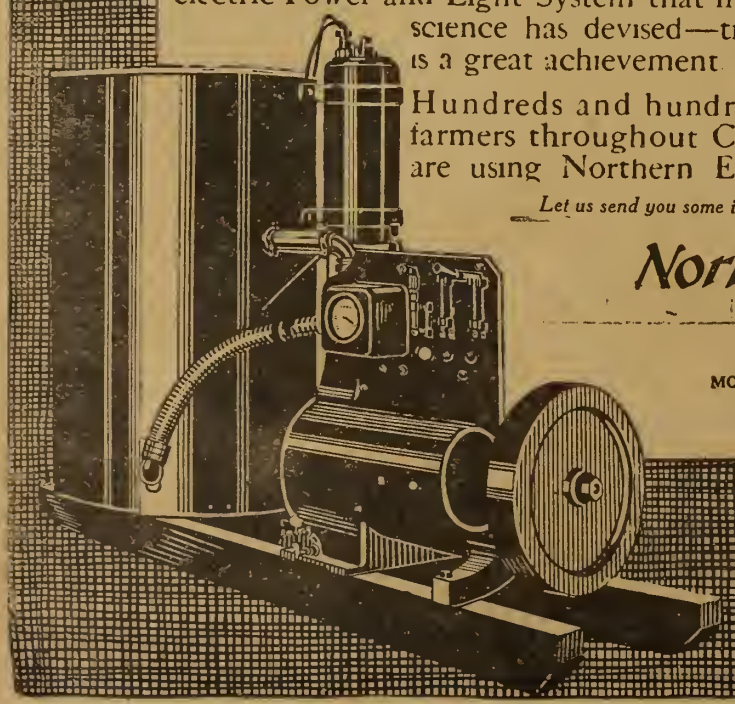

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Northern Electric Company LIMITED
(address nearest house)

Dear Sirs,

I want to know more about Northern Electric Power and Light. Please send me further particulars and literature, on the understanding that I in no way obligate myself to purchase.

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The MARITIME FARMER AND CO-OPERATIVE DAIRYMAN

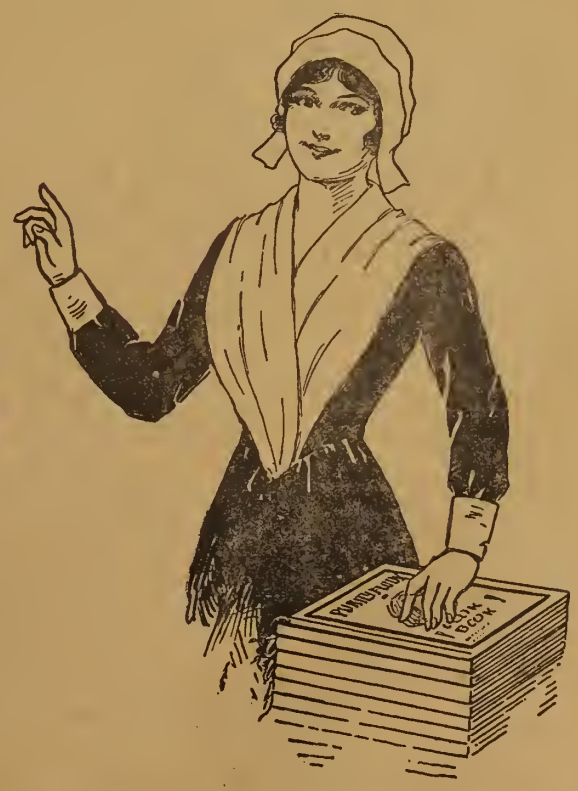
REGISTERED TRADEMARK

Published Twice-a-month in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., DECEMBER 9, 1919 No 5.

Good Food Healthy Food

Food that is Delicious



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Your 180-page.....
Cook Book, postpaid,.....
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Our Principal Lines are :

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Lawns—Nainsooks—Madapolams—
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The Wabasso Cotton Company Ltd.

Three Rivers, Quebec

A Wonderful Family Gift—Overland 4 With Three Point Suspension Spring

GIVE your family a Christmas gift of "smooth roads"this year. Give them the new Overland 4 with Three-Point Suspension Springs, the greatest riding improvement since pneumatic tires.

The Three-Point Springs disipate jolts and reduce sway and vibration to a minimum.

They make riding on any road smoother and more enjoyable.

With these springs Overland 4 seems to sail over bumps, cushioned from the shocks of the worst roads, with a road steadiness never before approached by a light weight car.

The Three-Point Springs attached diagonally at the ends of a 130-inch Springbase give long wheelbase steadiness and comfort with 100-inch wheelbase lightness, economy and driving ease.

By protecting the car from road blows they prevent excessive wear, give every part longer life and make Overland 4 very economical in upkeep.

A still further source of economy in Overland 4 is its light weight which saves in the consumption of oil and fuel.

With all these important features, Overland 4 is in addition a car of marked beauty and smartness in design. Its equipment is complete from Auto-Lite Starting and Lighting System to Rain-Vision Windshield.

Ask the Overland dealer to show you this unusual car. Try its remarkable riding ease. It sets a new standard of comfort. Booklet on request.

WILLYS-OVERLAND, LIMITED

Sedan, $1995; Coupe, 1845; Touring Car, 1195; Roadster, $1195; Prices f. o. b. Toronto, War Tax Included. Prices subject to change without notice

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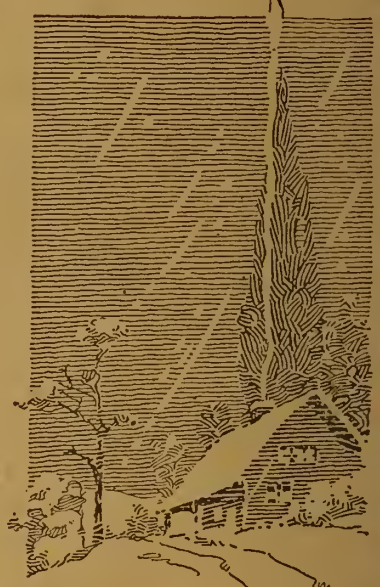
Ford Motor Company

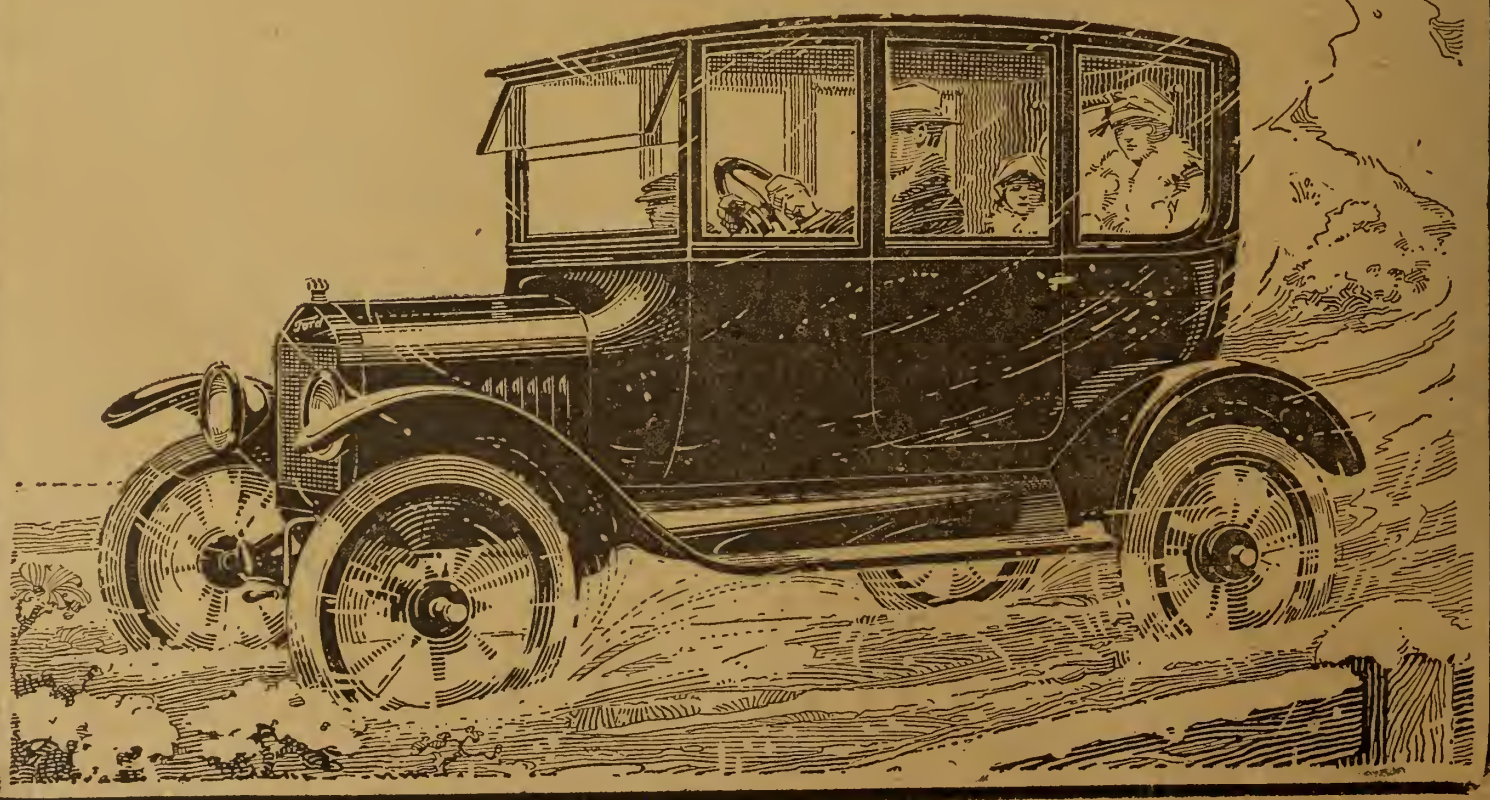
OF CANADA LIMITED

FORD, ONTARIO

A Lasting Christmas Gift

The Ford Sedan will be a constant source of pleasure in the years to come. Make this Christ-mas the beginning of a long season of happiness by pre-senting the Family with a Ford Sedan—the car of comfort at a reasonable price.





W. W. Ballantyne writes an advertisement

Neidpath Farm
Near Stratford, Ont.

Dear Sir:—

The Delco-Light Plant you sold me to light my farm has not only given us the pleasure and convenience of electric light in all our buildings, *but is rapidly paying for itself in the work it does.*

It would be a good investment for us aside from the lighting altogether. So far, we have found 16 jobs for Delco on our farm and we are constantly finding new jobs for it. We are using power from Delco-Light to run:—

(1) 3-unit milking machine.
(2) Cream separator.
(3) The pump in the dairy.
(4) Root pulper.
(5) Emery stone.
(6) Horse clippers.
(7) Sheep shearing machine.
(8) Fanning mill.
(9) Washing machine.
(10) Vacuum cleaner.
(11) Electric iron.
(12) Toaster.
(13) Charging batteries on our motor car.
(14) Pumping water for household use.
(15) Lighting our home, stable, outbuildings and yard.
(16) Violet ray generator.

We have never figured this work down to so many hours per day, but we do know that we can operate the farm with one less man than we used to. Figure out the wages and board of a farm hand and you can see what the Delco-Light plant saves us.

We used to run a gas engine on the milker and cream separator, at a cost of 10 cents a day. Our Delco-Light plant supplying light and power for the whole farm costs only 7 cents a day.

It would not only be a harder proposition to run our farm without Delco-Light, but it would cost us a lot more money. We have no hesitation in recommending any farmer to harness up his farm to Delco-Light.

Yours truly,

(Signed) W W Ballantyne

The man who considers Delco-Light something that he will buy —*when he can afford it*—should heed this strong letter from Mr. Ballantyne. It costs more money to farm *without* Delco-Light. Can you afford, then, to delay equipping your farm with light and power?

Exclusive Delco-Light Features

Where there is a boy on the farm, he can look after this simple plant. These features insure care-free, long-lasting service for you.

It is direct-connected. There are no belts to slip, break or be replaced.

It is self-cranking. Pressing down on a lever starts the engine and it stops automatically when the batteries are charged.

It is air-cooled. There is no water to carry, to freeze or to boil away.

There is only one place to put oil. There are no grease cups.

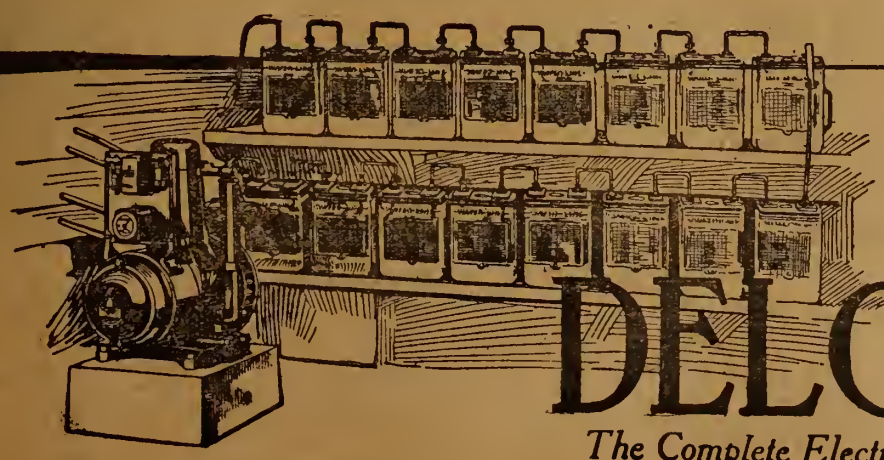
A simple mixing valve regulates the fuel supply. There is no complicated carburetor.

Ball and roller bearings cut down friction and increase efficiency.

Thick-plate batteries are long lasting.

75,000 Delco-Light plants are operating in Canada and the United States. This in itself proves the practical nature of the plant. Let us put you in touch with some of these people.

You owe it to yourself and your family to learn what Delco-Light will do for you. As a start toward greater comfort and larger profit, ask us to send you the Book "Pays for Itself," written by practical farmers.

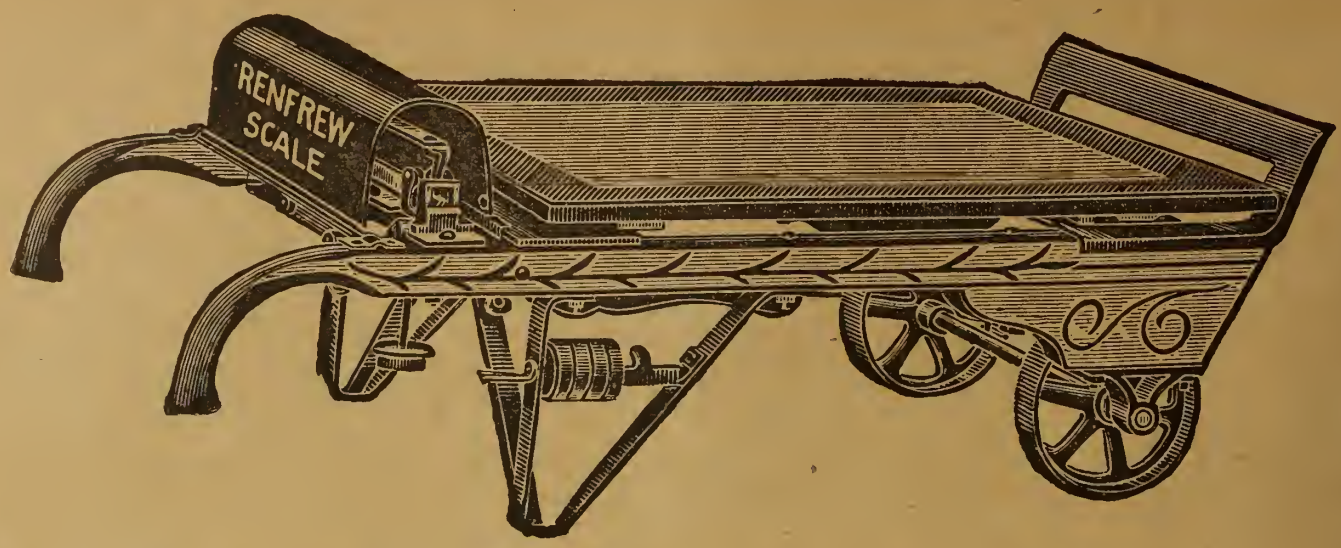


Provincial Electric Light and Power Equipment Co.
Kentville, N. S.

DELCO-LIGHT

The Complete Electric Light and Power Plant for Farms

The Domestic Engineering Co., Dayton, Ohio. *Makers of Delco-Light Products.*



A Real Money Saver

Farmers cannot afford now-a-days to drag along with old-fashioned methods. This handy truck scale will prove a wonder as a money-saver, and will make many short-cuts in your work. The

Renfrew
TRUCK SCALE

weighs anything from a pound to a ton. There is no need to lift heavy loads; simply truck the scale to whatever you want to weigh, slip it underneath, and the load is weighed. When it is not in use it can be stood up against the wall out of your way. Every part of the platform weighs accurately on even or uneven ground.

You need it for weighing cattle, horses, hogs, sheep, grain, feed, groceries, milk, etc. It is simple in construction and built for durability. Every scale carries a Government certificate of correct weight.

The Renfrew Machinery Co., Limited

Head Office and Works—Renfrew, Ont.

Eastern Branch—Sussex, N. B. Ageneies Almost Everywhere in Canada

DAIRYMAN SHOULD RAISE HIS OWN COWS

Every dairyman must add new cows to his herd from time to time to replace those removed on account of old age, disability or death; and it would seem a wise policy to raise heifer calves for this purpose rather than to buy additional stock outside. If the dairyman has good producing foundation cows and a purebred sire backed by proven ancestry, he may feel very sure that his heifer calves, carefully reared, will make good at the pail; while his bull calves may easily be disposed of at profitable prices, if judicious advertising setting forth their rightful claims to transmitted and transmitting superiority is employed. On the other hand, the dairyman who is constantly buying to maintain the desired number in his herd is liable to bring in occasional undesirable individuals, of ill breeding, improperly reared, or carrying the germs of disease with which to taint and lower the general standard of his herd. We believe, also, that any man has more real affection and pride for animals of his own breeding than for others; that he understands them more perfectly and can produce better results with them. And so we say, for the joy that may lie in your work and the profit you hope to secure through it, lay a satisfactory breeding foundation and raise your own cows.

PIG THAT CRAWLS ON ITS KNEES

I have a pig five months old that has gone off its feet and has to crawl around on its knees. My pigs are fed on shorts and oats and are kept in the cow barn and never get out. What can I do for them?

Also let me know what is the cause of my hens laying shell-less eggs. I gave them gravel, oyster shell and lime.—S. M.

Reply: Let your pigs out in an open run with some shelter and feed them plenty of green or succulent feed such as roots or alfalfa hay and plenty clean water. Do not feed any shorts or oats till they get on their feet and then start gradually. Let them have coal ashes to root in and give them charcoal and salt in small quantities. Close confinement and high feeding is the cause of your pig trouble. Where high feeding is practised, it should always be accompanied with plenty of exercise.

Lime and oyster shell grit is the natural feed for laiyng hens so that they will have well shelled eggs. Be sure your hens are getting the grit and lime in a way they can eat it and wait for results. Sometimes when hens are getting are roughly treated or frightened by dogs, etc., they will lay shell-less eggs.

AN OINTMENT FOR VERMIN

Don't forget to dose the hens and chicks, after feathering, with an ointment made of equal parts of blue ointment and vaseline or lard, carefully mixed together. Rub this ointment thoroughly onto the skin under each wing and also a litle below the vent of each bird, using a portion of the ointment the size of a small grain of wheat for each one o fthe three places and half as much for a half-grown chick. Repeat once in two or three months. This is a sure remedy for all kinds of external poultry parasites except mites.

For mites, keep the roosts and nests painted once a month with coal oil, or better yet, crude petroleum. Also paint with the same preparation the coops where the young chicks sleep.

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTESED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 25. SUSSEX, NEW BRUNSWICK, DECEMBER 9, 1919. Number 5.

Some Lessons in Fertilizer Arithmetic

By E. G. Proulx, Indiana State Chemist

At this season of the year many of our Maritime Province farmers are seriously considering their problems of soil fertility for the season of 1920. The circulars issued by the various fertilizer manufacturers operating in this territory are being carefully perused by the more wide-awake and progressive agriculturists. The content of the various elements of plant food and their availability, as well as their relative values and costs from the respective sources must be duly considered, if the farmer is to get the best value not only for his money, but also for the time and labor he will expend on the growing crops next season.

Purdue University Agricultural Experiment Station, recently issued a leaflet compiled by E. G. Proulx, State Chemist, and while it is an open letter to the farmers of Indiana, our Maritime Province farmers can glean a lot of useful ideas from its contents, which are reproduced herewith.

"The proglem of soil fertility—its maintenance and increase—is carefully studied by every successful farmer. To the thousands who are finding profit in the use of plant food purchased in the form of some commercial fertilizer, the problem presents itself twice a year, in the spring and in the fall, with special demands for attention.

"Indiana farmers in 1918 purchased 244,446 tons of fertilizer having a retail value of $8,004,701.00. More than half of this tonnage was considered low, grade, containing relatively small amounts of plant food, nitrogen, water soluble potash and available phosphoric acid.

"Considering the retail prices on all brands of fertilizer sampled in the state in 1918, it is estimated that Indiana farmers could have obtained the same amount of plant food at a saving of $813,184.00, if all fertilizer purchased had been high-grade.

"Many inquiries are received from Indiana farmers concerning the cost of plant food in different fertilizer brands. It is practically impossible to fully and satisfactorily answer all these inquiries by individual letters, and the State Chemist hopes the following method of comparison will enable the Indiana farmers to approximate these relatives values satisfactorily.

"In purchasing fertilizer, the farmer simply buys so many pounds of plant food in the form of nitrogen, total or available phosphoric acid and water soluble potash. The problem is which fertilizer formula furnishes the desired plant food the cheapest. The prices under consideration are quoted Indiana agents for the 1919 fall trade in carload lots of 125-pound burlap bags and in considering these prices, consumers should allow a legitimate profit to the agent to cover the cost of handling, storage, etc. It is unfortunate that manufacturers quote ammonia (NH^3) and not the element, nitrogen (N), as the Indiana fertilizer law requires manufacturers to guarantee a minimum percentage of nitrogen on the official label.

Cost of Plant Food in Low, Medium and High-Grade Fertilizer Brands in Carload Lots

Ammonia per cent.	Available phosphoric acid, per cent.	Potash, per cent.	Grade	Price per ton 2000 pounds in 125-pound bags, to agents, railroad station	COST PER UNIT AND POUND OF Ammonia Unit	Ammonia Pound	Available phosphoric acid Unit	Available phosphoric acid Pound	Potash Unit	Potash Pound
0	16	0	high	$26.75	.....	.....	$1.67	$0.08	.....	.....
½	12	0	medium	26.75	$13.42	$0.67	1.67	0.08	.....	.....
½	10	0	low	25.25	17.10	0.85	1.67	0.08	.....	.....
1	10	0	low	27.75	11.05	0.55	1.67	0.08	.....	.....
2	10	0	medium	32.75	8.03	0.40	1.67	0.08	.....	.....
1	12	0	medium	29.50	9.46	0.47	1.67	0.08	.....	.....
2	12	0	high	34.50	7.23	0.36	1.67	0.08	.....	.....
0	10	1	low	25.75	.....	.....	1.67	0.08	$9.05	$0.45
0	10	2	medium	28.75	.....	.....	1.67	0.08	6.03	0.30
0	10	4	high	34.50	.....	.....	1.67	0.08	4.45	0.22
0	12	1	medium	27.50	.....	.....	1.67	0.08	7.46	0.37
0	12	2	high	30.50	.....	.....	1.67	0.08	5.23	0.26
0	12	4	high	36.25	.....	.....	1.67	0.08	4.05	0.20
1	8	1	low	29.00	9.54	0.48	1.67	0.08	6.05	0.30
2	8	2	medium	37.00	5.77	0.29	1.67	0.08	6.05	0.30
2	12	2	high	40.00	3.93	0.20	1.67	0.08	6.05	0.30
2	10	4	high	44.50	1.80	0.09	1.67	0.08	6.05	0.30

"It is necessary only to remember that 1.0 per cent. ammonia (NH^3) is equivalent to 0.82 per cent. nitrogen (N); 2.0 per cent. ammonia (NH^3)= 1.6 per cent nitrogen (N), etc. Since manufacturers invariably quote ammonia (NH^3), the following discussion of prices is on that basis.

"Two other factors are necessary to properly understand the comparison of prices between brands. It is customary to speak of a unit of plant food, a unit of potash, etc. This means simply 20 pounds or 1.0 per cent. of a ton. A unit of plant food per ton thus means 20 pounds of plant food in each ton of fertilizer.

"A satisfactory division into high, medium and low-grade fertilizer is extremely difficult to make and in the table the division is made on the basis of the total content of available plant food. A high-grade fertilizer is one having a sum total of ammonia (NH^3), potash and available phosphoric acid, not less than 14 per cent.; a medium-grade fertilizer is one having a sum total of not less than 12 per cent. and a low-grade fertilizer is one having a sum total of less than 12 per cent. Acid phosphate containing 14 per cent. or more of available phosphoric acid is considered as high-grade. A "half and half" brand guaranteeing 10 per cent. available and 10 per cent. insoluble would be considered as low grade, as only available plant food is considered in this discussion.

"Since acid phosphate is used in all commercial fertilizers which guarantee available phosphoric acid, the cost per unit and pound of available phosphoric acid in 16 per cent. acid phosphate or 16 per cent available phosphoric acid is taken as representing the cost per unit and pound of available phosphoric acid in all mixed fertilizers. Manufacturers quote 16 per cent. acid phosphate at $26.75 per ton in carload lots; this cost would be $26.70 ÷ 16 = $1.67, the cost of one unit of available phosphoric acid; $1.67 ÷ 20 = $0.08, the cost of one pound available phosphoric acid. A few manufacturers, able to obtain high-grade phosphate rock, are offering 20 per cent. acid phosphate at $31.50 ton. The cost per unit of available phosphoric acid, in this case, would be $1.575. All manufacturers seem able to make acid phosphate containing 16 per cent. available phosphoric acid, but few manufacturers are able to make 20 per cent. available phosphoric; hence, 16 per cent. is used as the basis in the table.

"Considering the brand guaranteeing one-half per cent. ammonia and 12.0 per cent. available phosphoric acid as $26.75 per ton, it is fair to the manufacturer to assume that three-fourths of a ton of the 16 per cent. acid phosphate was mixed with one-fourth of a ton of material containing 2.0 per cent. ammonia. The cost of three-fourths of a ton of 16 per cent. available phosphoric acid is ¾ × $26.75 of $20.06. This amount subtracted from the cost of the brand, $26.75, leaves $6.69, as the cost of one-half a unit of ammonia. A unit of ammonia, therefore, in this particular brand would cost 2 × $6.69 or $13.38, while the cost per pound, $13.38 ÷ 20 = $6.67. It is much shorter to use the unit basis, in which case 12 per cent. available phosphoric acid × $1.67* = $20.04; $20.04 subtracted from $26.75, the cost of the fertilizer, = $6.71, the cost of one-half a unit of ammonia; 2 × $6.71 = $13.42, the cost of one unit of ammonia in this fertilizer.

"The same method is followed in brands guaranteeing available phosphoric acid and potash. For example—the brand in which there is guaranteed 10 per cent. available phosphoric acid and 4.0 per cent. potash at $34.50 per ton; 10 × $1.67 = $16.70 as the cost of 10 per cent. available phosphoric acid; $16.70 subtracted from $34.50, the original cost of the brand, gives $17.80 as the cost of four units of potash; $17.80 ÷ 4 = $4.45, the cost of one unit of potash; $4.45 ÷ 20 = $0.22, the cost of one pound of potash.

"Considering the complete fertilizer brands which guarantee ammonia, available phosphoric acid and potash, the cost of acid phosphate in complete fertilizer is again taken on the basis of 16 per cent. available phosphoric acid or $1.67 per unit. The average cost per unit of potash on brands guaranteeing available phosphoric acid and potash was found to be $6.05 per unit; therefore, $6.05 is taken as the average cost of potash per unit in complete fertilizer. Taking $1.67 as the cost of one unit of available phosphoric acid and $6.05 as the cost of one unit of potash in complete fertilizer does not give the correct cost of the ammonia. It does, however, conclusively show that plant food in high-grade complete fertilizer costs less than it does in low-grade. The cost of ammonia in the 2-12-2 at $40.00 per ton is 12 × $1.67 = $20.04, the cost of available phosphoric acid; 2 × $6.07 = $12.14, the cost of two units of potash. Available phosphoric acid and potash together cost $32.18, which subtracted from $40.00, the original cost of the brand, leaves $7.82 as the cost of two units of ammonia. One unit of ammonia, therefore, in this brand of fertilizer would cost $7.82 ÷ 2 or $3.91. This again divided by 20 would give the cost per pound of ammonia, 20 cents.

*The unit cost of $1.67 was taken in place of $1.6718+.

"Reliable fertilizer manufacturers retain their trade with their customers year after year, because they honestly sell fertilizer which gives satisfaction and shows increased crop production. On the other hand, a few manufacturers sell brands of fertilizer which guarantee very little plant food but which are widely advertised to benefit the soil and produec good crop returns through the action of some unknown factor not recognized by soils and crops experts. These latter manufacturers, apparently, spend nearly as much for advertising as it costs to manufacture their so-called fertilizers. Necessarily, they figure on obtaining new customers every year.

"The Indiana fertilizer law was pass-

(Continued on page 163)

First Annual Convention and Dairy

The first annual Convention and Dairy Show of The New Brunswick Dairymen United was held in the Agricultural School, Sussex, on December 3rd and 4th. F. G. Hughson, president of the Association, relayed by A. E. Trites, the Vice-President, presided at the various sessions. H. W. Coleman, the popular, energetic and efficient Dairy Superintendent and his assistants had worked hard to make the Convention and show a success.

The members of the New Brunswick Dairymen United include representatives of cheese factory patrons, creamery patrons, cheese makers, butter makers, private cheese factory owners, private creamery owners, joint stock cheese factories and joint stock creameries. Among the prominent dairy authorities present who assisted M. Coleman in putting the ture and sale of dairy products. There is no such a thing as stagnation in the dairy industry, it must proceed or recede. He was glad to note that the Association was moving along lines of progress. There was much room for a good deal of development in the dairy herds of the province. In conclusion he recommended a favorable consideration of the National Dairy Council's propaganda which would be outlined at a future session.

The Dairy Superintendent's Report

Mr. Coleman gave a very comprehensive report of the dairy situation in the province. He too welcomed the delegates and remarked that for a long time he had been looking forward to the first convention with rather mixed feelings. The convention was a venture and he was rather anxious to know how the parties in being made by the Farmers' Co-operative Creamery at Moncton and the Madawaska Creamery at St. Hilaire, the latter factory having increased its output at least 50 per cent.

Mr. Coleman had spent considerable time on instructional work during the year. He made 36 full day calls, which included the entire time from early morning when the milk was being received until the cheese was pressed and the daily routine work rounded out. He had also made 198 call visits lasting from a few min uutes to several hours, as occasion required. The following tests were also made:

375 Babcock tests, 215 Examinations for Adulteration, 193 Sediment tests, of which 52, 59 and 82 samples showed good, fair and bad conditions respectively. 54 Fermentation tests, some improvement in factory equipment during the past season but there is still room for more modern and sanitary conditions.

Mr. Coleman laid a great deal of stress on the absolute necessity for cleanliness in factory and surroudnings. Every factory should have a whey tank committee to see that the whey tank is kept empty and scrupuuously clean. An empty tank did not mean a clean tank. Too many of the cheese troubles have their origin in the foul smelling whey tank and here was one place where precautionary measures could be put into practice.

The surroudngs of many of the cheese factories were not attractive. The stranger driving along the road would scarcely judge from the appearance of factory and surroundings that it was the most important centre in

Prize Winners at New Brunswick

MAKER AND FACTORY	SEC. 1, JUNE CHEESE									SEC. 2, JULY CHEESE									SEC. 3, AUGUST CHEESE								
	Flavor	Texture	Closeness	Color	Finish	Total Score	Standing	Awd. Paid to Maker N.B.D.U. Funds	Amt. Paid to Factory Prov. Funds	Flavor	Texture	Closeness	Color	Finish	Total Score	Standing	Awd. Paid to Maker N.B.D.U. Funds	Amt. Paid Factory Prov. Funds	Flavor	Texture	Closeness	Color	Finish	Total Score	Standing	Amt. Paid to Maker N.B.D.U. Funds	Amt. Paid to Factory Prov. Funds
M. D. Simard, Bathurst	39.5	23.5	13.5	9.5	4.0	90.0	5	$3.69	$4.10	39.0	23.2	14.5	10.0	4.7	91.4	11	$1.34	$	39.0	23.3	14.3	10.0	4.8	91.4	9	$1.24	$
Alex. McGillvery, Belleisle Creek	38.1	23.0	14.2	9.7	5.0	90.0				40.0	23.5	14.9	10.0	4.9	93.3	5	1.38	2.09	38.0	23.0	14.0	9.5	4.8	89.3			
J. A. Northrup, Berwick	38.8	23.0	14.0	9.5	5.0	90.3				40.3	23.5	14.8	10.0	5.0	93.6	3	1.38		39.0	23.0	14.9	9.5	5.0	91.4	10	1.23	
Manford Perry, Carsonville	38.5	23.0	14.5	9.4	4.8	90.2				38.7	22.8	14.8	9.7	4.9	90.9				39.0	23.0	14.5	9.9	4.6	91.0	12	1.22	
O. W. Kierstead, Collina	40.0	23.8	15.0	9.8	5.0	93.6	1	3.84	4.25	39.0	23.5	14.9	9.8	5.0	92.2	9	1.35	2.07	39.5	23.5	15.0	9.8	4.9	92.7	4	1.26	1.55
Myles Perry, Clover Hill	38.0	23.0	14.4	9.8	4.9	90.1				36.0	22.5	14.9	9.3	4.7	87.4				38.0	23.0	14.5	10.0	5.0	90.5			
Jas. H. Brown, Corn Hill C. & B. Co.	38.0	24.0	14.8	9.8	4.8	91.4				39.0	23.5	14.9	10.0	5.0	92.4	8	1.35	2.07	40.0	23.0	15.0	9.8	5.0	92.8	2	1.26	1.57
S. Gibbon, Corn Hill Corner	39.5	23.0	14.7	9.8	4.5	91.5	2	3.76	4.15	40.7	23.5	15.0	10.0	5.0	94.2	1	1.39	2.12	41.0	24.0	14.9	10.0	4.8	94.7	1	1.28	1.62
E. B. Keith, Canaan Road	38.8	23.5	14.9	9.8	4.9	91.9				37.0	23.5	14.8	9.5	4.9	89.7				37.5	23.0	14.9	9.9	5.0	90.3			
Fred Fawcett, Hammond Vale	39.0	23.0	14.8	9.2	4.7	90.7	3	3.71		40.2	23.5	14.5	9.8	4.9	92.9	6	1.37	2.09	38.7	23.0	14.8	9.8	5.0	91.3			
Wm. Taylor, Head Millstream	39.0	23.0	13.0	9.9	4.8	89.7				40.0	23.3	14.9	9.8	4.8	92.8	7	1.37		38.0	23.3	14.9	9.9	4.8	90.9			
W. Prebble, Lower Ridge	38.0	23.0	14.9	9.8	4.9	90.6				38.8	23.0	15.0	9.8	5.0	91.6				40.0	23.0	14.8	10.0	5.0	92.8	2	1.26	1.56
Walter Rodger, Lewis Mt.	38.0	22.8	14.0	9.7	4.8	89.3				39.0	23.0	14.5	10.0	4.9	91.4	11	1.34		37.5	23.5	14.5	9.9	4.8	90.2			
Nelson McKenzie, Mannhurst	38.5	23.0	14.3	9.8	5.0	90.6				40.5	23.5	14.9	10.0	5.0	93.9	2	1.39		39.3	23.2	14.8	9.9	4.0	91.2	11	1.23	
H. Parlee, Pearsonville	37.5	22.5	13.0	9.5	5.0	87.5				38.8	23.0	14.5	9.8	5.0	91.1				39.0	23.5	14.7	9.8	5.0	92.0	8	1.25	1.55
Albert Sear, Penobsquis	38.5	23.0	14.7	9.5	4.8	90.5				39.0	23.0	14.8	10.0	4.9	91.7	10	1.34	2.06	38.5	23.0	14.9	9.8	5.0	91.2			
Bliss Fawcett, Killam's Mills	38.0	2.30	15.0	9.8	4.7	90.5				38.5	23.0	14.5	9.8	4.8	90.6				39.6	23.3	14.7	9.9	5.0	92.5	6	1.26	1.55
Dan McCormack, Newtown	38.0	23.2	14.9	9.8	4.9	90.8				37.0	23.0	15.0	9.8	5.0	89.8				39.5	23.0	14.8	9.8	5.0	92.1	7	1.25	1.55
B. R. Keith, Havelock	38.6	22.8	14.6	9.5	5.0	90.5				38.5	23.0	14.9	9.9	4.9	91.2				39.6	23.5	14.7	9.9	4.9	92.6	5	1.26	1.55
H. H. Gillis, Mt. Middleton	39.0	23.0	14.8	9.8	4.9	90.5				40.0	23.8	14.8	9.9	5.0	93.5				37.5	23.2	14.8	9.7	4.9	90.1			

MAKER AND FACTORY	SEC. 1, JUNE BUTTER										SEC. 2, JULY BUTTER										SEC. 3, AUGUST BUTTER							
	Flavor	Texture	Moisture	Color	Salt	Pack	Total Score	Standing	Cash awd. Maker from N.B.D.U. Funds	Cash awd. Factory from Prov. Funds	Flavor	Texture	Moisture	Color	Pack	Salt	Total Score	Standing	Cash awd. Maker from N.B.D.U. Funds	Cash awd. Factory from Prov. Funds	Flavor	Texture	Moisture	Color	Salt	Pack	Total Score	Standing
J. B. McAdam, Jeffries Corner	38.0	13.5	8.5	10.0	10.0	8.0	88.0		$	$	38.0	14.0	9.5	9.5	10.0	8.5	89.5				38.0	14.5	9.5	9.5	10.0	8.0	89.5	
T. S. McAuley, Lower Millstream	39.0	13.5	9.5	9.5	10.0	9.5	91.0	4	3.66		39.0	14.2	8.5	9.5	10.0	9.5	90.7	3	4.91									
Ben Gallant, Madawaska	37.0	13.8	9.9	10.0	10.0	9.8	90.5				38.0	14.5	9.8	10.0	10.0	10.0	92.3	2			39.5	15.0	9.8	10.0	10.0	10.0	94.3	2
Ed. Wheaton, Victoria Mills	40.0	14.8	10.0	10.0	10.0	9.5	94.3	2	3.79	6.24	38.2	14.3	9.4	9.5	10.0	9.0	90.4	4			39.5	15.0	10.0	10.0	10.0	9.5	94.0	3
J. P. Simmonds, Moncton	40.5	14.7	9.7	10.0	10.0	10.0	94.9	1	3.81	6.26	41.0	14.6	9.9	9.8	10.0	10.0	95.3	1	5.16	6.42	41.0	14.8	9.7	10.0	10.0	10.0	95.5	1
J. A. Conrad, Sussex	38.0	13.8	9.8	9.6	9.5	9.3	90.0				39.0	14.0	9.2	9.4	9.5	9.2	90.3	5	4.89	6.08	39.0	14.5	9.2	9.5	10.0	9.2	91.4	4
Chas. Yeoman, Petitcodiac	38.0	14.5	9.0	9.5	10.0	9.3	90.3				38.0	13.5	9.0	9.5	9.2	9.2	88.4				37.5	13.5	8.5	9.3	10.0	8.5	87.3	
F. Voutour, St. Louis	38.0	14.7	10.0	9.0	10.0	9.8	91.5				37.5	14.2	9.7	9.5	10.0	9.2	90.1	6			38.2	13.8	8.5	9.2	10.0	9.0	88.7	
C. G. Goggin, Midland	39.5	14.2	9.5	9.3	10.0	9.8	92.3	3	3.71		38.0	13.7	8.0	9.5	9.5	9.3	88.0				38.0	13.8	8.5	8.0	8.5	9.0	85.8	
Geo. Ransom, Woodstock	38.0	14.2	9.0	9.5	10.0	9.0	89.7				38.5	14.2	8.5	9.0	10.0	9.3	89.5				38.0	14.2	9.2	9.5	10.0	9.0	89.9	

convention over the op were Hon. J. F. Tweeddale, Minister of Agriculture and his deputy, Mr. Bradt, J. A. Ruddick, Dairy Commissioner, Ottawa; Geo. H. Barr, Dairy Division, Ottawa; Prof. Trueman, of the Nova Scotia Agricultural College; D'Arcy Scott, Secretary Canadian National Dairy Council, Otawa; W. A. McKay, Dairy Superintendent for Nova Scotia; Harvey Mitchell, New Brunswick Representative for the Dairy Division, Ottawa; A. J. Gaudet, St. Joseph, and a representative aggregation of the cheese and butter makers, patrons and owners of cheese and butter factories.

President Hughson welcomed the delegates and made fitting reference to the aims and objects of the Association. Already noticeable improvements had been made in the manufac terested would respond. He felt that if the members who would attend the various sessions would only carry home the spirit of enthusiasm that is frequently found at dairy conventions a great deal of good would result.

He submited the following figures on the butter and cheese production in New Brunswick:

	1918	1919
Production		
Cheese	1,174,000 lbs.	1,324,,000 lbs.
Value	$264,304.00	$370,000.00
Av. price	22.43 cents	28 cents
Production		
Butter	666,000 lbs.	900,000 lbs.
Av.price	45 cents	55 cents
Value	$297,000.00	$495,000.00

The outstanding feature of the dairy industry during the past season was the rapid strides that are showing conditions good, 19; fair 25; bad 10.

Improvement in Quality

Considerable improvement was noticeable in the quality of the products during 1919. In 1918 nine per cent, of New Brunswick cheese graded seconds, while the 1919 output had only six per cent of second grade goods. The grading of cheese as at present carried on is steadily raising the standard. "Cull cheese," he said, "was an insult to the cow." He introduced the question of making a special grade of cheese in 1920 and left the matter in the hands of the makers for future consideration. There was a vast difference between a real first class quality cheese and one that would hardly escape going into a second grade class. There had been the community. A great deal of improvement in the way of tidying up and brightening up is needed at some factories and some at every factory. This kind of work should be accomplished by the board of directors of each and every factory of their own free will without waiting to be coered into doing so by the legislature.

The Cheese Board

The Cheese Board established at Sussex on the 12th of last June had held ten meetings and a total of 8,500 boxes had been boarded. The Board had made money directly for the cheese men who ptaronized it and indirectly for others who had benefited by the prices received because the board was in existence. Cases had come to the speaker's notice where some dealers had offered fac-

Show of the N. B. Dairymen United

tory salesmen a fraction of a cent more a pound for their cheese in order to spread dissatisfaction among the Cheese Board patrons.

In conclusion Mr. Coleman thanked the Cheese factory and creamery offiials for their co-operation during the year in the movement for better raw material, better equipment and a higher standard of equality in the manufactured produuct.

J. A. Ruddick, Dairy Commissioner, led the discussion on Mr. Coleman's report. He congratulated the men present on their organization, Mr. Hughson for being the first president the Association and the province of New Brunswick on having secured the serivces of Mr. Coleman, who was formerly a member of his own staff and whose energy and efficiency he had long since recognized. Referring being due to the incorporation of too much moisture—water at 28 cents a pound gives the manufactlurer a good return but it cheats the consumer and on the whole is a dangerous practice. Cheese curd should be stirred until quite dry in ored r to give the manufactured cheese the proper body, but not so dry as to produce a corky cheese. All flavors found in cheese were not controllable in the factory, some have their origin in the barn. Dirt is responsible for a lot of the cheese makers' troubles. Some producer s are careful, others are the reverse. If all hands would care for the raw material as well as do the more careful ones there would be a rapid advancement made in the quality of the cheese placed on the market. No place in Canada offers more opportunities for advancement than does maker he would not think of making cheese without keeping records of every day and every vat. The 215 temperature tests he had made during the year showed an alarming percentage of failure to properly cool the milk. More attention should be paid by the maker to the raw material as it is received at the whey tank door and more visitation of the farms from which the supply is received.

Among others who took part in the discussion were A. E. Trites, who made reference to the progress made by the Moncton Creamery; C. F. Alward, who welcomed the institution of the Cheese Board as a long felt need in this province and W. A. MacKay, Dairy Superintendent for Nova Scotia, who emphasized the necessity for tidy factory surroundings and made reference to the dignity of the

Dairymen United Dairy Show

SEC. 4, SEPTEMBER CHEESE — SEC. 5, SEPTEMBER SPECIAL

Flavor	Texture	Closeness	Color	Finish	Total Score	Standing	Awd. Paid to Maker N.B.D.U. Funds	Amt. Paid to Factory Prov. Funds	Aggregate Score	Average Score	Flavor	Texture	Closeness	Color	Finish	Total Score	Standing	Awards Can. Salt Special	Total Awd. Paid to Maker.	Total Amt. Paid to Factory
40.0	24.0	13.0	10.0	4.0	91.0	10	$1.48	$	363.8	90.95	39.5	23.5	14.0	10.0	4.7	91.7	7	$	$7.75	$4.10
									272.6	90.86	39.5	22.8	14.0	10.0	4.9	91.2	11		1.38	2.09
38.5	23.0	14.5	9.5	5.0	90.5				365.8	91.45	40.3	23.2	14.6	9.8	5.0	92.9	3	5.00	7.61	
40.0	23.3	14.9	9.9	4.8	92.9	4	1.51		363.0	90.75	39.0	23.0	14.7	9.9	4.8	91.4	9		3.99	
39.0	23.0	14.8	9.7	5.0	91.5	8	1.49	1.77	370.0	92.50	39.0	23.0	14.7	9.8	4.9	91.4	9		6.68	9.64
39.5	22.5	14.5	9.9	5.0	91.4	9	1.49	1.77	358.4	89.60	39.0	23.2	14.8	10.0	4.9	91.9	6		2.75	1.77
40.0	23.5	14.8	9.9	4.8	93.0	3	1.51	1.80	369.6	92.40	37.0	23.0	15.0	9.9	4.8	89.7	14		4.14	5.44
40.0	23.4	14.8	10.0	4.9	93.1	1	1.52	1.81	373.5	93.38	37.0	24.0	15.0	10.0	5.0	91.0	12		6.67	9.70
39.2	23.5	14.8	9.9	4.9	92.3	5	1.50		364.2	91.05	37.3	23.0	15.0	9.8	4.8	89.9	15		1.50	
37.5	22.7	14.5	9.9	5.0	89.6				364.5	91.12	39.5	23.0	14.8	9.7	5.0	92.0	4	5.00	10.08	2.09
37.0	22.5	14.8	9.8	5.0	89.1				362.5	90.85	37.0	22.7	14.7	9.9	5.0	89.3	16		1.37	
39.3	23.0	14.9	9.9	5.0	92.1	6	1.50	1.78	367.1	91.77	40.5	23.3	15.0	9.9	5.0	93.7	1	5.00	7.76	3.34
38.0	22.8	14.5	9.8	5.0	90.1				361.0	90.25	40.3	23.3	14.7	10.0	4.9	93.2	2	5.00	6.34	
39.0	23.0	14.7	9.5	3.0	89.2				364.9	91.22	38.5	23.3	14.7	9.9	4.9	91.3	10		2.62	
38.5	23.0	14.7	9.9	5.0	91.1				361.7	90.42	39.0	23.0	14.6	9.9	5.0	91.5	8		1.25	1.55
39.5	23.8	14.8	10.0	5.3	93.1	2	1.51	1.80	366.5	91.62	38.7	23.0	14.9	9.9	5.0	91.5	8		2.85	3.86
39.0	23.0	15.0	9.7	4.9	91.6	7	1.49	1.77	365.2	91.30	38.8	23.0	14.9	9.9	4.7	91.3	10		2.75	3.32
36.0	23.0	14.9	9.9	5.0	88.8				351.5	87.87	37.5	23.3	14.9	9.9	5.0	90.6	13		1.25	1.55
37.0	22.7	14.7	9.8	4.8	89.0				363.3	90.82	39.2	23.2	14.9	9.9	4.8	92.0	5	5.00	6.26	1.55
38.5	23.0	14.8	9.8	5.0	91.1				365.2	91.30	38.5	23.0	14.8	10.0	5.0	91.3	10			

SEC. 4, SEPTEMBER BUTTER

Cash awd. Maker from N.B.D.U. Funds	Cash awd. Factory from Prov. Funds	Flavor	Texture	Moisture	Color	Salt	Pack	Total Score	Standing	Cash awd. Maker from N.B.D.U. Funds	Cash awd. Factory from Prov. Funds	Total Score	Average Score	Total awds. to Maker from N.B.D.U. Funds	Total awds. to Factory from Prov. Funds
		37.0	14.0	9.0	9.5	10.0	7.5	87.0				354.0	88.50	$	$
												181.7	90.85	8.57	
3.76	3.14	39.0	15.0	10.0	10.0	10.0	10.0	94.0	3	2.50	2.51	371.1	92.77	6.26	5.65
3.75	3.13	40.5	15.0	10.0	10.0	10.0	9.5	95.0	2	2.53	2.54	373.7	93.42	10.07	11.91
3.81	3.17	42.0	14.8	10.0	10.0	10.0	10.0	96.8	1	2.58	2.58	382.5	95.62	15.36	18.43
3.64	3.04	39.0	14.5	9.8	9.5	10.0	9.5	92.3	4	2.46	2.46	364.0	91.00	10.99	11.58
		39.0	14.2	9.0	9.7	9.5	9.2	90.6	6	2.41	2.41	356.6	89.15	2.41	2.41
		37.5	14.3	9.5	9.3	10.0	9.0	89.6				359.9	89.97		
		38.0	14.0	9.7	9.3	9.3	9.4	89.7				355.8	88.95	3.71	
		39.0	14.0	9.0	9.8	10.0	9.4	91.2	5	2.43		360.3	90.07	2.43	

to New Brunswick cheese, Mr. Ruddick said it had a characteristic quality in its texture that was not often found in cheese manufactured in the other provinces. This pleasing characteristic should be of specific value to the industry here.

Mr. Barr said he had told the New Brunswick cheese men when he had first met with them that there was room for improvement in the quality of their goods. Having judged the cheese exhibit at the show he was in a position to note the improvement that had been accomplished during the year. He had, however, found some flavors in a number of the entries that should be foreign to a dairy product. Among the criticisms he had to make was the prevalence of a hop flavor, weakness in texture, the latter New Brunswick. Two years had brought about a vast change for the better and New Brunswick should never rest until the quality of her products is not onl yas good but a little getter than that made in the other provinces.

Patrons should not strive to see how many pounds of cheese could be made from 100 pounds of milk. Rather get the quality and the quantity will come later.

He said it was impossible to make a good grade of cheese unless the milk was cooled to 65 degrees on the farms as soon as it came from the cow.

If there is a market for a special grade of cheese it will pay to cater to that market.

Mr. Coleman said that as a cheese cheese and butter maker's profession and the necessity for a Maritime Dairy School.

Mr. Alward asserted that he believed the average cow in the herds of New Brunswick dairymen was producing as much as three of the average cows when cheese factories were first organized in the province.

Feeding the Dairy Cow

Prof. Trueman gave a practical talk on the feeding of the dairy cow. He emphasized the necessity for every feeder to familiarize himself with the terms used in compiling rations as well as the food value of the various grades of feed found on the market. He also emphasized the necessity for feeding sufficient rations for maintainence as well as for keeping the machine at its full productive capacity.

The silo and O. P. V. silage had come to stay and was becoming more popular every year. Prof. Trueman, as usual, gave his hearers a lot of practical ideas. Ideas that are workable under New Brunswick conditions, and it is regrettable that the hall was not filled to overflowing by milk producers, who could not help gleaning valuable information from him.

The Wednesday evening programme was interspersed with several musical selections by the Misses Gertrude Sherwood, Jean Elder Allison and Gretchen Mills and Messrs. James Cameron and A. C. Gorham.

J. A. Ruddick, Dairy Commissioner, read a paper dealing with the inception and progress of the dairy business in New Brunswick and the salient features of the worlds' dairy markets, which will be published in full at a later date in these columns. He also took his audience on a tour to view the dairy industry at home and abroad, by the means of lantern pictures.

Dr. Cumming, of the Nova Scotia Department of Agriculture, who was to address the meeting on "Rural Problems of the Day", was unavoidably absent, and Prof. Trueman substituted for him. Prof. Trueman gave an interesting address. He strongly urged more attention to better breeding of dairy stock, better feeding and more careful selection. The rural school was the only factor that would solve the problem of indifference that is so hard to overcome among grown up people. Our future prosperity depends almost entirely on the training our young boys and girls receive in our rural schools.

Teaching should be made more attractive financially, so that instead of it being used as a stepping stone to some other profession, those who engage in it would be influenced to put into teaching the best that is in them. The school should be the community centre as well as the church. There are altogether too many churches. One efficient church in a community is sufficient.

Hon. J. F. Tweeddale, Minister for Agriculture, was the last speaker for the evening. He referred briefly to the conditions he had found existing in the cheese and butter industry of the province when he assumed the administration of his department. New Brunswick cheese did not have an enviable reputation. Some of the cheese shipped was a disgrace and a detriment to the dairy industry of the Province. He soon recognized that here was a condition that must be rectified. New Brunswick cheese must be brought up to a standard that would bring repeat orders, instead of being a by-word of disrepute among the dealers.

Assisted by Mr. Harvey Mitchell, of whom he spoke in glowing terms of appreciation for efficient service to the province and the Dominion, he arranged for a series of conferences with the officials of the various cheese factories in the province, and the poor quality of some cheese that had been shipped out of the province and returned as unfit for human consumption, was forceably brought to their attention by exhibiting to them the loathsome condition of the cheese in question. The late C. W. McDougall and Mr. Mitchell had worked hard during the season 1917 for improved conditions, and he was pleased to hear from the dealers who handled New Brunswick cheese in 1918 and 1919, that a decided improvement had been effected, and confidence in the quality of New Brunswick cheese again established with the dealers and consumers.

The Minister also referred to the splendid response made by the farmers of the province when occasion demanded that they bread themselves, so that their usual supply could be diverted to help feed the other nations of the allied cause. There had been increase of nearly half a million dollars in the value of dairy products manufactured in the province during the years 1918 and 1919 over the production of 1917, which was a clear indication that the industry is advancing in point of quantity as well as in quality, as heretofore outlined.

In conclusion Mr. Tweeddale expressed the opinion that the only cure for the unrest so prevalent among all classes is work. Every man should and must work. A reasonable number of hours, with as much efficiency as he can crowd into his work in order that both food and goods may be produced at a figure that does not make their use prohibitive.

(Continued on page 180)

THE MARITIME FARMER

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DATES OF ISSUE.
December (Xmas) - - - - - 23

DECEMBER 9, 1919.

IN DOING CHORES HAVE A SYSTEM

Efficient management in farm operations often mean the difference between success and failure. There was a time in the history of this country when it was not absolutely necessary to pay as strict attention to the efficiency factor as it is today, but that time has passed with the pioneers and the farmers of the present day must employ more efficient and up to date methods if they are going to succeed. Operating costs have advanced one hundred per cent. or better, and labor has become scarce and expensive, especially during the last ten years. All these factors have worked towards ever decreasing profits, and the only alternative for the farmer is a curtailment of the cost of production.

In many respects there is probaably no department on the farm where efficient management can economize on labor as much as in the matter of doing the daily chores. By that is not meant a complete rearrangement of the stables but rather a reorganization and planning of the work that must be done day after day as long as the cattle are in the stable. Perhaps the tying arrangement may be unhandy and a few slight changes would make the work a great deal easier. Fitting cows to the stall is another method by which a great deal of the labor of keeping them clean can be eliminated. If the stall is too long and it is not easy to change the cow to a stall that fits, a board nailed in a slanting position against the manger will line her up to the gutter. Then again it may be possible to fix up boxstalls and allow the calves and younger heifers and colts to run loose throughout the winter. They will be the better for the exercise and a great deal of time can be saved in caring for them. The matter of feeding the cattle at noon is also another open question, but it has been pretty well settled by all leading stockmen. It has been proven beyond all doubt that it is not necessary to feed three times per day in order to obtain maximum results, provided of course, that they are given enough at the morning and evening meals. Such a method is undoubtedly a great labor saver as it leaves the attendant free to do other jobs during the middle of the day.

The above are but a few suggestions whereby it is possible to economize on the time and labor of doing chores. Of course there are many more, such as loading the manure directly onto the sleigh and drawing it to the field, watering the stock inside, milking by machinery, the use of litter carriers, etc., all of which have a bearing upon the result and cost of farm operations, to say nothing about the increased number of animals it is possible for one man to care for in the same length of time. This can best be understood by visiting the home of one of our prominent stockbreeders where the animals are cared for in the most approved manner. Here may be seen one man looking after several head without any great difficulty, and at the same time doing the work well. These men have made a study of the business, have built their barns accordingly, and it is surprising how much time can be saved in a day simply by eliminating a few extra steps for some article required several times each day. Having the meal bins close at hand and the use of a carrier or truck for feeding ensilage and roots are excellent examples of this. They often mean the difference of an extra man. Efficiency is at the bottom of the whole thing and there is no better way of studying it than by paying a visit to some well arranged barn where large numbers of animals are stabled and cared for properly. Such a trip is well worth the time and expense of any farmer.

GIVE PROPER ATTENTION

One factor which every dairyman can control as a means to greater production, although not so often considered, is the quiet handling of his cows. Anything which is inclined to create excitement is quite likely to have a tendency to decrease the milk flow. The necessary requirements for maximum production are contentment and kindness. The former is supplied when we furnish the cow a sufficient amount of the proper food to eat, an abundance of clean, fresh water to drink, and a warm, dry and well-bedded barn to live in. When a cow has been contented it is absolutely necessary that if we are to maintain the production that has been secured, some attention must be given to the treatment of the cow. Some men make a practice of continually having a dog with them when they are around the cows. As most cows hate dogs, this is a very poor practice, because the dogs usually greatly excite the cows and as a result they will not give down their milk. A noisy herdsman is likewise annoying, one who is continually yelling at the cows, running them in and out of the barn wtih the aid of a pitchfork, and knocking them from one side of the stall to the other by brute force alone, and can never obtain maximum production. It is a well-known fact that when a cow takes a dislike to a man she is spoiled as far as that particular man is concerned, and she will show her dislike by kicking him out of the stall or else she will refuse to give down her milk, and if the same milker continues on the job, in a very short time the cow will dry herself up to such an extent as to be unprofitable. Whenever a cow must be tied before she can be milked, just that soon we may feel assured that the cow will not do herself justice as far as a record is concerned, and every time the milker looses his temper with a cow, the same is done at a loss to the owner.

FOOD NEEDS OF ANIMALS

The primary functions of food are to repair the waste of the body, to promote growth in immature animals, and to furnish heat and energy. And for these purposes only the digestible portion of the food is to be taken into account. The amount of digestible protein, fat, and carbohydrates in a ration is an indication of its fitness to fulfill these purposes. The next question is, How much of these materials does an animal require, and in what proportion should they be given? This differs with the purpose for which the animal is kept, whether it is growing, being fattened, used for work, or making milk. An animal standing in the stall requires less food nutrients than one which is worked hard every day. That is, in drawing heavy loads the animal breaks down or consumes a certain amount of muscular tissue, which must be replaced by protein in the food, and it uses energy or force which is also furnished by the food nutrients. In standing in the barn it still requires some protein, fat, and carbohydrates to perform the necessary functions of the body to maintain heat in winter, to grow a new coat of hair, etc. But if it is fed the same ration as when working hard, the tendency is to get fat or waste the food.

UNWEPT—UNHONORED—UNSUNG

Toronto Fair visitors whose fancies took them over toward the stock judging ring probably stumbled across a newly-made grave, to all appearances well tended and cared for. A trim fence kept off the intruder, and at one end of the trimly faashioned mound stood a perfectly correct appearing headstone, bearing an inscription after this fashion:

"Here lies the remains of the Scrub Bull.

"Now we have a chance to put the right sort of livestock on the farms of Ontario."

"Too bad, is it not, that this menace to agriculture cannot be eliminated in some such simple way as this? The day when the scrub bull can be safely called a thing of the past is many a moon distant yet, but the stronger the agitation, the stiffer the fight, the sooner will the deed be accomplished.

GETTING THE IDEA

Before putting up a new building or making other improvements that are to be permanent it is a good plan to give some thought to the matter and be sure that they are what they should be to give the greatest service. If the neighbors have buildings somewhat similar to what is needed go see them and ask questions. Get as many ideas as possible. This may save you from making mistakes. When you build, try to build right and no one can build right without taking some time for planning.

PEDIGREED SCRUBS

An animal may have a pedigree as long as your arm and still not be very much of an animal. There are pedigreed scrubs just the same as there are plain everyday scrubs. The pedigree is worth little without individual merit and performance. A cow that has the best pedigree known would be of ltle value as a dairy animal if she did not possess milk-producing characteristics and produce enough milk to more than pay for her feed and care. The farmer when he goes to buy an animal, no matter what kind, should not depend entirely upon the pedigree, but should look more to the performance. Pedigree alone will not suffice for there are many pedigreed scrubs in this country. Watch out for them.

* * *

The man who goes ahead and tries to do his lebel best has little time left to criticize the failures of others.

SOME LESSONS IN FERTILIZER ARITHMETIC

(Continued from page 159)

ed to protect the purchaser and the honest manufacturer. This law compels all manufacturers to properly register and tag their fertilizer before same can be sold in the state. Misrepresentation will be nearly, if not entirely, eliminated if fertilizer is purchased on the basis of the plant food guaranteed on the official State Chemist's label and not on the basis of advertising literature and the statements of some agents. Purchasers should insist on being shown the official label when contracting for fertilizer. This label is really the certified guarantee of the manufacturer and should truthfully represent the fertilizer in the bag to which it is attached. On the official label is stated the number of pounds of plant food in 100 pounds of the fertilizer in the bag.

Special Mixtures

"Half and half" brands guaranteeing 10 per cent. available phosphoric acid and 10 per cent. insoluble phosphoric acid are quoted to agents at $25.75 per ton. In general, these mixtures are composed of approximately equal parts of acid phosphate and raw rock phosphate. The available phosphoric acid would cost 10 × $1.67 = $16.70. This, subtracted from $25.75, the cost of the mixture, gives $9.05 as the cost of 10 per cent. insoluble phosphoric acid; 1.0 per cent. or unit of insoluble phosphoric acid, which in this case is derived from raw rock phosphate, would, therefore cost $9.05 ÷ 10 or 91 cents. Ground phosphate rock containing 28 per cent. total phosphoric acid is quoted around $12.00 per ton in carload lots in bulk at purchaser's railroad station. The cost of one unit of phosphoric acid in raw phosphate rock is $12.00 ÷ 28 = 43 cents. Why pay 91 cents per unit for insoluble phosphoric acid in "half and half" brands when it can be bought by the carload for 43 cents per unit in raw rock phosphate? Considerable misrepresentation occurs concerning the availability of phosphoric acid in these "half and half" brands. While some "half and half" mixtures invariably are composed of acid phosphate and bone, the big majority of them are composed of acid phosphate and phosphate rock. Purchasers are often led to believe that the insoluble phosphoric acid in a given fertilizer is derived from bone, when, as a matter of fact, it is often derived from rock phosphate. If the manufacturer wishes to sell a brand composed of equal parts of acid phosphate and bone, he should register as "half bone and half acid phosphate." This registration will then be stated on the official label and will fully protect the purchaser. The manufacturer of this brand of fertilizer will thus escape unfair competition with the manufacturer who otherwise might be selling a mixture of half acid phosphate and half raw rock under the same name.

"Brands composed of approximately equal parts of peat and limestone, guaranteeing 1.0 per cent. ammonia and selling for $20.00 per ton, are also for sale. On the basis of actual plant food furnished, the ammonia in this brand would cost $20.00 per unit. This brand, also, contains about half its weight of limestone. It is necessary only to say that limestone can be purchased for about $3.00 per ton. The value of the limestone in the brand, "peat and limestone," is, therefore, about $1.50. Giving the manufacturer credit for the limestone furnished, the cost of one unit of ammonia guaranteed will then become $18.50.

"LIME FERTILE."—This brand guarantees 3.0 per cent. total phosphoric acid. The mixture is composed of raw phosphate rock and ground limestone. The manufacturer of "Lime Fertile" also advertises that "'Lime Fertile' is inoculated with all crop nitrogen-fixing bacteria." The price to agents on this brand is not known, but the retail price, in one instance investigated, was found to be $40.00 per ton. At the present pirce of raw phosphate rock and ground limestone, this mixture can be duplicated for $4.00 per ton without the cost of bags and mixing. Concerning the "all crop nitrogen-fixing bacteria," samples of this brand were tested in Michigan and found to contain fewer organisms of nitrogen-fixing type than do poor, sandy soils.

"Fertilizing with gacteria is very much in the experimental stage and some investigators are now trying the propagation of bacteria in peat. Farmers who derive their living from the soil cannot afford to experiment with bacteria in fertilizer and should let their State Experiment Station test new theories of fertilization.

Summary

"High-grade fertilizer furnishes plant food (nitrogen, available phosphoric acid and potash) at a much less cost per unit or pound than do the medium and low-grade brands.

"The same amount of plant food is also obtained in much less bulk.

"Limestone and ground phosphate rock have no place in mixed fertilizers. These materials can both be secured unmixed at a cost considerably lower than when mixed in commercial fertilizers.

"From the table, it would appear that manufacturers are deliberately charging double for plant food in low-grade brands. As a matter of fact, the manufacturers have a fixed cost close to $10.00 per ton which must be applied to each ton of fertilizer. This cost covers overhead charges, freight, selling, bagging, office force, interest on investment, handling, etc., and is equally divided between a ton of low-grade or a ton of high-grade. This cost of about $10.00 per ton is proportioned on the basis of plant food contained in a ton of fertilizer. It is evident that a brand having 10 units of plant food would, by this system, have an additional charge of $1.00 per unit, while brands having 16 units of plant food would have an additional charge of 63 cents per unit.

"Most manufacturers apparently agree that "High analysis fertilizer saves three-eighths or more, of the freight cost—freight on five tons or less, instead of on eight tons.

"High analysis fertilizer saves three-eighths or more of the hauling costs—five trips to the warehouse instead of eight or more.

"High analysis fertilizer saves three-eighths or more of the bag costs—five bags instead of eight.

"Finally, high analysis fertilizer saves at least three-eighths of storage costs.'"

The individual saving in buying high-grade fertilizer may not appear sufficiently large, but the combined saving in Indiana in a single year would be close to $1,000,000.00.

"High-grade fertilizer contains little, if any, make weight or low-grade fertilizer material and must be composed of the most valuable plant food which can be obtained.

"By consulting with your agent, you will find he quote you high-grade or low-grade brands of fertilizer. It should not be difficult to make your choice."

ARE YOU ADVANCING OR RECEDING IN YOUR BREEDING OPERATIONS

The breeding, selecting and raising of the different breeds of farm animals has developed remarkably during the past half century. Never in the world's history has domesticated animals been brought to such a state of perfection as at the present time, and all mankind, including the tillers of the soil owe a deep debt of gratitude to those progressive men of vision who by careful selecting and skillful mating with a definite idea of improvement in view, have given to the world such perfect specimens of their kind as the best present day farm animals have proven to be. No less wonderful has been the evolution brought about in the improvement in roots grains and fruits, and it is impossible to estimate the value of the work carried on by some of the men who have made a life study of this, and few of us who now benefit as a result of their labors realize what we owe to these industrious men.

In the evolution of animal and plant life there is no standing still, no resting stage, we must advance or recede, if we do not continue to select and improve we at once loose ground as it is natural for any plant or creature if left unguided to revert to the lower kind from which it came. In the breeding of animal life, several laws of reproduction known as the laws of hereditary or back breeding, largely influenced the off spring and law variation, which produces exceptional specimens, in some instances greatly superior to any of their ancestors, and others to an equal extent their inferior. This law of variation if recognized and used by the intelligent breeder may be the means of the most rapid improvement of his particular breed of animals, as such exceptional individuals are generally just as prepotent and impressive breeders as any of their kind. Full brothers of some of the most noted sires in the world have proven disappointing breeders. Every observing animal fancier can call to mind many instances of this, and it is only after years of close observation, coupled with an aptitude for this class of work, that any man becomes expert enough to recognize in a sire the class of animal that will produce the sort of females he is attempting to breed. This is where the real expert judge is shown; almost anyone at all acquainted with farm stock can pick out a good dairy cow, especially when newly freshened. We have here a maximum development, the finished product as it were, but it requires more skill to select a yearling heifer that at maturity will duplicate our model cow and still greater to pick the sire that will perpetuate this kind. The skilled breeder, having always in mind a model of the type he is trying to perfect, is quick to detect any weakness in his breeding animals, and in mating any such aims to strengthen this defect in the offspring, and we find such men continually grading up. These are the men who have developed such splendid specimens of beef cattle that lay on the greatest amount of flesh where the cuts are most valuable, the bacon hog that also produces meat of the best quality and with the greatest profit to the producer. The breeds of sheep whose meat and wool varies to such an extent that a pound of the latter in the best breeds is worth nearly double that of some of the mongrel sorts. We are still aware of the improvement brought about in the noble horse, both in the lighter breeds for speed and in the massive draft animal, but great as has been the improvement and development of other farm animals none of them equal that brought about by the breeders of dairy cows. This animal by nature intended to produce enough milk to develop one calf, has through centuries of selection and breeding been brought to such a state of development that many such now produce enough milk on natural grass conditions to grow from two to six or more calves under especially favorable conditions, the modern dairy cow has frequently produced her own weight in milk every two weeks. One such cow has given one thousand pounds of milk in seven days, another one hundred and sixty-one pounds in one day; several have given thirty thousand pounds of milk in one year and from one thousand to fifteen hundred pounds of butter in the same period of time. Colony Farm, B. C., credits a cow with an average production of 98.98 lbs. milk per day for over nine months, all these are authentic official records made under careful government supervision by men under oath, by dairy cows whose ancestors have been carefully selected and mated. They are not freaks, and while the records quoted may be exceptional, they are generally more so for the reason that these animals happen to fall into the hands of skillful feeders and owners who have the special facilities for attending them. Then for the fact that they were outstanding superior individuals of their breed, as we witnessed the world's weekly butter record, 52 lbs. in seven days, broken recently by a cow owned by a young and quite ordinary farmer in Ontario, and we have in this province at the present time a heifer freshened at 25 months (being herself the daughter of a two-year dam), now under official test in R. O. P. that has given up to 60 lbs. of milk per day, testing over 4% fat, a world's record of a few years ago, and a splendid one for the present age and considering the ancestors for four generations were bred in this and other maritime provinces, an evidence that in our dairy cow as well as other domestic animals, we are improving steadily. It is hard to set the limit of production possible of attainment.

Recognizing, as every intelligent man must, the value of such animals over those of mongrel breeding, and the comparative cheapness with which they may be secured through the use of sires of the improved breeds, the marvel is why does not every farmer endeavor to get the use of one such. If the offspring of a special beef sire will grow to maturity on the same cost of feed and produce a carcass that is much more valuable to the consumer, it would be good business for any producer to use the best possible individuals of such breed even if he had to stand the cost alone, but as it happens through the percentage of male being equal the number of females, and the necessity of a breeder securing market for these, a good utility animal of any of the improved breeds may be purchased at breeding age at a price no greater than he will bring for the block at maturity, and the cost of his keep and the interest on investment will be the only charges against his services. Assistance is given by both local and federal governments in the purchase or loan of such animals, and every inducements held out to enable all our farmers to secure the use of improved sires. But in spite of these facts of the proven superiority of every sort of improved animal or fowl over that of their mongrel brothers, statistics show that less than 5% of our farm animals are of pure breeding, and only a comparative small percentage are grades of the different breeds or animals by pure sires and mongrel dams. What our province is yearly loosing through the continued use of mongrel sires must be a sum many times greater than our entire revenue, and we have in this alone a broad field ready for our best efforts in agricultural improvement.

WALTER M. LEA.

COW HAS A COUGH

I have a cow that has had a cough since spring. A yellow thick matter is discharged from her mouth at each attack. She freshens in April, and is giving seven quarts of milk per day. Her eyes are dull.—F. K.

Answer: Your cow shows every sign of having tuberculosis. You should isolate her away from other cattle and have the barn, or place that she has occupied, thoroughly disinfected. Tuberculosis is very often hereditary, but it also very often follows severe or neglected colds, insufficient food, exposure to cold and wet. If you have no opportunity to get her tested for tuberculosis it might be advisable to treat her, but she should be kept away from others. To have any chance of success, the treatment should have begun in the earliest stages of the disease. Careful attention should be paid to her housing so that she will be kept comfortable.

Gleanings From the Nova Scotia Agricultural College

HARVEST STOCK-TAKING

Now that the fields are stripped of their fruits, and all crops have been gathered in, there should be a careful and systematic survey of the season's work. Some more or less new ventures have been made on every pro gressive farm. Have they paid? If not, why not? The great bulk of the work has been of the routine type. Have the best possible results been achieved with those standard crops and lines of stock raising which go on from generation to generation?

In every line of work, while we do not for a moment discount the new venture, the main advance will be made by improving our methods of doing habitual things. After all there is a good deal that is new even in the growing of crops which our grandfathers grew. Some of them are being attacked by new foes. Some are subject to the ravages of old enemies which our forbears took as a matter of course, or as a mild form of judgment. We can no longer be content to submit to these, if there is any way of overcoming them.

Science is continually pointing the way to new conquests, and while we are unwilling by nature to swallow everything that comes our way at a gulp, he is the wise man who makes the utmost use of her proven facts. Over and over again we see demonstrations of vast gains which can be made by the adoption of methods and practices developed by those whose business in life is to experiment and discover. Every one who is familiar with the habits of scientific men knows that their inclination is not to be hasty in announcing their discoveries, but, on the other hand, possibly even to err in the way of over caution. From the standpoint of one who is more or less an outsider, what we wish to say is this.—Announcements of measures to combat pests and to overcome losses through disease, &c., should be received with the utmost confidence, provided the reader is willing to follow directions. Results may not be perfect, but they will be worth a good honest trial. The same is true of announcements of improved methods and practices in growing crops, etc.

Look over last season's results. Secure all possible information. Then lay plans to make next season the best yet. Last, but not least, get your plans working early. Time has a habit of flying away before we get going.

SPRAYING OF POTATOES

Another measure of vital importance which must be urged upon our farmers is the spraying of the potato crop. Never was the necessity of this measure more apparent that this autumn. Reports received at the office of the N. S. Department of Agriculture go to show that rot has this season exacted the heaviest toll in the history of the Province. Farmers in parts of Cape Breton who usually have considerable quantities of potatoes to sell or feed, are actually compelled to buy at the high prices now prevailing. Whole fields have been completely lost through rot.

This is a form of loss which is no longer in any sense necessary. Particularly regrettable is it at a time when food products of every kind are scarce and high priced. There is a remedy. Rather there is a preventive measure which can be relied upon. The use of Bordeaux Mixture is beyond the experimental stage. It has been abundantly proven that a few thorough sprayings with this preparation will insure the potato crop against the form of rot which follows blight. This is the chief foe of the crop, often proving far more fatal than the "potato bug" even when he is left to his own devices. It is this form of rot which has resulted so disastrously in many districts this year.

It is significant that the losses this year were much more serious in eastern Nova Scotia than in the western Counties, where the practice of spray- is more general. To save labor and time, it is well to mix the Bordeaux Mixture with the beetle poison. Thus two birds are killed with one stone, or, to be more accurate, two bugs with one dose.

A good illustration, setting forth these well proven facts recently came to the notice of the Department. An elderly farmer from eastern Nova Scotia dropped into the office of the Secretry for Agriculture, and told his story. He had attended the Short Course last winter at the College, and had there heard so much about spraying potatoes with Bordeaux Mixture, that he decided to try it. So convinced was he of the truth of what he heard that he made his experiment quite extensive. This was fortunate for him . The whole field had been sprayed three times during the season, with the exception of two rows in the middle. The potatoes in these two rows were practically all rotten, while the remainder of the field was almost entirely free from rot.

This man also observed that the yield was much heavier in the sprayed than in the unsprayed rows. He is now selling potatoes to neighbors, who, if they had adopted his plan, would have had an ample supply.

This is but a typical experience. The deductions are obvious. Not only was this man well repaid for taking ten days off to attend the Short Course, but he has proven to his own satisfaction, and to all who care to know, that spraying potatoes is a paying proposition. The increase in the yield has also been amply demonstrated by the College authorities and others. The general estimate is that every additional day that the tops are kept green means an incrase of five bushels per acre in a reasonably good field.

The winter is the time to plan and prepare for next summer's undertakings, and it is not too early even now to begin. A letter to the Department of Agriculture will bring any farmer who desires it full information on spraying practice and spraying machinery.

THE CLUB ROOT PEST

From general reports of root crops throughout the country it is evident that considerable numbers of our farmers have had a great deal of club root in their turnip fields. In many cases the crop on this account has been a complete failure. It is not only the field crop grower who has suffered, for cauliflower, cabbage, early and late turnips, radish, Brussel sprouts and kale are all subject to the ravages of this foe.

There is, however, litle need for the farmer or gardener on a smaller scale to worry over club root, povided it is dealt with in a systematic way. The cure is two-fold, the application of lime and a proper rotation of crops.

In 1915 the N. S. Agricultural College, Horticultural Division, had on their hands a considerable piece of land which was very badly infested with club root on cabbage. In fact, the whole crop was a total failure, and all vestige of vegetation was then ploughed down.

A series of plots were laid out, and different quantities of lime were applied, both of the burnt, air slaked lime and crushed limestone. Two check plots in different parts of the field were left unlimed. In these plots cabbage and turnips have been grown anually for the last four seasons. This is not a proper rotation, but it was supposed that more might be learned in a shorter time by planting a cruciferous crop every year. The lime was applied the Fall before planting the crop, and none has been applied since.

Where the heaviest application of both burnt and crushed limestone have been made there has been a notable decrease in the number of plants afflicted with club root. This year has given us a stand of plants one hundred per cent. free from club root. The plots which received a much smaller quantity of lime are not absolutely free from the pest, but under the plan of the experiment they show a very decided improvement over the check plots, which received no lime. These check plots have practically no growth whatever owing to the roots being destroyed by club root.

It was noticed that in cases where the lime had not been deeply incorporated in the soil and the roots had gone below it there was slight infestation.

For those who have trouble with club root, it would be best to start now to eradicate it. Any infested plants should be destroyed by burning. Any plowing to be done should be done deeply and left rough.

Apply the lime, preferably crushed limestone, since it is more easily handled in large quantities. For small garden plots the burnt, air slaked lime can be readily used and will give quicker results.

Apply from four tons upward per acre of crushed limestone accordingly to the amount of infestation, or from two and a quarter tons upward per acre of burnt lime. Do not plant a cruciferous crop more often than once in four years. A longer period would be better. Carry on a proper rotation.

CLOVER SEED GROWING IN NOVA SCOTIA

It is only within the last half-dozen years that any extensive effort has been made by Nova Scotia farmers to grow clover seed. The high prices now prevailing, and likely to continue for some time, have stimulated interest in this side line. One of the chief difficulties in former years has been the threshing of the crop. This drawback has now been largely overcome. There are now three hullers at least in the Province, all of large capacity. One is owned by a group of farmers about Somerset in Kings County. Another is owned by a group in the vicinity of River John, in Pictou County. The third is the Government owned huller, which is available for any part of the Province where there is a reasonable amount of clover to be threshed.

The Provincial Department of Agriculture gave some assitance in the purchase of the two community owned machines for the purpose of encouraging this very important industry. With the same end in view the Government owned huller is being moved about to accommodate districts which as yet have not developed the business of clover seed growing sufficiently to justify purchasing.

Plans have now been made for the Government machine to begin operations at Mabout, Inverness Co., early in December. From there it will be moved to Antigonish, thence to Lawrencetown, Annapolis County, Bridgewater, Musquodoboit and Truro.

At Mabou, the most easterly point at which any extensive effort has been put forth along this line, farmers last year threshed several hundred pounds of clover seed, and they expect to do equally well this year. Late reports state that the River John group will thresh several thousand dollars worth of seed this year, and that the Somerset district will also have a substantial quantity.

Every well informed farmer knows the value of clover as a means of increasing the fertility of the farm. Its use was rapidly increasing in Nova Scotia until the past two years, when prices began to soar, first doubling, then almost trebling. This, with the scarcity of seed at any price, has considerably reduced its use.

The way out is now plain. It has been abundantly demonstrated that clover seed can be successfully grown in the districts indicated above, and there is no reason why it should not be grown all over the Province. It would pay more farmers to correspond with the Department of Agriculture, and receive any instructions they feel the need of as to proper methods of growing this valuable seed.

THE FANNING MILL

In olden times threshing and winnowing were rude and rough processes, separating in a general and indiscriminate fashion the grain from straw and chaff. The modern progressive farmer is exceedingly careful to have only the very choicest grain for seeding purposes. The Ontario Department of Agriculture recently issued this statement: "The fanning mill, properly used, makes it possible to plant less grain and yet harvest 20% mor crop." The reliability of the statement has been abundantly demonstrated in the experience of Nova Scotian farmers.

Before the war there was a substantial number of fanning mills in Nova Scotia. While the war was in progress it became more and more apparent to every one that measures would have to be hastened to conserve the home grown grain for seeding purposes, and the Department of Agriculture paid a bonus to many more purchasers of mills to this end. It is now a commonly accepted fact that the home grown grains are superior, when properly cleaned, to anything that can be purchased in outside markets for seed.

Farmers who have their own mills will, of course, plan to use them. Many others who do not own one themselves can arrange to have their wheat, oats, and barley put through their neighbor's mill. It would be a wise policy for every grain grower to look over his bins at an early date, selecting the best and thoroughly cleaning it for seed purposes. There are few things that he can do at this season which will give him as much satisfaction and as good return later on. It is so easy to allow matters of this kind to lie over until the seeding season is at hand. Then the pressure of other work, and the occupation of the mill with the owner's work prevent its being done at all. Make sure at the earliest possible date of a good supply of home grown, well separated and cleaned seed for the Spring of 1920.

CONSERVING THE POTATO CROP

Experienced potato growers know the necessity of picking over the bins carefully and removing all infected tubers. They have learned by costly experience that a single rotten potato in the heap will, in a comparatively short time, spread the infection until nearly all are rotten.

In other days, when potatoes were worth only a few cents per bushel, the precaution was not so important. With present high prices, and the prospect of higher prices still. the situation is different. In a season like the present, when rot is prevalent, a man can make big wages on stormy days by going over the heap thoroughly and throwing out the rotten ones.

Jottings From the P.E.I. Dept. of Agriculture

Few farmers or dairymen recognize the great importance of individual cow testing. Agricultural Departments in all modern dairy countries have in recent years appointed a number of officials whose duty it was to visit farmers and endeavor to get all cow owners to take up this work, the importance of which is only realized by those who have followed this system over a period of years in endeavoring to build up a high producing herd of dairy cows. The plan is not to weigh every milking, as this would entail quite a loss of time, but to weigh the milk of each cow morning and evening, taking a sample of same every ten days, or three times in the month on record sheets supplied by the Department, and take samples carefully in bottles containing a preservative when returned from the creamery or cheese factory each month. If this work is carefully done at regular intervals of a 24 hr. day, we will have a yearly record of production of earh cow quite accurate enough for us to select and cull our herd by, but let no man think he can learn the percentage of fat produced by any cow by taking one or two samples. Only by carrying on this work persistently can we have any accurate knowledge of what each individual cow is worth. I have followed this practice for 14 years with the exception of one year when we were short of help and I soon saw the necessity of continuing it, and would not now think of conducting a dairy business without testing regularly. Just why so many continue to go in blind in their dairy work is hard to understand. If such men were taxed, even so little as one dollar a head on these cows, we would hear loud lamentations of the injustice of such procedure, but when it is clearly shown that they have several cows earning them from $10.00 to $25.00 a year less than their average or best cows, they do not seem to mind this loss, which is in reality a much greater tax levied by the cow, but they continue her in office or do nothing to try and find out if they are keeping any of that calibre. There is no reason why any dairyman cannot keep track of the work of his herd. In no other line of live stock feeding is it as easy to do so. There is no necessity as in the case of beef cattle or hogs of having to wait for six months until a sale is made or a slaughter executed to learn how the experiment has turned out. We can weigh our feed each day and our milk at the same time. The Babcock Test will show us the fat content and we may know from day to day how each cow is performing, and while it is not necessary to weigh feed continuously, the more we do and the closer watch we keep on the intake and output, the more we will learn of our business, and the greater will be our profit, and I care not how extensively a farmer may be in dairying it will pay him well to weigh and test his herd continuously year in and out. In my own herd I cannot afford to stop, it would mean a loss of hundreds of dollars annually, and the longer we have followed this cow testing the more we learn, as our record sheets prove. If a cow freshens in good fleshy conditions and is properly cared for, she will test considerably higher for the first two months than she will average over the full lactation period as a good producer will at this time "milk off" stored body fat, and we have learned that at any time in the year she may be losing flesh while milking, she will test comparatively high, and if at any time she gains in weight or fattens she will test lower than her average for the year.

Individual cows vary greatly in their fat production. We have discovered in certain instances where a cow whose average yearly fat test was 3.2 per cent, tested 4 and 4.2 per cent for the first two months, gradually decreased until she touched as low as 2.9 in the latter end of her milking period. This cow was a heavy milker, and as a good doer laid on fat during the two months she was dry. Had anyone taken single samples during any one week of her lactation period, they would have had no idea of the kind of a producer she really was. Quite recently a two year old heifer freshened and we started in our regular monthly test finding her first month's average 4 per cent fat and we hoped she was a high tester; the second month showed just 3.0 per cent and the third 3.2 fat, but we will have to follow her the entire year to learn just what her average test may be; even then if the cows are not in normal condition in every way we do not know what their worth may be as condition, not feed, causes the variation in fat content and the ability to produce milk rich in fat is hereditary, but variations in each cow's milk will occur from the condition of flesh and the time she is milking more than from any other cause that I am aware of although certain methods of feeding will raise the per cent of fat in a cow's milk, it will only hold for a comparatively short time, and while a skilled feeder may raise the fat content it will only last until her system becomes accustomed to the manipulation of feeds. I have done considerable experimenting in this work, have entered every dairy test possible and conducted weekly and yearly official tests on my farm; it has proved most interesting and valuable work, and from our results I can quite understand why percentage of fat at the creamery in milk varies from month to month. The accuracy of the Babcock Test is established beyond the shadow of a doubt. No man need think he can fool this method of testing milk. In the best dairy centres where it has been in use for years, we never hear of anyone doing so, although complant is often heard where it is not regularly done, and when we bear of herds of cows testing at the factory lower than the owners think they should, you may be sure they are putting the fat on their backs.

We once ran three heifers in yearly official record work, which must be done by the owner under oath, some official of the Government overseeing the work and doing the testing. These same heifers were also tested in our Cow Testing Association, and it was interesting to follow the work being done by two different men, neither of which knew the other was doing it, and I was pleased to note how closely their work agreed. Those heifers calved in November and in the month of June and July as they were under official test we fed them a good meal ration (which is not our custom under ordinary work) and we soon noticed they were gaining in flesh and that month's milk tested the lowest of the year's work. In August the pastures became slack and as they were heavy milkers they failed slightly in quantity, became noticeably thinner and immediately their tests became higher. On many occasons I have noticed that if at any time during a cow's milking period she started to fatten or fain flesh, her milk tested lower. The Danes have made exhaustive tests on some 300 cows to learn if possible, how to control the percentage of fat, and though the result of these experiments has shown that the ability to produce milk rich in butter fat by any cow is hereditary, that feed does not influence the percentage only for a limited time, or until the cow's system becomes accustomed to any marked changes, that condition has a great deal to do with the percentage of fat in the cow's milk, and a cow above or below normal will vary considerably in fat and if we would increase the percentage of fat in our herd, the first move we should make is to learn which of our cows are the best producers by a system of testing carried on long enough to establish this beyond question. Then select a sire for your herd whose immediate ancestors have proven to be producers of high testing milk for the breed, but do not condemn a cow because she may not test just as high in fat as you would like. A cow should not be judged by the pounds of milk she gives nor the percentage of fat, but by the pounds of fat. If a cow gives 40 lbs. in a day of 5 per cent milk, she is a superior animal. This is two pounds fat a day, 50 pounds 4 per cent milk is the same, 60 pounds 3.4 milk is slightly over this, as is 70 lbs. 3 per cent milk being 2.10 fat. If we condemn a cow because she tested only three per cent we would punish her for throwing in 30 lbs. more of skim milk than her 40 lb. 5 per cent sister.

WALTER M. LEA, A.S.M.

Can You Grow Potatoes like this?

With a reasonably good soil and rainfall and the liberal use of Harab-Davies Fertilizer, you can be sure of a potato crop superior in both quantity and quality. The potato shown in our illustration was grown by a New Brunswick farmer who is a consistent user of Harab-Davies Fertilizer. He sent us this potato as a good average sample of his crop. There's no magic about it. Harab-Davies Fertilizer is simply an efficient plant food, containing Nitrogen or Ammonia, Phosphoric Acid and Potash in readily soluble form. Its record of success is its truest recommendation. Write us to-day for our booklet, "Fertilizer Results by Satisfied Users." It will be sent free on request, and it will give you evidence in the shape of signed letters from farmers in all parts of the country who know by experience how **profitable** Harab-Davies Fertilizer is.

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Fruit Packages

We Manufacture Strawberry Boxes and Crates for same, 6 qt. Baskets, Apple Boxes, Box Shooks, Apple Graders, Wheelbarrows. Now is the time to lay in a supply of Fruit Packages for the coming season. We have a good stock on hand, order early and ensure prompt shipment. Price on application to

Hantsport Fruit Basket Co., Ltd.

HANTSPORT, N. S.

SYDNEY BASIC SLAG

We are glad to inform the Farmers of New Brunswick that after being shut down for two months for want of raw material, our mills are again running day and night, and that full supplies of Basic Slag will be available for next season. In order to make for still greater efficacy we have increased the fineness of our product from 80% to 85%. This is the highest standard the world has ever known. We want reliable agents in districts where we are not already represented and all applications should be addressed to our

REPRESENTATIVE FOR NEW BRUNSWICK

C. T. LOGAN

R. R. NO. 1, AMHERST.

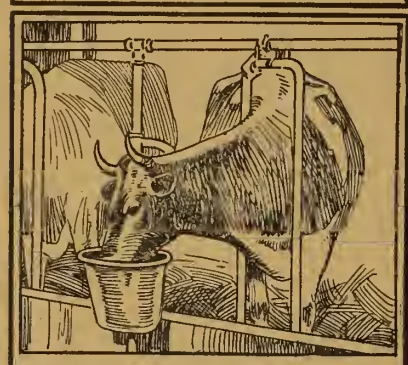
who is now travelling the Province in the interests of our business.

THE CROSS FERTILIZER CO., Limited,

SYDNEY, Nova Scotia

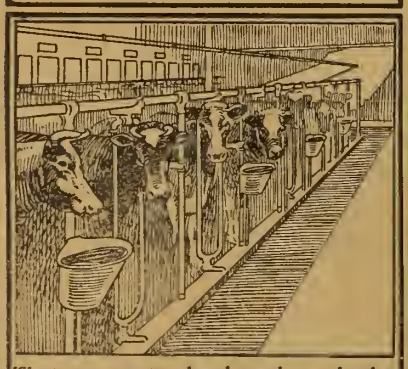
Butter Parchment at Farmer Office

Mr. Jos. Brown, of Bruce County, Ontario, had a good cement tank in his shed. It was always full of water and he drove the cows out to it at nine in the morning and 4.30 in the afternoon. Of course that was a pretty cold job in winter.



A friend suggested to him that he test the amount of water the cows actually drank from that tank. He pointed out that cows would not drink enough cold water at just two definite times a day. Even, if they did, it would injure them. He suggested putting in water bowls, so that the water would be before them all the time at the right temperature.

Mr. Brown made the test. He watered the cows in the ordinary way at 5 o'clock; then he went in and had his supper. After supper he carried water in pails to see how much they would drink. He carried 20 pails of water for his ten beef cattle.



That was pretty hard work, so he let his cows and the rest of the stock go. He figured, though, that the stock were certainly not getting watered properly at the tank. He put in BT Water Bowls right away.

It will not place you under any obligation to get information about the BT Water Bowl.

The coupon will bring it.

DAIRYING.

A GREAT MANY CALVES THAT WOULD GROW UP TO USEFUL COWS ART LOST IN CALF-HOOD

A great many calves are lost in calfhood—die at birth or die of scours before they are six weeks old. Many others are lost later from blackleg say, because they were not vaccinated against the disease, and a great many calves simply do not grow into the animals they should because they never had the feed necessary to make them what nature gave them the frame and constitution to become—in other words they were stunted and underfed during the only period in life when growth could be made, the first year of life, partcularly the first winter.

There can be no question at all as to the kind of sire and dam a calf should be from to make the kind of success it should be in life. The pure bred sire is the corner stone of successful cattle raising and the first essential in the raising of good calves. First of all the cows should be bred to a pure bred bull; that is the first step in raising better farm calves and a very important first step too. Then to give the calf a fair chance at the start its mother should be dried off and fed well for at least 6 weeks before calving. Calves from cows that are not rested betwen lactations are usually undersized and weak. Calves from cows that are not reasonably well fed during pregnancy are likely to be similarly handicapped. To be small and weak is a serious handicap for a calf to start life under. To be small and weak from a scrub bull is a handicap that no calf ever was able to overcome no matter what care, feed and attention was lavished on it in calfhood or after life.

The calf should be left with its mother for the first two to four days so that it may get the colostrum, or "first milk." From that time until it is four weeks old it should be fed from two to five pounds of its mother's milk three times a day. Many experienced breeders feed calves which are weak a smaller amount but give it four times a day. It is well to remember always that there is more danger from overfeeding a young calf than from under-feeding. To warm and bring milk to the proper temperature, it is best to set the pail of milk into warm watr. Scaldng milk by turning live steam into it makes it hard to digest. Hence, this system of heating milk is not advisable.

Many calves as well as their feeders experience serious difficulty when the calf is first taught to drink. It is useless to attempt to teach a calf to drink until it shows some signs of being hungry. Coaxing the calf ten to twelve hours after it has been taken from its mother, when it ordinarily begins to show signs of hunger, by letting it suck one's fingers and gradually leading its head into the pail is the best mestod of teaching it to dring. The fingers should be withdrawn as soon as the calf begins to take the milk. The calf, after being coaxed in this manner for a few times ordinarily learns to drink from the pail with little difficulty.

Durng the fifth week change gradually from the whole to skimmilk. Do not increase the amount fed until about the eighth week, when the calf needs from six to ten pounds twice daily. Froth, which rises on separator milk ,should not be fed to calves. It is almost sure to produce indigestion, bloat and scours. If available skimmilk can be fed profitably until the calf is a year or more old, but in order to get the greatest returns rfom the milk, the amount fed to any calf should not exceed 20 pounds a day.

A good grain mixture for young calves consists of 60 pounds of whole oats, 30 pounds of wheat bran, and 10 pounds of oil meal. Many feeders feed equal parts of oats and bran. Some use whole oats. In any mixture oats should be the chief grain used.

When the calf is from ten days to two weeks old, give it a small amount of clover, alfalfa or grass hay. Avoid feeding hay or any other kind of feed that is moldy. A little later give a very small amount of grain and increase the allowance gradually as the young animal develops. It is well to keep a calf a little hungry, rather than to tax ts digestive organs . A calf's appetite and the condition of its bowels are the two arms to the guide-post which mark the course the feeder should follow. Occasionally, a craving appetite for hay and straw results in too much being eaten and indigeston follows. In such cases separate the ailing calf from its mates, and reduce or change its feed until the apptite becomes normal.

The calves should be separated and penned in groups according to their ages. They can be fastened to stanchions when milk is fed and grain can be supplied them immediately after they drink. Feedng the grain at this time and keeping them locked in the stanchions until the grain is eaten help to overcome the habit of sucking. Calves that continue to suck one another after being turned loose should be separated, or some other means should be taken to prevent the practice. Heifers often have their udders injured by being sucked.

After calves are six months old less grain will be wasted if it is ground. The amount of grain fed should vary form a small handful for the young calf to three pounds or possibly more in some instances, for heifers from 24 to 30 months of age. If, for any reason, a heifer is thin, an extra amount of grain should be fed to get her in condition.

During the first year feed the calves regularly in the barn and turn them out for exercise in shady paddocks or during the nights only. When convenient they may regularly be fed in paddocks. This will insure satisfactory growth at an age when it may be secured at lowest cost. Supply water and salt daily.

Calves that scour may be treated in this manner: As soon as symptoms appear, give the calf two to four tablespoonfuls of castor oil mixed with one-half pint of warm fresh milk. After four to six hours give a heaping teaspoonful of a mixture of one part salol and two parts each of sub-nitrate

FREE COUPON

BEATTY BROS. LIMITED

U387 HILL STREET

FERGUS, ONT.

Please send me complete information regarding the BT Water Bowl. This is to be free and without obligation to me. I have answered your questions below.

Are you thinking of putting in Water Bowls?.....

If so, when?.....

How many cows have you?.....

Your name.....

P.O.....

R. R. No..... Province.....

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FARMERS will find it to their advantage to co-operate with this Bank.

With branches throughout every province of Canada, and correspondents in all parts of the world, we have unequalled facilities for gathering news of markets, prices, and business conditions of interest to farmers.

Make it a point to call upon us whenever you have an opportunity.

Mutual confidence brings success.

THE CANADIAN BANK OF COMMERCE

29A

Facts about Ingersoll Watches

15000 people buy them every day

5 Million a year

Sold for 25 years

15 different models including Radiolites that tell time in the dark

Canadian factory. Canadian workers.

Radiolite—tells time in the dark. The hands and figures are coated with a substance containing real radium ⅞ actual size

of bismuth and bicarbonate of soda. Purchase these at any drug store mixed in the proper proportions ready for use at any time. This, too, can be given in one-half pint of milk or the powder may be placed on the calf's tongue and washed down with a small amount of milk. The dose may be repeated at intervals of four to six hours until scouring ceases. The allowance of feed should be reduced at once and not increased until the condition of the calf warrants it. In mild cases castor oil is unnecessary and, therefore can be omitted.

As a precaution against scours, do not over-feed; have milk at proper temperature; feed mlk regularly and from pails that are scrupulously clean. If possible, feed the calf its mother's milk; if necessary to feed other milk, choose a cow which has recently freshened and continue regularly with her milk. Make any changes in feed gradually. Guard against feeds or materials that will produce indgestion such as sour milk, moldy or very coarse or woody feeds, and paint, blankets and sacks, which calves will sometimes eat. Keep calves clean, dry and out of cold draughts of air. Give calves subject to scours a half-pint of lime water in their mlk for a week.

The most dreaded form of scours is contagious and is known as white scours. It occurs only in newborn calves. It may be prevented thus: Remove the cow to a clean, dry box stall when she is about to calve; wash the cow's tail and udder with a 3 per cent. coal tar solution; disinfect the calf's navel with tincture of iodine; have a veterinarian inject white scours serum as soon as the calf is dropped; destroy all excrements and soiled bedding and disinfect the stable at frequent intervals.

COW WITH GARGET UDDER DRIED UP

Two weeks ago one of our cow's udders commenced to cake. I bathed it with hot water and salt, then sent for Vet. The swelling has gone down gut the udder has dried up.—J. B.

Ans.—This s no doubt a case of garget or mammitis, a cararrhal inflammation of the lining memberanes of the ducts of the teats, milk reservoirs and tubes leading to the milk secreting cells. It is caused by exposure t odrafts or rains, lying upon cement floors or wet frozen ground, standing in cold water, bruising, chasing by dogs, injury rough, irregular or incomplete milking, overfeeding of feeds rich in protein or sudden changes in feed.

In the simple form, the udder becomes

There are different forms of garget. swollen, red and hot and the milk becomes pale yellow or is tinged with blood containing clots or curds. There may be some stiffness in walking. Mild attacks usually subside in a week or ten days. The udder should be bathed in hot water and thoroughly massaged and the milk stripped out of the affected quarter. Three times a day rub the udeer with a mixture of 1 part each of turpentine and fluid extracts of poke root and belladonna laves and 5 parts of warm melted lard or sweet oil.

The simple form may turn into the acute garget in which the symptoms are all more pronounced, the affcted cow having chills and fever, loss of appetite and the milk may have a foul odor. Abcesses may form and discharge pus. The affected quarter is permanently ruined unless prompt treatment checks and cures the attack, which is very difficult to do. The cow should be given a half ounce of saltpeter in the drinking water or as a drench every four hours and if necessary, a physic of epsom salts and linseed oil should be given to evacuate the bowels. The udder should be treated as for simple garget.

The most dangerous form of garget is that caused by bacteria. This is highly contagious and is dangerous to people as well as animals. Pus forms in the swellings or sores on the affected animal's udner and in extreme cases gangarene sets in and the diseased quarter slough off. In cases of this kind the affected animals should be isolated and the stables thoroughly disinfcted. The udder should be washed clean and the swellings painted with iodine . The best plane, perhaps, would be to consult a good veterinarian and follow his directions as to further treatment.

DE LAVAL

the world's standard CREAM SEPARATOR

"It is so much easier than the old way."

In these times of high butter prices and scarcity of labor, no housewife should bother with the old-fashioned gravity method of skimming milk. The De Laval Separator will recover one-fourth more cream and do it with less work and in shorter time.

Neither is there any excuse for struggling with a half-worn-out or inferior separator that wastes cream and is hard to turn and difficult to wash. The work can be done much better, quicker and easier with the De Laval—the world's standard separator.

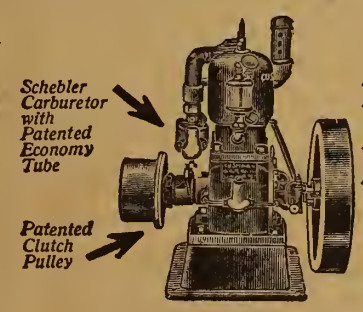
By purchasing a De Laval now, it will have paid for itself by spring

The nearest De Laval agent will be glad to demonstrate a De Laval
If you do not know his name, write to nearest De Laval office

THE DE LAVAL COMPANY, Ltd.

MONTREAL PETERBORO WINNIPEG VANCOUVER

50,000 Branches and Local Agencies the World Over



CUSHMAN ENGINES

in 4-8-15-20 and 22 H. P.

For all farm work. Successfully used on hundreds of farms in Ontario and Western Canada. Cushman Engines are lightest weight engines in the world. Throttle governor and perfect balance eliminate friction and vibration. 4 H. P. will save a team on binders, balers, etc. Easy to move around. Moving parts enclosed and run in oil. Any speed—changed while running. Direct water circulating pump prevents overheating. Schebler carburetor. Friction clutch pulley. Other Cushman lines cover all farming operations—ask for particulars.

Cushman Motor Works of Canada, Limited

Head Office, WINNIPEG, MAN.

Distributing Warehouses Toronto, Moose Jaw, Saskatoon, Calgary, Edmonton.

Distributors for New Brunswick.

Wallace Machine Works, Limited, Sussex, N. B.

LIVE STOCK.

THE BETTER SHEEP CAMPAIGN HOW TO CONDUCT IT PROFITABLY

There are few letails of the mixed farming business more worthy of interest and study to the farmer than the matter of increased flocks and better sheep on the farm. Unusual conditions prevailing for the past few years, of course, have accounted for the abnormal figures this farm product has brought; and yet it is safe to say that never again will the price of sheep and sheep products fall back to the old level, when keeping them was not considered profitable. It does not require the eye of a prophet to see that for a long time to come, and perhaps always, wool will bring remunerative prices. It is, therefore, gratifying to find that these profitable animals are now finding many new homes. In some respects during the past few years, the change has been a little hurriedly made for the sake of taking advantage of prevailing high prices, and under these conditions men have not been as particular as they should have been as to the quality o fsheep they have bought. To get wool and sheep has been the uppermost thought regardless of the grade of sheep they have bought on to their farms, but a more profitable policy to have pursued would have been to have invested in the highest possible grade of sheep, even though it might have taken a little longer to have realized paying returns from them.

Choosing the Breed

To assist farmers with an ambition to own the best sheep, there are sheep breeders' associations aiming to foster the breeding introduction and improvement of every individual type of sheep. In the point of choosing of the class of sheep, it is not a question of breed at all, practically speaking, but one of individual. In almost any of the breeds can be found sheep with desirable qualities of both wool and mutton, and these are the ones to be assiduously searched for. For the climate of Ontario and Quebec or for northern climes generally, as well as for market conditions, there is probably little doubt but that one should select sheep from among the medium wool, mutton type breeds; but beyond this distinction there is little choice as to breeds. Those who continually make the inquiry, "which is the best breed of sheep to grow?" the subject of inquiry, might far better direct their attention to a determination of which is the best individual to grow.

Breed associations are all working together to further the interests of the sheep lover, and therefore it is not so difficult as it usd to be to find first class sheep. With the Fair season at its height, one has opportunity to campare the different breeds and satisfy himself to some extent as to the variety he would like best.

It is worfh while to think of this carefully. The kind of sheep which might do well with one farmer, might not in the case of another; for all have not farming lands that are adapted to certain types of sheep. Neither are farmers all constituted alike. One man may like to care for one kind of sheep, while another may find an entirely different breed to his liking. It is best, however, so far as possible, for the farmers of any given part of the country to keep some particular kind of sheep. Then they can visit each other's farms and compare notes and, better still, work together for the breeding and sale of their individual line of sheep.

Grading the Flock

In point of wool it is a common practice with not a few farmers to consider a fleece just a fleece, without regard to its nature. In the same flock will be retained for years sheep that yield excellent fleeces, and right beside them others that yield inferior ones. There ought to be continual observation made, if not actual records kept, so that intelligent discrimination can be made, and such sheep as are not satisfactory should be culled out. Those who are doing this are making no mistake. They are clearing out their old stock absolutely beginning with practically new stock that costs more, but which is unquestionably better.

Farmers who are inclined to stay their hand at grading their flocks, by considering the cost and sacrifice of ridding themselves of the low grade and inferior class, to allow the introduction of something far superior, are losers in the game. Though they may not be able to get as many high grade sheep as they would like at the outset, they should be satisfied with what they can get. In dispensing with poor sheep or sheep a little above the average, there is always some sacrifice to be made, for one cannot get as much for such sheep as they will have to pay for better sheep. It costs to produce fine sheep. The man who does it must put all his energies into the work he is doing; he must feed right, he must breed right and he must give the right kind of care all the way; and it stands to reason that he will have to ask more for the product of this good care and treatment. But by and by the farmer who invests in the better class of sheep will realize, with pleasure, the change he has made when totalling up the returns from the sales of wool, mutton and surplus sheep and lambs. It is not wise to be hasty about fhe big flock; better go slow and right. It is always an advantade for farmers to work with one breed, and stay with that breed, for indiscriminate crossing will lose him all the money he has invested in the better sheep campaign he has started on his farm.

THE DAY THE BULL SHOWS FIGHT—HOW TO PREPARE FOR IT

Every bull should be handled and managed at all times as though he were known to be dangerous. He is dangerous, whether he has shown symptoms of it or not, and some day may make the fact sorrowfully manifest. A bull that is known to be a cross fellow never does any harm, simply because he never gets the chance, but it is the gentle animal, the one that has a name for docility that gets his chance when he has the "spirit" to take it. The wild nature inherited from ancestors still lurks in all domesticated animals, and the bull is the most formidable of all. All other species of animal only show the disposition to fight when badly used or irritated by man, but the bull will attack without proovation. This difference must always be kept in mind when dealing with the different farm animals. Forgetting the fact and trusting to the methods of handling of the bull in the past, is if he were a harmless exception to the rule, has cost many a bull owner or caretaker his life. Years may pass without anything happening to injure his reputation, but all the while he may

FIRE!

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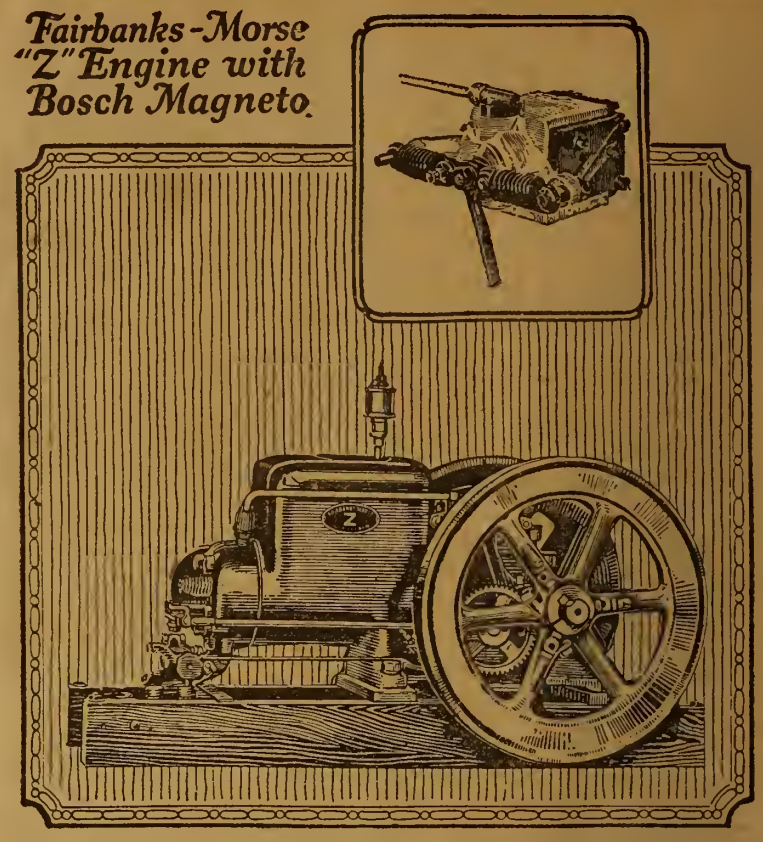
Protect your home with a strong, permanent ladder. Write us today.

Highest commissions paid.

WALLACE MACHINE WORKS, Limited
SUSSEX, N. B.

The Greatest Combination

Fairbanks-Morse "Z" Engine with Bosch Magneto



WHEN the full meaning of this "Z" message is realized—mighty few farmers in Canada will fail at once to call on the nearest "Z" Engine dealer. ¶ This example of master engine building must be seen. ¶ Type and pictures can but suggest this value establishing achievement. ¶ By adding this one possible betterment—Bosch high-tension, oscillating magneto—we complete a rare engine service, fully maintained by all Bosch Service Stations throughout Canada in co-operation with every "Z" Engine dealer—for all "Z" Engine owners.

MADE IN TORONTO, CANADA, BY 49

The Canadian Fairbanks-Morse Co., Limited

Halifax St. John Quebec Montreal Ottawa Toronto Hamilton
Windsor Winnipeg Saskatoon Calgary Vancouver Victoria

The Farmer's Opportunity To Start the New Year Right

Opportunity knocks at the door of every Farm Owner and Farm Operator. Opportunity to increase production. Opportunity to assist a Returned Soldier who is anxious to become a Farm Owner.

Many Returned Soldiers are anxious to engage with high-class Farmers for the winter and next season. They need experience. They want to qualify to become beneficiaries of the Soldier Settlement Act.

The outlook for the Agricultural Industry is promising. Increase your area of production and in doing so assist a worthy man to become a Farmer.

Write the nearest office of the Soldier Settlement Board and ask for a good man—a helper and a co-worker. The Board will be glad to send you one who is in earnest and, therefore, will be worth much to you.

DISTRICT OFFICES AT: Victoria and Vancouver, B. C.; Edmonton and Calgary, Alta.; Regina, Saskatoon and Prince Albert, Sask.; Winnipeg, Man.; Toronto, London, Fort William and Ottawa, Ont.; Quebec and Sherbrooke, Que.; St. John, N. B.; Halifax, N. S.; Charlottetown, P. E. I.

THE SOLDIER SETTLEMENT BOARD
W. J. Black, (Chairman)
Union Bank Building, Ottawa, Ont.

be waiting his chance.

The proper handling of the bull, from calfhood up, is of material interest to the owner as the other duties of feeding, etc. The period to inculcate obedience is in childhood, and the time to teach him this domestic duty is when he is quite young. He will resent the treatment necessary ot his training less at a month old than at any subsequent time. The bull should never be teased, as this will surely develop the fighting instinct, and any liberties on his part should be met with firmness. Neither should he be petted, as this familiarity might one day be treated by him with contempt. Nor should anyone be allowed to handle the bull, young or old, who is nervous, as he will be quick to notice this weakness, and be ready to take advantage of it. Often an attack from a bull comes from this cause, which could have been overcome at its initial stages by a corageous man. The number of casualties every year disclose clearly the wisdom of taking all necessary precautions in the handling of these animals.

Bulls should be rung only when a few months old, and trained to lead with the ring, without harsher treatment. The first ring will be better if a light one and then change for a heavy one later on. If a bull is suspected of being inclined to be vicious, his head should always be kept high while leading him. Some bulls, if they get their heads down, will prove dangerous even when well rung. To aid the man in charge, a staff with a heavy steel spring hook must be provided. It must be dependable, and not of the ordinary fork handle socket type. They are not safe. It must always be remembered that it is on the stability of the staff that the life of the caretaker, or whoever may be around, depends. Perhaps the safest hook for fixing the staff to the ring will be one provided with a small thumb screw.

If the bull is exercised in a yard or has of necessity to be let loose, it is always safe to have a yard or two of a drag chain fixed to the ring.

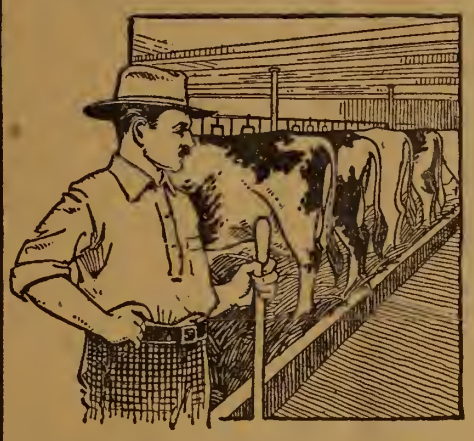
The yard in which the bull is exercised should be provided with a wire rope, to which the bull can be attached to a slip ring, and thus give him facilities to range the whole length of the yard.

The temperament of the bull depends largely on his training. "The boy is father to the man," and in like manner the "calf is father to the sire." The care and handling of the bull is a serious proposition, and the man in charge must always keep in view the fact that he is dealing with the most formidable animal of any in the history of domesticated animals.

DRENCHING SHEEP

A very satisfactory method of drenching sheep by use of raw linseed oil given in about four to six ounce doses. Every care must be taken, however, to prevent any of the liquid from going down the trachea to the lungs. If this does occur it will cause death. Gentleness is of great importance in this process as well as in all other processes in handling sheep. A very good way is to back the ewe into a corner, letting her stand on all four feet, holding the nose until it is high enough to prevent the liquid from running out of the muoth. Do no ttry to force the nose too high up. A two ounce syringe can then be used, forcing contents slowly down the throat. Hurried use of the syringe may cause pneumonia.

Systematic Feeding PAYS!



Simplify your Feeding Problem by using—

MILK yields depend largely upon the feed. Don't just trust to luck in your feeding. Make it systematic. If you plant poor seed you don't expect a good crop. Why look for good milk yields from cows that shift for themselves or have poor feed? The upkeep cost of cows decidedly warrants a feed that will make them able to give maximum milk yields. Feed systematically by using

Monarch Dairy Feed

It turns "boarders" into profitable producers. It is rich in protein supplied by oil cake meal and cotton-seed meal. For bulk and palatability there is bran, corn feed and barley feed. The slightly laxative quality of the oil cake meal is balanced by the tendency of the cotton-seed meal to be constipating. This combination of feeds is perfectly balanced. It means fine, healthy stock, and better yields of milk.

Monarch Dairy Feed, while very rich, may be fed alone. Guaranteed analysis: Protein 20%, Fat 4%.

Give Monarch a trial. Order a ton from your dealer. If he does not carry it write us direct. Ask for booklet, "Getting the Most out of Dairying."

MONARCH HOG FEED

A special Feed that meets all the requirements of the brood sow and the growing pig; consists principally of corn meal feed, shorts and digester tankage. Guaranteed analysis: protein 15%; fat 4%.

SAMPSON FEED

This general purposes feed is somewhat similar to Monarch Hog Feed, except that oil cake meal is used instead of digester tankage; it gives results for both cattle and hogs. Guaranteed analysis: 10% protein and 4% fat.

The Campbell Flour Mills Co., Ltd., West Toronto

55

Bright Prospects

It looks as though the demand for beef will be strong for some years to come, and the man who is in line for greatest profits is the Shorthorn Breeder.

We haven't room to give our reasons here, but write the Secretary for our free publications, which furnish facts.

DOMINION SHORTHORN BREEDERS' ASSOCIATION

W. A. DRYDEN, *President*
Brooklin, Ont.

C. E. DAY, *Secretary*
Box 285, Guelph
Ont. 21

Shorthorns

WHITNEY'S LASSIE, A CANADIAN AYRSHIRE WITH A REPUTATION FOR PRODUCTION

This pure-bred Ayrshire cow has the highest production to her credit in the last list of cows completing a year in Canaditn Record of Performance, with 16,081 lbs. milk, 659 lbs. fat and a test of 4.09 per cent. fat. She is half sister to Scotch Thistle, the cow holding the three-year-old championship for production in Canada. Whitney's Lassie, as a three-year-old, gave 10,804 lbs. of milk and 448 lbs, butter fat in R. O. P. She is now eight years old and has given her owner, John A. Morrison, of Mt. Elgin, Ont., six heifer calves and one bull, has been a heavy producer every year and is making as well now as she ever did.

LICE ON PIGS

Crude oil is coming into general use as a means for keeping hogs free from lice. In using it in summer some put a gallon of oil on a water pool and allow the pigs to wallow in it, which they do with evident delight. The oil may be added every four weeks or so. It is not advisable to oil pigs in the winter as the oil gets cold, even when applied by a sprayer. One of the commercial disinfectants that quickly dry up are the best for winter months.

HOW TO PREVENT PARALYSIS IN HOGS

Farmers who are having trouble with paralysis in hogs, or "going down behind" as some call it, will be interested in the following suggestions concerning the disease made by Dr. McIntosh of the Illinois experiment station:

"This is a very common disease in sows, especially in fine bred animals. I have investigated this derangement and find it is caused by a want of sufficient phosphate of lime in the nerve system especially the nerves supplying the hind legs. It is a known fact that the bones and nerves of pregnant animals are deficient in phosphate of lime, on account of the drain on the system for phosphate to build up the foetus, and also to nourish the young after they are farrowed. There seems to be more of a drain for phosphate on the system of the sow than any other female animal. The sow is more frequently affected with partial paralysis a few weeks after farrowing, although the derangement may occur before farrowing.

"To prevent this trouble, the sow should be fed on ground oats, bran and oil meal, and as much milk as possible, during pregnancy and while suckling young pigs. Should the trouble occur at either of the above-mentioned periods, the following treatment should be begun as soon as the animal shows the first symptoms of weakness in the hind legs, or knuckling over at the fetlock joints. Of course cases can be cured even after the animal is down and cannot get up. Give one tablespoonful of cod liver oil, 15 grains phosphate of lime and three drops of the fluid extract of nux vomica in a little food, as a dose twice a day. This treatment should be continued for several weeks if needed.

"Through experience it has been found that pigs from a sow that has had an attack of partial paralysis are no more likely to be attacked by the disease than pigs from a sow that has never had the disease.

"A sow that is affected with paralysis does not seem to suffer any pain, indicating that the disease is a local one, and if the animal can be fattened while in this condition, the flesh would be fit to be sold for pork."

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THE HORSE

THE PRACTICE OF BREEDING MARES SO THAT COLTS ARRIVE IN FALL AND WINTER MONTHS

In nature all young are generally born in the spring months, just the season that nature provides the succulent food for the necessary milk flow. In domestication of animals man many times upsets the natural law, and foals and calves are born out of season. The dairyman requires milk all the year round, and the horse breeder can time his breeding operation whereby the mare can rear the colt in winter when her services are not required on the field. Those farmers who adopt breeding operations to fit their own convenience succeed best if they provide by artificial means in winter the natural conditions of spring time and early summer.

Is Not Practiced in Britain

Some horse raisers advocate fall colts. It s a custom that is never practised in Britain, but there is no reason why it should not succeed in Canada where climatic conditions are different. There are very few farmers who make horse breeding a specializd part of their business colts are reared on farms just as a side issue. Most of the colts arrive in the spring or summer just when mares are needed in the fields, and too often the animals are overtaxed or overheated, both before and after the birth of the offspring; or the latter are given access to heated mlk, neither of which has ever been found to be benficial and often results in the loss of a valuable colt and not infrequently in the loss of both mare and colt. Many times too, the hay and grain ration gets to be a scarce commodity in the spring months, when early grass is quite a way off, just when mares require their full and regular ration. Yet the mares must help to put in the crop just when most in need or absolute rest. Short rations, coupled with hard work are not conducive to good results.

Advantages of Winter Foal

As a rule mares are not likely to be working hard in the winter, and even so, there is less dangr in beng ovrheated in cold weather; feed is likely to be plentiful until the colts are old enough to subsist otherwise than on the mother's milk, and only moderately warm quarters are essential in the average winter climate. With accommodation and abundance of food there is no reason why mares should not be made to foal in the fall if it is more convenient to have them do so. In fact, if one is forced to choose between a spring foal with no chance properly to favor the mare, and a fall foal which arrives and is suckled while the mare is laid aside from ctive work, the latter would be more desirable. During winter, however, both mare and foal will require more attention than if bred to foal in the spring.

There s a great advantage also to be gained to the foal when it is weaned in the spring time. The weaning period more often than any other in the history of the animal is the period that stunts the growth of most horses. When spring activities commence, the mlk flow will be about dried up in the mare, and a good substitute for the foal will be found in the early grass. This suculent feed in the early spring months forms the best weaning ration to be had. It furnishes an almost complete ration without entailing labor on the part of the attendant.

Adverse Conditions to Foal Rearing

One drawback with the winter foal is the opportunity for good hoof and leg development. There is nothing like the exercise of the open field for this. Many young colts of good conformation and breding are born with weak legs, and hoofs only partially developed. The winter box stall is the worst place for hoof and leg development, and this fact ought to exercise the chief attention of the horseman who has under his charge a winter born foal. The stall should be kept clean and free from heated manure. The foal's hoofs should ge on the hard ground all the time. When kept on heated manure for days together and then allowed out to dance around on a hard and frozen yard there will be hoof trouble all through the life of that colt.

Daily exercise is of the utmost importance when weather will permt. There are many days in winter that the mare and her colt cannot have the outside exercise owing to extreme cold or stormy weather, and on these days the stall must be kept free from a collection of manure.

Training the Hoof

To grow feet in the best possible manner they should be frequently and carefully inspected. As a rule it is necessary to shorten the toes and this should b done with the rasp; in fact no other tool should be used on a young colt's foot. Where the toes are kept short the quarters will usually take care of themselves, for the frogs will bear upon the ground, and keep the heels properly spread. Particular attenion shohld be paid to the frog, for if it gets out of contact with the bearing surface, the foot will rapidly lose its proper shape; the heels will contract and the walls at the quarters become brittle, weak and prone to split; either from above or below. The growing of the hoof must b judiciously directed. It is due to the lack of this attention that so many bad-footed horses are to be seen on the streets of the cities.

To keep up the milk supply is another necessary point in the growth of the winter foal. The dry winter feed is not nearly so conducive to milk flow as is the good clover pasture of summer. But clover hay for forage, and oats and bran for grain ration, will be found admirable substitutes. There is no use in thinking that the maintenance ration that

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is the usual fate of the idle horse in winter is enough for the mare that is raring a colt. In addition to proper feeding it is likewse necessary to protect the young developing animal against every possibl cause of debility, discomfort, and unhealth that would tend to retard its growth. Shelter must therefore be sufficient diseases must be fought against, vermin must be prevented from sapping constitution, and fresh air, sunlight, adequate exercise and kindly care must take a full part in perfecting the developmnt of the animal.

The Breeding Ration for the Mare

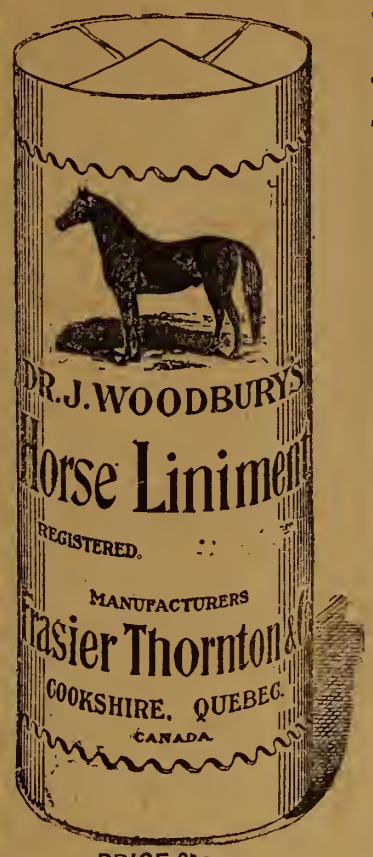
The spring time being the natural time for a mare to breed, it is not always possible to get the desired winter foal. She is often in a rundown condition after the busy season, and the dry ration of winter also mitigates against coming in heat. By giving liberal quantities of succulent food and a full ration of grain, the desired result can often be brought about. Blanketing of the mare will also aid to bring the oestrum period. The bowels should be kept free from constpation by feeding moderate amounts of succulent foods.

As a rule, mares are not likely to be working hard in the winter, and this condition gives some advantages this condition gives some advantage in having the foal arriving in the fall. But one must always remember that the brood mare is kept busy all the year round, giving milk all winter and labor all summer, therefore she should be fed accordingly. And this more especially true if the mare is bred again. A mare is not standing idle when rearing her young foal, and she is also doing double work when carrying a foal while keeping up her end of the hitch. Doubtless there is room for argument regarding the advisability of having summer or winter foals but those who believe it unprofitable to rear colts during the busy season should breed their mares to foal in late fall or winter.

HORSE WITH CANKER

I have a horse with canker in one hind foot, and has been going to the vet. more than six months and is no better, but he still works. Could you recommend anything? — A Regular Reader.

Answer.—This disease has been recognized from olden times, and apparently is on the increase. It may be described as a chronic wasting in one sense, diseased growth in another of the horny structures of the frog and sole always showing a tendency to spread. Unfortunately the early symptoms are overlooked. When treatment is most successful there is no lameness, and the farrier and the owner are either ignorant or indifferent to the disease. It is true we know but little as to the causes. The word canker is used in so many descriptive senses. Anything that corrodes, eats away, or sets up irritation is designated by this word, the same term is used for all. The subjects of this disease are usually heavy, dull, lymphatic, and the disease is certainly favored by dirty surroundings; standing for long hours in decomposed litter saturated with excreta and urine, a fault too common with country stables. Keeping feet dry and clean are necessary adjuncts to successful treatment. You start heavily handicapped with six months of the disease extending, and still working. Commerce at once with the conjunction of your farrier. You have an up-hill task, perhaps; do what you will you may only check the disease, not cure it . First have diseased foot soaked for a few hours in a bath of warm water in which 5 per cent. of lysol has been added, then let the farrier cut away all diseased horn. This must be thoroughly done; even around the diseased margins the horn must be sacrificed for at least a quarter of an inch. Spare, of course, all healthy horn. Then a shoe is to be nailed on lightly, well seated out; if much horn has been sacrificed wait. The next object is to apply pressure with wads of tow saturated with suitable dressing—something that will form a scab and check extension of the morbid growth. Five per cent. solutions formalin yield good results (do not let even this dilution come in contact with the bare hands.) The dressing must be renewed daily—ununder the shoe if practicable, provided with a thin removable iron covering—or in a canvas bag. Carefully observe daily if any greasy, cheesy, or yellow matter is forming; if so use knife again, or, perhaps, judicious use of hot iron. After a fortnight's treatment with formalin solution, try dry treatment, dusting on freely diseased surface powdered nitrate of lead, daily covering with dry tow, alternating same in similar manner with calomel every other week, but always have pressure. Internal treatment may aid the external—1 oz. doses of Fowler's solution of arsenic given sprinkled over the last feed at night, continued for a fortnight, intermitted for four or five days and then for another fortnight, is certainly worth trying. Keep poultry out of the stable while administering this arsenic. If possible, keep horse at work, but on your own farm, not on the public road. This is an outline of treatment, which, if carefully carried out (you require to work with an intelligent shoeing smith) and much patience exercised, may be rewarded with success. Keep observation on the present sound hind foot and on the diseased one for a period of six months.



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GROWTH OF HORSE'S HAIR

I should be glad of a recipe for growing hair on horse after a bruise. —Anxious.

Answer: Unless the hair follicles have been cut away or destroyed, or true skin lost, the hair will be renewed in due course, while if the injury has been of a character to destroy the hair follicles there is nothing that can be applied that will make hair grow or cause its reproduction. Thus recipes for making the hair grow are of no use, and to pretend to reproduce it is absurd, in fact, there is another name for it, which we leave to your imagination. Sometimes, particularly in the case of broken knees, where there has been only a graze, and the skin has not ben cut away or sloughed during the process of repair, some coloring matter combined with a hair stimulant is often applied to hide the blemish until the hair is renewed, and if yours is a case of this kind you might add some lampblack to an ointment made by mixing one part of mercurial ointment and three parts of lard or lanolin.

PARTIAL PARALYSIS

Can you tell me what might be the matter with my two-year-old colt The vet. said she was sunstruck. He bled her and treated her for some time, but no good results came. She can't walk good, has a wabble to her legs. She had a good appetite, eats and drinks as good as ever, and stays up in flesh. She is running out loose all the time. Tell me what is wrong and how to treat it.—W. H.

This is partial paralysis of the hindquarters, probably a sequel to some stroke. Keep her as quiet as possible in a comfortable box stall. Give her a laxative of one pint raw linseed oil and follow up with a heaped teaspoonful of nux vomica three times daily.

CHRONIC COUGH—LICE

What should you consider the cause of an eight-year-old mare coughing at night and morning? Sometimes there will be an interval of a week between coughing attacks. Her wind is good, appetite good, and apparently she is in good condition.

Will you tell me what to do to destroy vermin on calves.

This is a chronic cough. Give her every morning, two drams solid extract of bella donna, fifteen grains digtalis and twenty grains camphor, with sufficient oil of tar to make plastic roll in tissue paper, and administer as a ball, or mix with a pint of warm water and give as a drench.

Mix one part white hellebore with four parts land plasted and dust well into the hair or wash with a five per cent. solution of one of the coal tar antisetpics in water, clothe and keep warm until thoroughly dry. Repeat treatment every ten days until fresh lice cease to hatch out. It will be wise to disinfect the stable by thoroughly sweeping and dusting, and then scrub thoroughly with a hot five per cent. solution of crude carbolic acid.

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POULTRY.

HOW TO PREVENT FALL COLDS

Clean houses and clean range are absolutely necessary to the most favorable development of strong, healthy chicks. Clean the houses often—at least onec a week, and twice a week is better. After each cleaning cover the floor with clean sand, sawdust or loam Spray or whitewash the interior of the houses occasionally as a preventive measure. Watch constantly for red mites around the ends or on the under sides of the roosts. Perhaps the quickest way to find them, if present, is to go into the house with a lantern or flash-light shortly after the birds have gone to roost. This is the time when the mites are mobilizing for action and, if present, they will be crawling over the roosts and supports. If there is a heavy infestation they will be seen on the side and back walls and even on the roof above the birds. A little experience will enable one to detect them day or night by their characteristic and objectionable odor.

If found in the houses rigorous methods should be employed against them immediately. The roosts and all other movable fixtures should be taken out and thoroughly painted with carbolineum, cresol, crude carbolic acid or some other equally caustic preparation. The material should also be applied to the side walls near the roost supports—be sure that there are no crevices in which mites are left harboring. The painting and spraying should be done early in the forenoon so that the danger of injuring the birds from the caustic applications will be minimized.

Clean range conditions can only exist where the range is not over-crowded and where the land is unpolluted by droppings and is free from disease germs. To maintain these conditions the flock should be kept fairly small and the houses should be moved occasionally. If possible avoid growing chickens on the same land year after year. It is much safer to give the small range a rest every other year or one year in three and thus be sure that it is kept in good condition. If conditions absolutely preclude the resting of the range one should at least make sure that some crop is grown on the land every season. Many times it is possible to grow two crops a year on the chicken range. On land that is heavy enough to maintain a heavy grass sod under continuous pasturing by the hens the foregoing rules may, of course, be applied less strictly than where the middle of the season sees the range absolutely bare and devoid of all vegetation.

An important thing to avoid while getting the pullets in shape for maximum egg production is the conditions commonly known as "fall colds." Perhaps the chief cause of colds is crowding chicks in the roosting houses without proper ventilation. Even if no colds result, chickens which are forced to breathe hot, foul air will suffer considerably and will be slower in growing.

An excellent plan for a summer roosting house is simply a frame roofed over to protect the birds from storms and if protection from enemies is necessary, covered with wire netting on the sides. If this is not possible and an ordinary colony house is used it should at least have a generous rear ventilator. If the house is of the shed roof type and twelve feet long the ventilator should be about five or six feet long by fifteen inches high and situated just beneath the plate in the middle of the rear wall of the house.

If it is hinged at the top to swing out there will be no danger of rain driving in. Then, if the roosts are placed one and one-half or two feet below the lower edge of the opening there will be no danger of direct draft on the birds; and with the front of the house open ample ventilation will be secured. The harder the wind may blow the oftener will the air inside the house be changed; but it cannot directly strike the birds.

Fall colds ordinarily appear just as a case of "snuffles" with a slight rattle in the throat. The surest way to detect them is by going among the birds at night. Any bird that is wheezing is then easily located. Furthermore, if the colds are at all advanced, a distinct and characteristic odor will be noticed.

Any birds having colds should be isolated at once in order to prevent spreading the trouble through the entire flock. In many cases no other treatment will be necessary other than removing the cause of the trouble. Perhaps the simplest remedy for colds is potassium permanganate. To use this

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make up a solution by dissolving two or three tablespoonfuls of the crystals in a pint of water. Each time the drinking vessels are filled, pour enough of this stock solution into the water to color it a deep cherry red.

The permanganate is an oxidizing agent and kills the germs which are discharged by the bird while drinking. Metal drinking vessels should be avoided while permanganate is in use because the resulting chemical action consumes the oxidizing power of the germicide and renders it almost immediately valueless. If the colds are severe, it is well to withhold the drinking water until ten or eleven o'clock. Then the birds, in their eagerness to drink, will plunge their heads well down into the water and thus give themselves a thorough disinfecting.

PICK GEESE WHEN FEATHERS RIPE

With the prevailing high prices paid for good feathers at the present time, the person owning geese can increase his income considerably by the proper saving and care of the feathers. In an endeavor to be of some aid to the amateur goose raiser, I will state some of the things I have learned from experience during the last twenty-five years.

One of the first and most important things the goose raiser must learn is how to tell the correct time to pick his geese. When the geese begin to get smooth looking and the feathers are all of the same length, when they pick themselves and the feathers pull out, or they begin to lose them, it is time to test or try the feathers. Catch one of the geese and pull a few feathers from the breast. If they come out easily and are white or creamy yellow on the tips of the quills, it is time to start picking, but if the flesh end of the feathers show blood they should be left a week or ten days and then tested again.

When the feathers are "ripe" the geese should be placed in a dry, straw-bedded pen, from which they can be easily caught without their getting dirty. When ready to start picking, you should select a place free from any breezes, as the feathers scatter very easily. Lay the goose on its back in your lap, place its head and neck under your left arm, tuck the wings under its back, and grasp the left leg with the left hand, and start picking with the right. Begin between the legs and work backward, taking six to eight feathers at a time, and extracting them with a quick jerk. From the legs backwards pull the feathers towards the tail, while from the legs forward the feathers are jerked towards the head. Pick very little, if any at all, from the back, as these act as a protection against the rain and the hot sun. Do not pick very far up the neck or remove the large puff of feathers that support the wings. A good rule to follow is never to pick too close, for there is danger of losing the geese if you do so.

Geese should never be picked during the laying season or while they are brooding. If they lay up until near midsummer they should be picked only twice, but if they quit rather early they may be picked three times. Young stock should never be picked during the first summer, if one wants them for breeding stock, as it will stunt them to a certain extent, but if the feathers are the main object they may be picked once, but in all cases, whether young or old stock, they should never be picked after the cold, wet weather starts in the fall.

After the feathers are picked they should be put in tight muslin sacks, or more preferably in paper flour sacks, and stored in a cool, dry, well-aired room. The sacks should be tight enough to exclude the moths, and should be placed out of the reach of mice. If not so protected you are liable to find the feathers destroyed when you need them the most.—R. K.

THE LICE PROBLEM IN POULTRY FLOCK

Hens which are troubled with lice are soon devitalized and this lack of vigor soon results in illness which might have been avoided by a strong bird. If a hen once becomes thoroughly infested with lice she seems to lose interest in dusting and then the lice have a better opportunity to thrive. Many strong vigorous birds seems to keep free from lice without any treatment and they do it because they dust frequently.

However, it pays to dust birds with some kind of insect powder or give them the blue ointment treatment. We like the blue ointment the best. Place a small bit of the ointment under the vent and rub it into the skin and then place a dab under each wing and the bird will be protected from lice for several months. Two treatments per year is usually sufficient. The blue ointment can be mixed half-and-half with vaseline. When birds are dusted with insect powder the operation must be repeated in a week or ten days to catch the additional pests that hatch after the first dusting. As the cost of treating for lice largely consists in the time required to catch and treat the birds, it seems as if the blue ointment treatment is by far the most satisfactory.

It is best to treat Leghorns at night as the birds are easily frightened and this causes a reduction in egg records and is also very trying to the kindly disposition of the operation. Sometimes a flock of the heavier birds like Barred Rocks, will be so tame that they can all be caught during the day by occasionally throwing out handfuls of grain to coax them near. The wire crook on the end of a stick is a handy implement with which to catch birds when examining or treating them for lice.

If lice and mites are not kept in subjection the egg yield during the hot months will be reduced materially. Hens preyed on by lice and mites are weakened by the loss of blood. A laying-bred hen should lay regularly during 265 days in a year, the remaining 100 days being required to complete the molt, during which time no hen lays many eggs, unless she is one of the modern 300-eggs-a-year hens, which are becoming more numerous every year.

Where hens have a chance to wallow in fine dust, they are rarely infested by body lice, but if these do appear in a flock two or three dustings with a little fluoride of sodium, Persian insect powder or tobacco dust will destroy them. I prefer the fluoride of sodium to any other kind of insect powder. A little pinch dusted on the neck, back, between the legs and under the wings, while the hen is held head downward by the legs, is effective, and two treatments will free a hen, no matter how badly she is infested.

The little red mites found in poultry houses do not stay on hens during the day. They live in cracks and crevices about the poultry house and under the perches, feeding on the hens during the night. These pests are easily destroyed by spraying the perches and the inside of the poultry house with kerosene. I use a spray pump costing 50 cents, and spray the oil on the inside of the house until it is thoroughly dampened. The perches are taken out of the house and sprayed on every side until the oil runs off them. Two treatments of this kind in a summer usually will keep mites away. Do not let hens become so weakened that they will not lay, when a little attention will free them from the attacks of their insect enemies.—M. P.

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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to houschold science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

Greetings

MERRY CHRISTMAS, friend! It's the time for cheer.

Business may be business, but CHRISTMAS IS CHRISTMAS!

Don't forget the good-will that the angels sang about the night, out under the stars, on the plains of Judea. Methinks I hear it now, that triumphant song, as it rose louder and yet louder, clear and sweet, until it sent an echo over all the world that is echoing and re-echoing still, to-day.

"And on earth peace, good-will toward men."

"For unto you is born this day in the city of David a Saviour, which is Christ the Lord."

Don't forget the little errand-boy on Christmas Day. Do you know how he lives? Do you know if the Christmas God stops beside his door? Do you know if he is hungry, or cold, or forlorn? It is hard, my friend, to be hungry on Christmas Day.

Don't forget the girl out in the kitchen who, perhaps, cooks the dinner which is to gladden your heart to-day. Has she an old mother or father dependent on her, or is she alone and lonely in her life this year? SOME day you, or yours, may have to face the world alone on Christmas Day. You'll know then the value of the human touch from soul to soul.

Don't forget the Christmas Greeting. It warms the heart and makes the blood flow warmer—quicker—in the veins.

Don't forget the children.

Don't forget the poor—THE SAD—who are just across the way.

Don't forget the invalid—who can't get out like you can.

And as the Yule-tide cheer swings high, don't above all, forget the old folks who are, perhaps, lonely in the old home to-day. They worked hard, with many a denial, that YOU, year after year, might have a joyous Christmas Day.

Friend, business is business, but CHRISTMAS IS CHRISTMAS!

MAKE SOME SOUL GLAD THAT DAY!

"Unto Them a Child"

A CHRISTMAS STORY

Florence Guertin Tuttle

Like the eye of Providence a hospital never sleeps. The Dark Angel does not proclaim his visits, and a life-saving station must ever watch.

John Shepherd found himself waiting in the hospital one early December night under rather unusual circumstances. Like many men able to write their fortunes in seven figures he had built a town house much more impressive than his own needs or tastes prescribed, and had proceeded to close it for two-thirds of the year. On account of the beauty of its architecture this house had become one of the distinguished points of the city. A genuine regret was therefore felt when one morning the papers announced that it had been destroyed by fire. Horror deepened the disaster when it was learned that Mr. and Mrs. Shepherd had barely escaped with their lives.

Many doors were at once opened to the Shepherds by sympathetic friends. But Mrs. Shepherd, acting upon her physician's advice, chose private apartments in the scientifically-equipped city hospital.

Perhaps no one in her set less intentionally or more positively exerted an influence than Madeleine Shepherd. One felt that in spite of her warm humanity here was a woman who was still sustained by the manna of the wilderness; that a life in the vortex of worldiness had never engulfed or even swayed her. In short, she was what one critic had termed " a spiritual genius."

When she married she had committed the dangerous experiment of choosing her complete antithesis in temperament. Not even their great mutual love could have saved their happiness from wreck if John Shepherd had been a less tolerant man. When his wife's ideals soared to heights above him he did not try to stop their flight with the keen arrow of ridicule. He respected her opinions, reverenced her earnestness and secretly agreed with her that the ideal was the only real guide.

They had been married 15 years and had been childless. To Madeleine Shepherd this had been a severe disappointment. The disappointment to John Shepherd had been keen only on its material side. He wished not so much for a child as for an heir. He had never considered adopting one. The law could not give him, he said, what he had not begot.

But now the dear wish of both their hearts was about to be realized. Filled with the deepest emotion and keenest suffering that he had ever known, he sat desolate with bowed head, waiting a summons to go to his wife. He was roused by a tap on his shoulder.

"You may go in to see your wife for a few moments now, Mr. Shepherd," a doctor's voice said.

"She will—live?" his dry lips formed.

"We think so."

"And the child?"

"A fine boy."

The miracle of birth, like the mystery called death, produces analogous sensations. John Shepherd entered the sick-room numb with awe. When he reached the shadowy bed he could only drop on his knees beside it and hide his face in his hands.

"Poor boy!" a faint voice said, while a hand stole slowly toward his head.

Sob after sob choked his throat. She let his over-strained nerves find vent, then said with overwhelming pride, "Aren't you going to look at us? See, it is Christmastide—I have given my lord a son."

He could not trust himself to speak. But he kissed the hand near him and suffered himself to be led away. Then he went out into the night and walked until the first red streaks of dawn declared another day.

The days now passed swiftly toward the Yuletide for happiness sped the dial. John Shepherd was becoming used to the immense thought of parenthood. Night and morning he visited the hospital and many times a day telephoned there, through a telephone he had ordered placed by his wife's side. Her room became a garden where roses and lilies bloomed. When he looked at her he felt almost like shielding his face from her radiance. He had never before seen a being so saturated with happiness, so burnished by the holiness of joy.

A few nights before Christmas he went to the hospital late after a business meeting. As he passed down a long hall he heard voices in a small room adjoining one of the wards—a room set apart for the nurses and where they often made coffee for the young doctors who were on night watch. He caught the tones of a woman's voice, low but penetrating.

"Did you ever see two people so engrossed in a child? How hard for them when they learn the truth!"

"Who will tell them?" a masculine voice inquired.

"Doctor Jameson. He thinks that it will be safe on the fourteenth day; it's only the twelfth day now."

John Shepherd stood still. Of whom were they speaking? His own child was just twelve days old. Something closed around his heart and gripped him. He groped his way into a room used for private operations. One gas-jet burned dimly and cast a wan light on the barren plainness of the room. At one end stood a huge machine looking like a dangerous engine of war, but in reality a sterilizer for basins, instruments and bandages. Glass tables and iron washstands flanked the sides. Everything was painted white and was scrupulously clean. How careful these doctors were in all externals of their profession! Were they capable of secreting an important truth from some one who ought to know it? Some one, for instance, who had a child twelve days old? Were his child's faculties impaired? he asked himself. Was he deaf—blind? His glance read unconsciously the labels on blue bottles of iodine and glass jars filled with saline solutions. Next to these were cans of ether and chloroform. Better their kind oblivion, he thought, than that such a sorrow should come to his wife! For her, motherhood had not begun with birth. He knew that for months her soul had been magnifying the Lord; spiritually and intellectually she had believed that she was forming the character of her child that future generations might call her blessed. But she was not the only mother in the hospital. There must be other children twelve days old. He refused to believe that aught was wrong. But the next morning, after a restless night, he visited Doctor Jameson, the eminent surgeon, and put a direct question to him.

"Is there any fact regarding my son, Doctor Jameson," he asked, "that I should know and do not?"

"There is," the doctor replied unflinchingly; "though we had not meant to tell you so soon."

John Shepherd's eyes narrowed. "What is your justification?" he asked sternly.

"The strongest possible," Doctor Jameson answered; "the preservation of human life."

His earnestness somewhat mollified the tension of his visitor.

"Tell me the facts," he said more gently.

"The facts are, Mr. Shepherd," the doctor began—"the fact is—the child with your wife is not her child!"

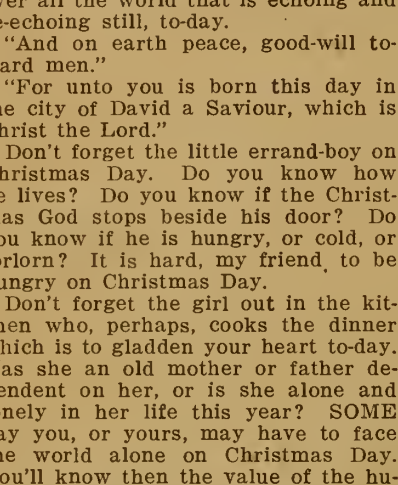
"Whose is it?" John Shepherd asked.

"The child of a young woman in the hospital whose husband deserted her. Your child was born dead—a result of the shock of the fire. Your wife was desperately ill. We knew that but one thing could save her. The instinct of self-preservation is strong, but the maternal instinct is stronger. We substituted this child because it was expedient and best."

Expedient! The word rang with a mocking sound in John Shepherd's ears. "Have you doctors no conscience—no appreciation of anguish? Is your profession simply a game?"

Doctor Jameson's eyes flashed though his lips responded to the habitual lesson of self-control.

"You are right, Mr. Shepherd," he answered. "Our profession is a game—a game of life and death. And we play it always to win. We won it for your wife with every chance against



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her. She was racked with convulsions and we administered anaesthetics. When she became conscious she asked for her child. In her weakened state the truth would have killed her as if we had struck her a blow. We decided to give her the same chance we would have given the poorest woman in the hospital. We had a two-days-old infant, unwelcome and unloved, whose mother was too ill to be entrusted with it. We placed this child in your wife's arms and your wife revived. That child, and not science, saved her life. It was a necessary temporary deception to secure a permanent benefit."

The storm had passed through the man opposite, leaving him weak and blighted like a tree whose vigor had been swept away.

"You must pardon me," he said wearily, "but I can't seem to take it all in. I seem to see only the moral side. My wife—how can I tell her? She has always said that some pains are more cruel than death."

The doctor moved uneasily.

John Shepherd wiped his brow. "She has taught me to have such a simple creed," he continued: "a thing is right or it is wrong."

"The longer a man lives, Mr. Shepherd, the less he defines the line between right and wrong. He begins to obey 'judge not.'"

John Shepherd rose slowly like an old man. "Perhaps so," he said, languidly. "At least it gives one food for thought; whether a deceitful act may not have a righteous motive."

"But we gave your wife life for death," Doctor Jameson said, nearly losing his patience.

"She would say that you could not take away her life," he returned, moving toward the door.

The doctor shrugged his shoulders almost imperceptibly. "Mrs. Shepherd must be a remarkable woman," he said.

"Remarkable?" his visitor echoed, and his tone gave the physician a glimpse of a relationship which he knew to be rare even between husband and wife.

All day the thought of them haunted his mind. How would such a woman regard the truth? He began to dread the time when she must know. And the netx day Fate put a trump card into his hands.

Doctor Jameson left the hospital at noon, erect, with a holiday air, and walked confidently to his carriage at the curb. In a short time he was driven to the financial centre of the city, and after some delay was admitted to the private office of John Shepherd.

"I have good news for you, Mr. Shepherd," he said with alacrity, noting the hollow eyes which told of a sleepless night. "The mother of the child with your wife died this morning. There is now practically no obstacle to the complete retention of the child as your own."

He spoke with authority as one used to giving advice which was considered cheap even at very high rates.

"My wife must decide," John Shepherd returned. "How soon will it be prudent to tell her?"

"I think that it would better be postponed—definitely," the doctor answered with a significant smile.

John Shepherd shook his head. "I would not live with a lie between us. It would be easier to stab her than to tell her that the little one in her arms is not our own. Yet she would want to know the truth. I feel that we should give up the child. My wife, I am sure, will feel the same."

Doctor Jameson looked perplexed. "Would you rather that I broke it to her?" he asked.

"No, though I thank you for the offer. It would be better, I think, for me to tell her myself."

That night he told her. It was Christmas Eve, on the fourteenth day, just as they had planned from the first.

He never knew in what words he told her. They were alone except for the child whom she could scarcely bear from her side. He remembered taking both her hands tightly and in an overwhelming flood of tenderness somehow stammering out the truth.

He would never forget her eyes. They darkened with unbelief, then gradually he saw hope die. She did not speak, but lay fearfully still. He recognized the futility of words and remained quiet. Then when his own heart could endure the silence no longer he tried to assure her grief with a torrent of broken words.

"It will not be so hard when you realize the little one is not ours. We will live closer than ever to each other. Think—we have every blessing except this one."

She let him go on, knowing that the words brought him relief. But what she most wanted was time to think.

He would not leave her, and she knew that his pain would be less if with her than if away. So she told the nurse that he must remain. All night he sat in an armchair by her side, clasping her hand. At midnight a church bell tolled the glad tidings: "Peace on earth, good will toward men." Once he lifted his head and asked: "Have you had any rest?" But her eyes were wide open as she replied: "No, dear, not yet."

In the morning when Christmas broke she was very pale, but her eyes had the look of one who had been through the fiery furnace and had come out purified.

"All night I wrestled with my soul, John," she said softly. "At first it seemed as if God had deserted me—

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there was no 'good will toward men.' But now I know better. He took away my own child, but He placed another one in my arms. It is as if a voice had said: 'Woman, behold thy son!'"

John Shepherd bowed his head. He could bear her suffering better than her fortitude. "He is not your son," he murmured.

"Neither was John the son of Mary," she replied. "That is the lesson—it is easy to love what is one's own. But what if we are called upon to illustrate a larger ideal?—to love what is not our own?"

"How do you know what tendencies this child has inherited?" he argued.

"I have thought of that," she replied; "but environment, I believe, is stronger than heredity. If it were not there would be no hope for the world. That is what this trial means to me: it would not have been difficult to nurture our own son. That is natural. But for a finer development we are required to give as much love and care to what is not our own."

He knew then that she had chosen her course and that the decision came from pathways where he could not follow.

"I shall never have a little one now of my own," she continued, and for the first time tears rolled down her cheeks. "And the reason, I think, is that love for my own child would have been too personal, too individual. I might have become the selfish mother that I have always deplored. True motherhood is inclusive, not exclusive. Do you see now why I want this child to be really ours?"

"You think it our duty?" he answered.

"No, nothing so harsh as that. I think it our privilege. Will you help me to make it our happiness?"

"What do you wish me to do?" he asked huskily.

A light broke over her face. "Give me your other hand," she said. "We three will form a circle that will widen but will never break. Can you repeat the vow that I have taken?"

"Let me hear it."

"I, John Shepherd——"

"I, John Shepherd," he echoed.

"Do solemnly promise to love and cherish this my God-given son."

For a moment the room remained in silence. Then the force of those new vibrations swept him on and involuntarily he repeated her words.

Outside Christmas bells were pealing; "For unto you a Child is born, unto you a Son is given."

As they fell upon the room his wife dropped back on the pillows. He started up thinking that she had fainted. But when she opened her eyes he saw that she had been overcome with joy. As he gazed upon her his own eyes grew dim. He felt the possibilities of life from her larger standpoint and saw what he himself might become.

With this revelation the clouds of the last few days rolled away. Overcome with the new instincts of his risen self he stepped forward, and stretching his arms out toward the child he cried with the first happy ring his voice had known for days: "Give him to me; he was sent to me, too!"

A CHRISTMAS COLLECTION OF CANDIES

There are few people who do not possess a sweet tooth and would not welcome a box of home-made candies. Such gifts are especially appropriate for Christmas because they carry the message of thoughtfulness and regard for personal tastes that only such little rememberances can convey.

In making chocolates with a variety of fillings it is best to make all the centers before coating any with the chocolate.

Six different kinds of fillings are plenty for a half-pound box of the bon bons and eight for a larger size. If you are sure of the recipient's taste a smaller number may be selected.

Butternut Carmel

One of the most delicious fillings is butternut carmel. For this cook together two cupfuls of brown sugar, one-half cupful of water, one cupful of thick corn syrup and a rounding tablespoonful of butter. When a little of the mixture forms a soft ball on being dropped into cold water, remove the candy from the fire and add one-half teaspoonful of vanilla and one cupful of butternut-meats broken into small pieces. Pour into a shallow square buttered pan, and when partly cold mark off into small cubes.

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gether two cupfuls of brown sugar, one of white, two tablespoonfuls of unsweetened chocolate shavings and one cupful of water.

Boil until a little of the mixture dropped int ocold water forms a soft ball, then stir in a pinch of soda and remove from the fire. Have ready one-half pound of fresh marshmallows that have been cut into pieces with the scissors and stir them into the candy.

Beat the mixture until it is as stiff as you can handle, then pour it into a shallow buttered pan and cut it into cubes.

Cream Candy

This candy should be made at least a day before being eaten. Put five cupfuls of sugar into a very deep pan and pour one cupful of boiling water over it, then stir until the sugar is dissolved, so that the candy will not have to be stirred while it is boiling.

Cook until at the soft-ball stage, then turn in one cupful of cream and continue boiling until a little of the candy sirup, dropped into cold water, forms a hard ball.

Add one-half teaspoonful of vanilla, pour out into a buttered pan, and when cool enough to handle, pull it as you would taffy.

Divinity Fudge

Cook to a soft-ball stage three and onehalf cupfuls of granulated sugar, two-thirds of a cupful of water and one-half cupful of thick corn syrup.

Beat the whites of two eggs to a stiff froth with a pinch of salt nad pour over them, beating constantly, one-half cupful of the boiling sirup, putting the rest of the sirup back over the blaze to cook until it is at the hard ball stage, pouring over them the rest of the boiling sirup when it has reached the right degree, and adding one one-half cupfuls of English walnut, pecan or butternut meats and one-half teaspoonful of vanilla. Beat unti lthe mass is heavy and thick, then drop in teaspoonfuls on oiled paper.

French Fondant

The foundation for a great many delicious candies is what the French call fondant. Some people make it of white of egg beaten stiff and enough powdered sugar whipped in to make the mass easy to manipulate.

By dividing the fondant into equal parts and flavoring and coloring them differently a great variety of creams can be made. Orange-juice, lemon-juice, extracts of vanilla and almond, and grated cocanut are all good flavors for candies to be dipped into chocolate.

Besides using the fondant alone for centers and for stuffing dates try some pecan or English walnut sandwiches. These are merely bits of the fondant between two whole nut-meats.

A hazel-nut or small pieces of Brazil nuts carefully enclosed in vanilla or almond fondant makes a surprise center that all the children like very much. Canned pineapple, angelica and candied cherries can be used in the same manner.

Marshmallow and Fruit Fillings

Fresh marshmallows cut into quarters by sharp scissors make excellent filling for chocolates. Tangerine and orange sections can also be used if care is taken not to break the thin skin before dipping, and a fork employed with which to lift them in and out of the chocolate.

If these fruit sections become pierced in any way before the coating hardens on them, the juice that escapes so dilutes the chocolate that the candy becomes mussy. Sections that have been successfully removed from the friut can be left to dry on a sieve for a couple of hours before dipping. In this way the thin skin becomes slightly toughened and the fruit is easier to handle. Figs cut into strips and rour or five peanuts held together with carmelized sugar are always easy to prepare and dip.

Chocolate for Dipping

The chocolate for dipping can be prepared by melting a cake of milk chocolate and diluting it with boiling water until of the right consistency, but that is so experimental with most people who undertake to make Christmas candies that it is best to buy the dipping chocolate of a confectioner.

It costs only about fifty cents a pound and a little goes a long way. To use it, melt it in a pan of boiling water. When the chocolate is like thick cream dip the candy ctenr in it, using a long hatpin.

Carefully drain off any surplus chocolate and place the candy on a piece of paraffin paper laid on a chilled surface. Put the dipped chocolate where the chocolate will become very cold as soon as possible.

By doing this the little curly top made by the coating as the pin leaves the candy, and with which all amateurs so greatly desire to mark their products, will be prevented from runing into the rest of the coating.

Keep candies of each kind together so that in filling the boxes a variety may be chosen easily.

Wrapped in white tissue paper and fastened with Christmas or Red Cross seals and enclosed in a plain wrapping, you have a gift that will please any friend, no matter how fastidious he or she may be.

Maple Nut Carmels

1 cupful of maple syrup (6 ounces) ½ cupful dark corn syrup, 1 small can of evaporated milk, 4 teaspoonfuls of butter, 4 teaspoonfuls of Cornstarch. ½ teaspoonful of soda, 1 teaspoonful of vanilla.

Pour the evaporated milk into a measuring cup and fill the cup with water, or with milk, cream or left-over condensed milk. Add the maple sugar, and stir in the corn sirup, butter, cornstarch and soda mixed. If the maple sugar is very hard, put the whole mixture over hot water until it melts. Then boil it until, when tried in cold water, a litte makes a ball that is hard on the outside and "chewy" in the centre. If the mixture separates it will not matter. Stir in quickly chopped nut meats. Add the vanilla, and put into a bread pan, which has been rubbed wth butter. When cold, cut into squares and roll in paraffin paper if desired.

Nut Bristle

Boil one cup sugar, one cup corn syrup, one tablespoonful vinegar and the mass hardens when dropped into cold water. Have nut meats spread on butered platter and cover with the hot syrup. When nearly cold mark into squares.

WHY CHRISTMAS CUSTOMS CAME ABOUT

Why the English Christmas Meat is Beef

When the Druids gathered the mistletoe from the sacred oak each winter, two bulls were sacrificed, and the ancient Britons ate beef as a reminder of the sacrifice. This significance has, of crouse, long since died out, but beef has always been the Christmas meat of the English. The loin of beef was knighted by Charles II. at a Christmas feast, because on returning from the hunt the dish was so gratifying to his palate.

Quote Charles,—

"Odd's fish! A noble dish!
Ay, noble made by me!
By kingly right I dub thee knight—
Sir Loin henceforward be."

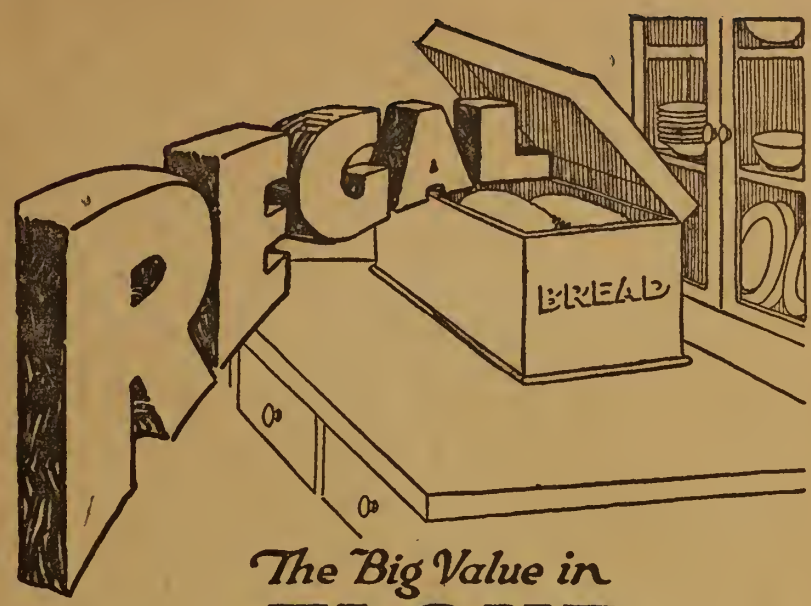
Why We Eat Plum Pudding and Mince Pie

The Christmas pudding in its contents is thought to symbolize, as does mince pie also, the rich offerings made by the Wise Men to the Infant Christ, and dates back to the early Christians.

"Once upon a time" plum pudding was called "hackin" signifying the "hackin" or chopping of the ingredients—meat suet, fruits and spices. After the revolution that enthroned the "Merry Monarch" Charles II., the "Hackin" of our ancestors was baptized "Plum Pudding."

It seems to have survived in its original form only in England, where it is a National dish. It was brought to America by the English colonists.

It is said that a Frenchman will not taste thereof. There is a funny story that a French nobleman, wishing to please an English Ambassador on Christmas Day by serving a plum pudding, procured a recipe and gave his chef minutest instruction as to the in-



The Big Value in
FLOUR

YOUR BREAD BOX will never disappoint you if the loaf you take from it is "REGAL" made.

The St. Lawrence Flour Mills Co.
Limited
MONTREAL

PILES Do not suffer another day with Itching, Bleeding, or Protruding Piles. No surgical operation required. Dr. Chase's Ointment will relieve you at once and as certainly cure you. 60c. a box; all dealers, or Edmanson, Bates & Co., Limited, Toronto. Sample box free if you mention this paper and enclose 2c. stamp to pay postage.

Fawcett

PLENTY OF HEAT WITH LITTLE FUEL

Our New Retort Hot-Blast Heater

burns hard or soft coal, coke or lignite, and is one of the most powerful heaters made. It is just what you need for the cool fall days.

Send for Booklet

CHARLES FAWCETT LIMITED
SACKVILLE · N · B · CANADA

That Racking Persistent Cough

Should Never Be Neglected.

The constant hacking, racking, persistent cough that sticks to you in spite of everything you have done to get rid of it, means danger.

The longer the cough sticks, the more serious menace it becomes to your health.

It is a very easy matter to get rid of the cold at the outset by using

Dr. Wood's

Norway Pine Syrup.

In nearly every case it will allay the inflammation, soothe the irritation, heal the diseased mucous lining of the lungs and bronchial tubes, and thus rid the system of all the bad effects of the lingering cough or cold.

Dr. Wood's Norway Pine Syrup has been universally used for the past 30 years, and so great has been its success, it is only natural that a great many imitations have been placed on the market.

Don't accept any of these, so-called Pine Syrups. Get the original "Dr. Wood's."

Put up in a yellow wrapper; 3 pine trees the trade mark; price 25c. and 50c.

Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

MINARD'S

"KING OF PAIN"

LINIMENT

I was cured of terrible lumbago by
Minard's Liniment
—Rev. Wm. Brown.

I was cured of a bad case of earache by
Minard's Liniment
—Mr. S. Kaulbach.

I was cured of sensitive lungs by
Minard's Liniment
—Mrs. S. Masters

Manufactured by the
Minard's Liniment
Yarmouth, N.S.

I was cured of terrible lumbago by MINARD'S LINIMENT.
REV. WM. BROWN.

I was cured of a bad case of earache by MINARD'S LINIMENT.
MRS. S. KAULBACK.

I was cured of sensitive lungs by MINARD'S LINIMENT.
MRS. S. MASTERS.

gredients, the quantity of water in the kettle, etc., forgetting only one thing, the pudding cloth, and the dish was served up like so much soup, in a large tureen, to the surprise of the honored guest.

Where We Get the Christmas Card

Christmas cards were first printed in London nearly seventy years ago, but did not become popular until fifty years ago. The first Christmas card was only a visiting card on which was written the greeting, "A Merry Christmas" or a "Happy New Year." Snow scenes, holly branches and robins appeared later on embossed cards, probably picturing English Christmas scenery, as the robin is known in England as the Christmas bird, and also as "The Saviour's bird" because of the legend of its red breast. This bird is still seen on Christmas, but not as often as formerly.

What is Twelfth Night.

January 6th, the twelfth night after Christmas, is the celebration of the visit of the Magi to the Infant King in the Bthlehem manger, known in the church calendar as Epiphany. Its traditions and observances have become corrupted, but as Christmas customs trace to the Roman Saturnalia so do those of the Twelfth Night Frolics. The King of Saturnalia was elected by beans, and the one who gets the bean in the twelfth cake which is divided by lot, is the King, or "Lord of Misrule." He holds a mock court and receives the homage of the other guests, for whom later in the evening he suggests amusing diversions. The street revelries are much on the order of the American April first and Hallowe'en frolics.

The religious rites are still observed in some form. In memory of the Magi's offereings, the British Sovereign each year places by proxy three purses on the alms dish for presentation on the altar.

Why Do We Present Gifts?

It was the custom among the Romans to make gifts to each other at their winter festival and this custom also may have descended to us from antiquity. But Christians lipe to feel that it is because the Wise Men brought gifts to the Infant Jesus, and because of the gift of God to the world. Gifts to the poor seem from the earliest Bible times to have been an expression of a thankful heart. We bring Him gifts when we give to those who are in need.

Why We Decorate the Christmas Tree

The ancient Teutons, who were sun-worshippers, thought that the spreading of a great tree was symbolical of the sun rising higher and higher in the heavens, and the decorations of our Christmas trees is supposed to be symbolic of the Sun tree. The lights represent the flashes of lightning overhead, the apples, nuts and balls symbolize the sun, moon and stars, while the little animals represent the sacrifices made to the Sun god.

In another endeavor to give a new meaning to heathenish customs the early Christians put a new interpretation upon the tree itself and attached new meanings to its decorations. The fir itself, with its lights, represented the Christ, who was the beginning of a new life in the midst of the wintry darkness of heathendom, the tree of life, the light of the world. "Purely Christian symbols were introduced, the angels, the anchor, cross and hear, the star of the east and the golden threads, called Lametta, which represent the hair of the Christ child. Under the branches of the tree lies the Babe in a manger, watchd over by His parents and surrounded by sheep and oxen."

Our Christmas Colors

For hundreds of years holly has been used for Christmas decoration. It grows in almost every country. The choice of our Christmas colors, red and green, has no doubt come about from these colors which nature provides at the Christmas season in the holly and poinsetta.

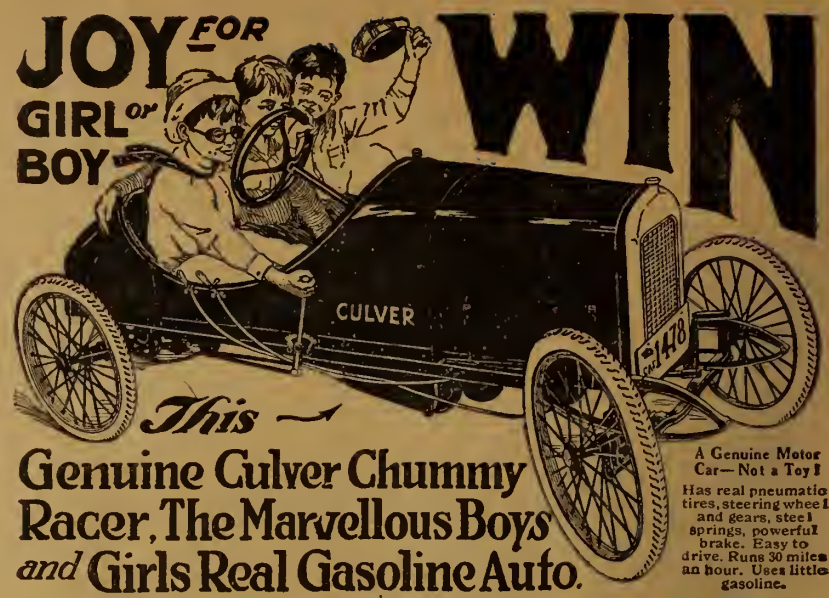
Why Do We Kiss Under the Mistltoe?

Romantic Scandinavians, in paying honor to their great god, Thor, built rgeat fires called "Jule" or "Yule" fires. The higher the flames towered through the forests the greater pleased was Thor. The men soon learned that the tree upon which mistletoe clung would give the brightest fires. They believd this was due to the great Thor himself, who caused the mistletoe to grow on those trees to let his people know which were best for burning in his honor.

The trees upon which quantities of the mistletoe grew were sapped of their vitality, and being drier, burned with a brighter flame than other trees that were full of sap. So when any one met under the mistletoe in the great forests, no matter how great enemies they were, they dropped their wapons and greeted each other kindly nor would thy take up arms against each other until the sunrise of another day. This was their tribute in honor of Thor.

They ebgan to take bits of the mistletoe into their homes and hang it over the doorways, and if any enemies came they could not enter their home beneath the mistleto without becoming friends of the people inside so long as they remained there. From this came the habit of greeting people who stopped under the mistletoe with an embrace or a kiss ,and at indoor

JOY FOR GIRL OR BOY — WIN



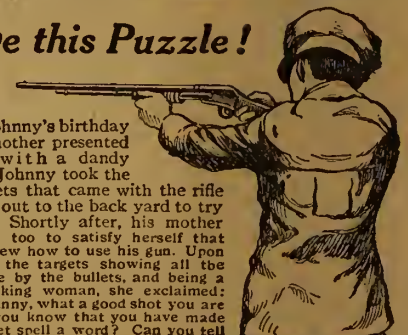
This —

Genuine Culver Chummy Racer, The Marvellous Boys *and* Girls Real Gasoline Auto.

A Genuine Motor Car—Not a Toy!
Has real pneumatic tires, steering wheel and gears, steel springs, powerful brake. Easy to drive. Runs 30 miles an hour. Uses little gasoline.

Something We All Do
Something We All Eat
Something We All Want
Something We All Wear

Solve this Puzzle!



FOR Johnny's birthday his mother presented him with a dandy rifle, and Johnny took the four targets that came with the rifle and went out to the back yard to try his skill. Shortly after, his mother came out too to satisfy herself that Johnny knew how to use his gun. Upon examining the targets showing all the holes made by the bullets, and being a quick-thinking woman, she exclaimed: "Why, Johnny, what a good shot you are—and do you know that you have made every target spell a word? Can you tell me what each target spells?"

Can YOU Puzzle It Out?

Johnny couldn't, so his mother told him HOW TO DO IT. Each target spells a word. Each circle of each target shows a number of bullet holes, as you can see by the targets, and each circle represents a letter. The number of holes indicates the position of that letter in the alphabet. For instance: "A" would be represented by one hole, "B" by two holes, "C" by three holes, and so on.

After you have worked out all the letters that are represented in each word, you will find that they are not in their proper order. Put them into their proper order to spell out correctly the names of the four things wanted.

In order to help you, we will tell you that the letter represented by the middle circle of first target is "A," because "A" is the first letter of the alphabet. This is not an easy puzzle, hut with perseverance you can work it out—and the prizes are worth trying for.

Copy your answer upon a plain white sheet of paper as neatly as you can, because neatness, spelling, handwriting and punctuation count if more than one answer is correct. Put your name and address in the top right-hand corner of the paper. If you have to write a letter, or show anything else, put it upon a separate sheet of paper. We will write as soon as your answer is received and tell you if your solution is correct, and also send you a complete illustrated list of the grand prizes that you can win.

THE PRIZES:

First Prize - Genuine Culver Chummy Racer, value	$250.00
Second Prize - Magnificent Gold Watch and Chain, or Girl's Wrist Watch, value	25.00
Third Prize - Genuine Autographic Kodak Folding Camera, value	20.00
Fourth Prize - Solid Gold Ring for Boy or Girl, value	15.00
Fifth Prize - - Moving Picture Machine, with Film, value	10.00
Sixth to Tenth Prize - Self-Filler Fountain Pens, value, each	2.50

And 2,000 Extra Special Prizes Valued at $3,000.00.

What Others Have Done, YOU Can Do!

Here are the names of only a few of the boys and girls to whom we have already awarded big prizes:
Shetland Pony and Cart—Helen Smith, Edmonton.
Shetland Pony—Beatrice Hughes, Hazenmore, Sask.
$100.00 Cash—Lyle Benson, Hamilton, Ont.
$50.00 Cash—Helen Benesch, Junkins, Alta.
$25.00 Cash—Florence Nesbitt, Arnprior, Ont.
$150.00 Cash—Bryden Foster, Leamington, Ont.
$25.00 Eastman Kodak—Frankie Kirby, Three Hills, Alta.
$15.00 Bracelet Watch—Mary Procter, Vancouver, B.C.
$10.00 Doll and Carriage—Eva Gasson, North Bay, Ont.

We will send you the names of many others too. Only boys and girls under 17 years of age may send answers, and each boy and girl will be required to perform a small service for us.
The contest will close on June 30, 1920, at 5.30 p.m.
Send your answers this very evening.

Address: THE PRIZEMAN, Dept. 514
253-259 Spadina Avenue, Toronto, Ont.

RELIEF AT LAST

I want to help you if you are suffering from bleeding, itching, blind or protruding Piles. I can tell you how, in your own home and without anyone's assistance, you can apply the best of all treatments.

PILES TREATED AT HOME

I promise to send you a FREE trial of the new absorption treatment, and references from your own locality if you will but write and ask. I assure you of immediate relief. Send no money, but tell others of this offer.
Address

MRS. M. SUMMERS, Box 309
Windsor, Ont.

feasts, the mistleto was hung up in the room and people greeted each other with kisses. And, so in these days, the couple kissing beneath the Christmas mistletoe in a spirit of fun or romance, carries on a custom the Scandinavians had a thousand years before Christ.

What the Christmas Candle Signifies

Burning candles at Christmastide is derived from the Roman Saturnalia. Not only were candles used for the purpose of illumination during that festival, but they were also exchanged as gifts in token of cheerfulness and good will. It is probable that the employment of candles was derived from the Jewish Feast of the Dedication, which was held about the same time of the year as the Saturnalia and the Yule. The burning of candles was one of the incidents of that feast, and it is not unlikely that at the time of the birth of Christ thousands of candles were brightly burning throughout Palestine—a fitting, though unintentional, proclamation of the Light that had come into the world. A fact that bears out this supposition is that the Catholics of the Greek Church call Christmas the "Feast of Lights."

THE TRUE MEANING OF CHRISTMAS

Giving is getting!

That is the blessed contradiction. Two thousand years ago it began when a Man came to earth who had ni gift to bestow save Himself. Be He gave His all, full measure, pressed down and running over.

In return He asked nothing!

Yet for two thousand years we have celebrated His birthday by gving, as He did, a gift to the ones we love.

His gift that first Christmas signified boundless love. Do your gifts today?

There is a magic mirror in which to inspect your gifts. It is called the Mirror of Love. It tells an unpleasant story when you hold up before it a present which is merely the cancelling of a debt. A pair of braclets set with priceless jewels viewed in Love's Mirror have been revealed as a pair of hateful handcuffs.

A little frame whittled out of a bit of wood by a small boy for his mother, shows in the Magic Mirror the most ornate covering, inlaid with precious wood, fragrant and beautiful beyond compare.

When, even a book of shaving-paper made by a little girl for her father appears to be a precious edition de luxe.

That is tho strange magic of Love's Mirror.

A Chrstmas card reflected in this mirror—just a plain penny postal card with a loving thought and a merry wish upon it—is more attractive than the work of an old master.

Even the candles and puddings and cakes and confections, the apples and oranges, shine with astounding splendor at the Christmas feast where Love is honored guest.

Christmas is the season when the heart takes possession. It is the time when the self-conscious person becomes demonstrative without a feeling of shame; when the person who is all intellct fels strange, warm stirrings in his breast; when the affectionate person becomes a perfect spendthrift of love.

The heart takes you shopping and carries the purse. The heart keeps you up nights sewing on bright ribbons. The heart spurs you on to all sorts of extravagance.

It has the most wonderful memory. People whom you haven't thought of in years come to your mind and with the memory, the desire to make them happy.

Up and down the streets stalks the Spirit of Christmas, the breath of pine and cedar in its wake. How rich you are! How loving you are! How happy you are!

Giving is getting, you see.

But what about the rest of the year? Does the spirit of Christmas walk besid you down the avenue of three hundred and sixty-five days? Perhaps you are one of those who bid it goodby with a sigh of relief on December the twnty-sixth. If you do, you've missed entirely the significance of the Star, the Shepherds, the Wise Men and the Babe in the Manger.

The Master gave Himslf. For thirty-three years, day and day out, He spent his life in the service of others.

Has that no meaning

Look at yourself in Love's Magic Mirror. I pray that you see your soul there glorified wth giving.

All through the year there the people who are lonely. Perhaps they are sitting back of the door waiting for a friendly rap. Their children are far away and they have only memories to cheer them. How they would love to talk it all over with you, especially if you are young and have cheery ideas. Will you give a bit of yourself to them during the coming weeks?

In the hospitals, in the almhouses, in the penitentiaries there are people who need the gift of you. They need your hearty hand-grasp, your smile, the loving calence of your voice, as you say, "I wish you a Merry Christmas, not just today, but all through the year."

Even to the blind your message will be a boon, for they can see the light in your eye with their inner vision.

But most of all the gift of yourself will help the people that you meet every day: the members of your family, the grocer's boy that comes to the back door, the gate-keeper's child down by the railroad. A smile, a little treat of home-made candy, the lending fo a ready ear to the story of thir joys and woes, will be worth far more than the costliest Christmas present.

At Christmas-time you are kin to everybody. Carry that kinship through the year.

"What About This Nerve Food Doctor?"

"IT IS all right."

"Would it do for me to take it?"

"I cannot see any objection."

"Well, I know so many women who are using it to good advantage that I decided to give it a trial."

"Then why ask me about it?"

"Just because you know my condition, and I felt that I would like your opinion."

"Of course, you know that we doctors are supposed to be prejudiced against all package medicines. As a matter of fact, nearly all the best medicines on the market are the prescription of doctors and first made their merits known in some doctor's private practice.

"There is scarcely a day but I see Dr. Chase's Nerve Food in the homes I visit, and to be perfectly candid I know of many instances in which this treatment has brought about really remarkable cures."

"Then you thnk it suits my case?"

"Undoubtedly. Your blood is thin and watery. You are anaemic. The nerve cells are starved. Hence the neuralgic pains, the nervousness and irritability, the sleeplessness. The medicine I gave you does not seem to be exactly what you need. The Nerve Food may be just what is required to get your blood and nerves in good condition."

"One thing certain, doctor, it has been a wonderful benefit to several people I know."

"If the conditions are similar in your case there can be no better proof that it will benefit you. After all it is cure we are after, and while every doctor has his own favorite prescriptions, it is results that count."

"Thank you, doctor, I am glad to have your approval and I am going to start in with Dr. Chase's Nerve Food with the determination to give it a good honest trial."

"Good, that is what our medicines do not always get. I would suggest that you follow up this treatment for at least a month or two, and then you will be in a position to know just what benefit you are obtaining. For it takes a little time and patience to restore an exhausted, nervous system."

Dr. Chase's Nerve Food, 50 cents a box, 6 for $2.75, all dealers, or Edmanson, Bates & Co., Limited, Toronto. Every box of the genuine bears the portrait and signature of A. W. Chase, M.D., the famous Receipt Book author.

FIRST ANNUAL CONVENTION AND DAIRY SHOW OF THE N. B. D. U.

(Continued from page 160)

Butter Makers' Session

The Thursday morning session was devoted to an address on the aims and objects of the Canadian National Dairy Council by D'Arcy Scott, Ottawa. The Council, although recently organized, has already done a lot of good work for the dairymen of Canada. Funds are needed to carry on the work so well begun, and every patron and others interested should see to it that the Council does not lack in this respect.

Geo. Barr and W. A. McKay reported on the conditions they had found in the butter exhibits. The showing made was quite gratifying.

One of the most instructive features of the session was the talk by Mr. Barr on the Dominion Educational Butter Scoring Contest. Mr. Barr had brought with him for demonstration purposes, boxes of butter from every province in the Dominion. Samples were passed around and discussions of value to every butter maker ensued.

The Business Session

Mr. Coleman read a report of the committee appointed at a previous meeting to look into the matter of a Maritime Dairy School.

The Treasurers' report showed receipts amounting to $380.05, expenditures $154.74, and a cash balance on hand of $22530. out of which prizes amounting to $120.00 and balance due National Dairy Council of $100.00 must be paid when the actual balance on the years work will be $5.30. There are supplies on hand valued at $16.35.

The election of officers resulted as follows:

President—A. E. Trites, Salisbury.

Vice Pres.—F. G. Hughson, Corn hill.

Secretary Treas.—H. W. Coleman, Sussex.

Auditor—F. H. Rouse, Corn Hill.

Directors representing cheese factory patrons—F. H. Rouse, Corn Hill; W. W. Biggar, Carsonville.

Creamery patrons—J. L. Blakeney, Wheaton Mills and A. E. Trites, Salisbury.

Cheese makers—J. H. Brown, Corn Hill.

Butter makers—J. P. Simmons, Moncton.

Private Cheese factories—Ben Keith, Havelock.

Joint Stock Cheese factories—F. G. Hughson, Corn Hill.

Private Creameries—Geo. Ranson, Woodstock.

Joint Stock Creameries—Arthur Gaudet, St. Joseph.

Resolutions

Whereas the New Brunswick Dairymen United recognize the need and value of a Dominion-wide organization embracing all branches of the dairy industry such as outlined by Mr. D'Arcy Scott, Secretary of the National Dairy Council.

Therefore, resolved that our provincial organization take steps to raise funds to help the National Dairy Council to carry on its work.

Whereas, the marketing of dairy products in an efficient manner is of paramount importance to the Dairy industry.

Therefore, resolved that the New Brunswick Dairymen United hereby express their approval of the system of market information instituted by the Dairy Commissioner for Canada during the season of 1919. We trust that this system will be a permanent feature of the Dairy Commissioner's work.

Whereas, the adoption of a uniform standard for Canadian Creamery Butter is desirable and in the best interests of the Dairy industry.

Therefore resolved that this Convention express appreciation and approval of the Dominion Educational Butter Scoring Contest as conducted during the season 1919 by the Dairy Division, Ottawa, and that the Provincial Department of Agriculture be hereby requested to co-operate in every possible and practical manner in assisting to bring the information resulting from this contest before the butter makers, creamery owners and patrons of the Provinec of New Brunswick.

Whereas the success of our Dairy Convention has been in a measure attributable to the support and sympathy given by the dealers, supply houses and general public, the Dairy Superintendent is hereby instructed to express the appreciation of the New Brunswick Dairymen United to all those who have contributed to the Prize List and to those who have assisted in scoring of the cheese and butter, and to all those who have taken part in any way in the programme at the several sessions of the Convention.

THE DAIRY SHOW

Twenty factories were represented at the Dairy Show with a sample box of June, July, August, September and September special cheese. A full list of the scores and awards will be found tabudatel on another page of this issue. The boxes in question were taken by Mr. Coleman out of the regular make on a certain day each month from each factory without any previous intimation being given as to what day's make he might call for. The maker therefore had no chance to make up a special cheese. He must exercise the best of care every day lest he be caught napping and the result has been most gratifying. The September special class was chosen by the maker from any day's output between the 10th and 20 of September. The cheese was placed in cold storage and held for the Dairy Show when the scoring already referred to was made by Mr. Barr, Mr. Coleman and Mr. McKay.

How the Cheese Graded

	June	July	Aug.	Sept.
Special	0	1	1	1
First	4		2	3
Second	6	9	6	5

Prize List, Cheese Class

Sections I.—June, cheese. II.—July, cheese. III.—August, cheese. Iv.—September, cheese.

() In each of above sections $15.00 pro rata to makers whose cheese score 99 points or over with 39 or over for flavor (N. B. D. U. funds.)

(b) In each of above sections $12.50 pro rata among the eligible factories whose cheese score 90 points or over with 39 points for flavor (Provincial funds.)

Section V.—Highest average score in Sections 1, 2, 3 and 4.

(a) Maker $10.00 — DeLaval Co., Montreal, (value on goods in catalog purchased during the season of 1920.

(b) Fatcory $15.00—DeLaval Co., Montreal, (value on goods in catalog purchased during the season of 1920.

Section V.—September cheese(special.)

(a) $25.00 among makers whose cheese score 92 points or over with 39 points or oevr for flavor (Canadian Salt Co., Windsor, nOt.)

Section VII.—(a) $5.00 for each section 1, 2, 3, and 4 among all makers whose cheese score full for finish. Total, $20.00. (R. B. Colwell, Halifax, N. S.,)

(b) $5.00 for each section, 1, 2, 3 and 4 among all eligible factories whose cheese score full for finish. Total $20.00 (Harris Abbatoir, St. John.,)

Section VIII.—$10.00 for theh ighest scoring in cheese in Section 1, 2, 3, and 4. $5.00 for maker and $5.00 for factory. Maritime Farmer, Sussex.)

Prize List, Butter Class

Sections—1. June butter; II. July butter; III. Aug. butter; IV. Sept. butter.

(a) In each of above sections

(Continued on page 184)

There is money for You in the Woodlot

Cletrac TANK-TYPE TRACTOR Will take out your wood & saw it up

Cletrac power is never "tied up"—never idle.

It works for you every month in the year.

For one reason, there is no waste time lining up the Cletrac for belt work. No trouble keeping it "set."

For another, you can put the Cletrac over any kind of ground—mud, sand or snow. It travels on its own tracks. So you can have power *anywhere* you want it on the farm—for any machine.

You can take the Cletrac into the bush and snake out logs. The Cletrac will turn them into cordwood.

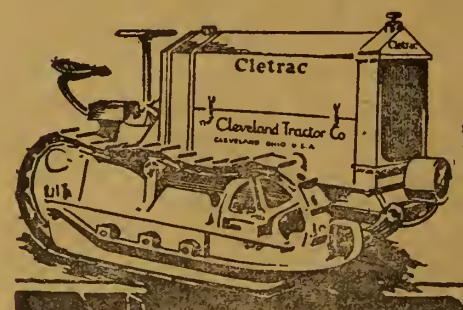
The Cletrac burns kerosene, distillate or gasoline. Fuel is regulated to burn less for light machines.

The Cletrac you must know as the tractor that does every field operation without packing the soil. Its economy, its efficiency have made farming more profitable.

Winter or summer, every month, a Cletrac means more profit from your farm.

From Burpee's Seed Farms:

"One of the great advantages we found in the Cletrac was the great convenience in turning and backing into place for a hitch to the machine to be used and lining up into exact position for belt work."



"Selecting YOUR Tractor"
FREE Booklet of Information

You can decide better what type of tractor YOUR farm needs after you read this book. Find out what a tractor can do for you. Write for this booklet.

The Cleveland Tractor Co. of Canada Limited
WINDSOR ONT.

THE MARITIME WINTER FAIR

TO BE HELD AT

AMHERST

ON

Mon., Tues., Wed. & Thurs, Dec. 15th, 16th, 17th & 18th

Promises to excell all previous records. Return tickets can be obtained on all lines of Railway for one and one-third first class fare.

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Watch Your Stock--- IT PAYS !

THE condition of your stock depends—not on how much food you give them—but on the amount of nutriment they are able to extract from that food.

If you have some stock—a horse, a batch of hogs or a cow or two that are are not thriving or showing the benefit of their feed, are out-of-condition and unthrifty, the use of International Stock Food Tonic, as directed, for a few weeks will show a remarkable change.

INTERNATIONAL STOCK FOOD TONIC

has proved itself to be just what stock needs to put them into a thrifty, healthy condition and keep them that way. It costs little—3 feeds for 1 cent—it does much—keeps your stock in paying condition.

For Horses---

When your horses become unthrifty, sluggish in appearance, rough, hide-bound, coats dry and dead, stocked in limbs—it's time to give them International Stock Food Tonic. This Tonic will enable the animals to throw off these ailments quickly by setting digestive organs in proper shape and helping them to supply rich, red blood.

For Cows---

For the every-day feeding of dairy cows and to fatten cattle, International Stock Food Tonic is rated as the one and only preparation. It is composed of the best-known ingredients to promote perfect digestion and to assist the body organs to perform that perfect assimilation which is the secret of milk-making and fattening. By feeding International, you can increase the quantity of milk and keep your cows in a toned-up, healthy condition.

For Hogs---

International Stock Food Tonic is composed of the valuable properties of herbs, roots, minerals and other digestion promoting ingredients. It gives the hogs a keen appetite and keeps them from going on their feed. Guaranteed to keep their system free from worms and prevent worm development. International Stock Food Tonic keeps the system toned up and in a clean, healthy condition. It will save you thirty days in preparing hogs for the market.

Use International Stock Food Tonic ! It Pays ! Remember the cost is small ! 3 feeds for 1 cent !

For sale by dealers everywhere in convenient-sized packages and in 25 pound pails at $3.75 each.

FREE ON REQUEST

Write us, stating the number of stock you own, and we will send you free of charge a copy of our 1920 Almanac which also contains a series of Breeders' Tables arranged in simple form which enables you to keep accurate track of all your breeding stock.

International Stock Food Co., Limited

TORONTO - - - - CANADA

HINTS FOR MOTORISTS

by ALBERT L. CLOUGH

Editor Motor Service Bureau Review of Reviews...

WHY CARBURETORS SOMETIMES NEED ADJUSTMENT

Don't Hesitate To Reset a Carburetor If You Know How

The advice is frequently given: "Do not tamper with the carburetor, as it has been correctly adjusted at the factory," and doubtless this admonition is intended in the very best spirit, for it is a fact that, when once propertly set, a carburetor will go on performing satisfactorily as long as conditions do not change, so that altering its adjustments unintelligently or needlessly will do more harm than good. The reason why this advice should not be literally followed is that carburetor and carburation conditions are subject to change and it is foolish to assert that a factory adjustment ca nbe either infallibly perfect or prove permanently right. Among the factors that make carburetor adjustment occasionally necessary are the following: Changes of gasoline quality ,involving diereffnces in its viscosity or 'body", that alter the rate of fuel flow through the fuel spraying nozzle. The "heavier" the gasoline used, the less will pass through a certain aperture, under a certain pressure. Changes in atmospheric density, as between low and high altitudes, less oxygen being contained in a cubic foot of air at a high elevation than, for instance, sea level. The same adjjustment that is correct at Denver will not necessarily be so at New York. Change in the action of carburetor parts with time, due to the weakening of springs controlling the air supply and the alteration through wear, of links that interconnect different portions of the mechanism. Changes in the operative temperature of the intake system and cylined walls, as between the extremesof summer and of winter weather. When no means are taken to overcome the effects of such atmospheric differences, a more liberal gasoline adjustment must be maintained in cold weather ,because so much of the fuel supplied fails to vaporize and burn properly. Differences in the carburation requirements sought. Some operator wish a mixture rich enough to produce maximum acceleration and power, even at some sacrifice in economy while others, in order to save gasoline, are willing to use a slightly leaner mitxure. A motorist should avoid changing his carburetor setting, unless it is known to require it but should not hesitate to do so when it is advisable. Instruction, minutely explaining the correct method of adjustment, are obtainable from the manufacturer of every make of carburetor and ever ymotorist should familiarize himself with the directions applicable to his particular instrument.

"GETTING UP" ON MOTOR CAR TECHNIQUE

Not To Be Personal. Have You Read Your Instruction Book?

This service receives many requests to recommend motor car books and other sources of automobile information, from those who wish ta increase their knowledge of the subject and relative to such inquiries the following hints may not be amiss. There are a number of publishing houses that make a specialty of automotive works and circulate catalogs, which list such literature. The local bookdealed is likely to have such catalogs on file, or, if not, will send for them, so that the motorist may look them over and select works covering the particular phaes of the subject in which he is interested . Public libraries, especially those in larger communities, are generally well stocked with motor car books and periodicals and such local facilities may well be fully made use of before buying books, in order that unnecessary or ill advised purchases may be avoided. As a rule automobile periodilcals contain departments devoted to the motor car users interests and the wealth of useful information printed therein is, in general rather more up to date than that

Palmer's Draw String Shoe Packs

JUST the pack for all men engaged in all out-door occupations. Being waterproof and warm, there is nothing better on the market for Farmers, Lumbermen, Sportsmen, Laborers, Stablemen and others.

Palmer's Packs are handmade from genuine Skowhegan Waterproof leather. The special Non-Rip Pack, Draw String sewed, is famous for its wearing qualities.

Made on comfortable, roomy, natural tread lasts. A sure cure for tired, aching feet.

To buy Palmer's is to buy the Best.

Get a pair from your dealer. Be sure they are stamped.

JOHN PALMER CO'S MOOSE HEAD BRAND FREDERICTON N.B.

"Moose Head Brand"
or write us for catalogue and price list.

John Palmer Co., Ltd.
Fredericton, N.B., Canada
Established 40 years. 40

Partridge Tires
Out-weigh Tire Troubles
Made by The F. E. Partridge Rubber Company, Limited, Guelph, Ont.

Brantford "Ideal" Kerosene Engines

An engine for every need. Also operated on Gas and Gasoline.

Maple Leaf Grain Grinders. 6 to 15 in.

Kerosene Light Tractors

WINDMILLS,
Pumps.
Tanks.
Waterboxes.
Steel Saw Frames.
Concrete Mixers.

Agents wanted in unrepresented territory.

GOOLD, SHAPLEY & MUIR CO., Limited
BRANTFORD, CANADA

found in books. Information regarding automotive electrical equipment is naturally very eagerly sought at the present time and "motorists' Departments" in the technical journals are well filled with such matter, while books and diagrams of electrical systems are to had from a number of different publishers. Automobile instruction books are probably the most helpful of all printed matter relating to cars. Their careful study "is a fine habit."

GARAGING CAR IN HORSE STABLE

M. P. asks: Does it do any harm to a car to keep it in a stable where horses are kept?

Answer: It is not good for fine body finish to keep a car in such surroundings, as the lustre of the varnish is quickly dimmed by the ammonia gas ,which is always present in the air. If the stable is well ventilated

and all sources of ammonia are kept removed, the effect may not prove serious but, if the place is not airy and kept clean, you will find the results not at all satisfactory.

WATER FOR FILLING BATTERIES

T. O. C. asks: Is snow, melted in glass, or in rain water caught in glass and kept in tightly corked glass jars, suitable for filling storage batteries? Is it necessary to collect fresh rain water, each time the battery requires filling, or will it keep from one time to another?

Answer: Yes, if freshly fallen snow only is used and the rain water is collected only after rain has been falling for some time and the roofs have been washed clean. In order

to avoid traces of metal, water that has been in contact with tin roofs or metal gutters should be avoided, the drip from slate, tile or shingle roofs being preferred and it is well to run all natural water through filler paper before bottling it, in order to strain out solid patricles. Water thus prepared and protected from the air will keep in good condition for a long time.

SEASONABLE VARIATION OF TIRE TROUBLE

..N. H. asks: Please explain why there is so much more tire trouble in summer than in winter.

Answer: High speed, long distance driving is more common in summer than in winter and speeding is the most prolific cause of tire failures. The average daily mileage is greater in summer than in winter and tire troubles occur closer together, in point of time, even if no closer together in point of mileage. Cemented repairs are likely not to hold in hot weather, while they are comparatively reliable in cold weather. Doubtless snow and ice cover many sharp objects which, if exposed, might cause punctures. Many cars are not used in the winter, but their tires deteriorate during that season, and finally give out during the summer driving season.

CLUTCH ACTION IS WEAK

T. McE. writes: Occasionally when climbing a very hard hill, on high gear, my clutch begins to slip and continues to do so for some time. This seems to be growing more frequent lately. Will it do an yharm?

Answer: Yes, it will finally ruin

the surfaces of your clutch, whatever kind it may be. When slipping commences you should at once shift into second speed on which no slipping will probably occur. You should at once ascertain what causes this slipping and eliminate it. In sufficient spring pressure, ill advised lubrication or other faulty condition of the frictional surfaces may be causing the slipping.

PILLS FOR THE GAS TANK

L. H. C. asks: Do you consider the tablets sold to be put into the gasoline for the purpose of lessening carbon and increasing mileage are of any benefit? When I tried them I could see no effect from them.

Answer: We never have received any reports which indicated that they were of substantial value nor have we been able to see why they should be. Other motorists have had experiences similar to yours. Very few operators are willing to persist in this "pill" treatment for any considerable length of time. Using the leanest practicable mixture and oil of good quality and keep your pistons tight, will do more to increase fuel efficiency and to check carbonization than any kind of "dope" treatment.

AutoStrop
SAFETY
RAZOR
Auto-Strop
25
CHRISTMAS DAY
The Gift
for the day
THE RAZOR THAT
SHARPENS ITSELF.
STANDARD SET NO. 1 (as illustrated), consists of heavily silver-plated self-stropping AutoStrop Razor, twelve AutoStrop Blades and a Strop—complete in handsome Black Leather Case lined with Velvet and Satin. Price.. $5.00
The same Outfit can be had in Leather Cases of following colors:—Blue, Green, Maroon and Red.
SET NO. 50—Contents as above, but in polished Nickle-plated case, or in Engraved or Plain Metal Cases, finished gun-metal. Price..... $5.00
SET NO. 7—Contents as in No. 1, but in a compact pocket folding case—Black or Brown. The Outfit includes a Metal Mirror..... $5.00
COMBINATION OUTFITS containing Shaving Brush, Soap, etc., in various styles, from $6.50 to $15.00 per Set.
See the AutoStrop Razor assortment at any Drug, Hardware or Jewelry Store. You will find a style to suit your desire.
AutoStrop Safety Razor Co. Limited
AutoStrop Building, Toronto, Canada
AutoStrop Safety Razor
MADE IN CANADA

FIRST ANNUAL CONVENTION AND DAIRY SHOW OF THE N. B. D. U.

(Continued from page 180)

$15.00 pro rata among eligible makers whose butter scores 20 points or over with 39 points or over for flavor. (N. B .D. U. Funds).

(b) In each of above sections $12.50 pro rata among eligible creameries whose butter scores 90 points or over with 39 points or over for flavor. (Provincial funds.)

Section V.—For the higest average score in Sections 1, 2, 3 and 4.

(a) $10.00 for the maker (DeLaval Co., Montreal, value on goods purchased during season of 1920.)

$15.00 for creamery (DeLaval Co., Montreal, (value on goods purchased during season of 1920.)

Section VI.—(a) $5.00 for each Section 1, 2, 3 and 4 among all eligible makers whose butter scores "first grade" (92-94 flavor 39 Points). Total $20.00 Gunns Ltd., St. John.

(b) $5.00 for each section 1, 2, 3 and 4 among all eligible creameries whose butter scores "first grade" (92-94 flavor 39 points. Canadian Salt Co. Windsor, Ontario.

Section VIII.—(a) $5.00 to maker having the highest scoring box of butter in Sections 1, 2, 3 and 4, Gunns Ltd., St. John.

(b) $5.00 to the eligible creamery having the highest score for flavor in Sections 1, 2, 3 and 4. Canadian Salt Co.

Section VIII.—Silver ware for the three highest scoring boxes of butter in Sections 1, 2, 3, 4. Diamond Crystal Salt Co., St. Clair, Mich.

There were ten contestants in the butter sections. The butter on exhibition consisted of a box from each factory. June, July, August and September made.

Mr. Coleman on a certain date, notified each maker to ship to the Cold Storage Company, St. John, a box of butter make from the cream then in the creamery. The maker received no previous notice, and consequently vigilance had to be exercised every day lest he be taken unawars.

Cheese—Special Prizes

$20.00, donated by R B Colwell to makers having full score for finish in Section 1, 2, 3 and 4.

Section 1 (June)—Alex McGillivery, J. A. Northrup, O. W. Keirstead, Nelson McKinzie, H Parlee.

Section 2 (July)—J. A. Northrup, O. W. Keirstead, James Brown, S. Gibbons, W. Prebble Nelson McKinzie, H. Parlee, Dan McCormack.

Setcion 3 (August)—J. A. Northrup, Myles Perry, James Brown, E. B. Keith, Fred Fawcett, W. Prebble, H. Parlee, Albert Sear, Bliss Fawcett, Dan McCormack.

Section 4 (September)—J. A. Northrup, O. W. Keristead, Myles Perry, Fred Fawcett, W. Taylor, W. Prebble, Walter Rodger, H. Parlee, Albert Sear, Dan McCormack.

Cheese Factories—Special Prize

$20.00, donated by Harris Abbatoir, to factories having full score for finish in Sections 1, 2, 3, and 4.

Section 1 (June)—Belleisle Creek, Collina, Pearsonville, Havelock.

Section 2 (July)—Collina, Corn Hill C. & B., Corn Hill Corner, Lower Ridge. Pearsonville, Newtown.

Section 3 (August)—Clover Hill, Corn Hill C. & B., Havelock, Hammond Vale, Lower Ridge, Pearsonville, Penobsquis, Killams Mills, Newtown.

Section 4 (September) — Collina, Clover Hill, Hammond Vale, Lower Ridge, Pearsonville, Penobsquis, Newtown.

Carving Set, donated by the Wyandote Co., to maker having the highest average score in Sections 1, 2, 3, and 4.—Won by S. Gibbons.

$25.00, donated by De Laval Co., value on dairy supplies, for the highest average score in Section 1, 2, 3 and 4—S. Gibbons, $10.00; Corn Hill Corner, $15.00.

"INVINCIBLE" Rubber Boots and Shoes are built of tough, tire-tread stock and by auto tire methods.

Like auto tires they are cured by the high Pressure Cure Process. A combination that makes the toughest, strongest and longest wearing boot that your money can buy. "Invincible" Rubber Boots and Shoes will outwear any other make, bar none.

If you are hard on footgear ask your local dealer for "Invincibles" and save money.

The Miner Rubber Co.,
LIMITED.

$10.00, donated by the Maritime Farmer for the highest scoring cheese in Sections 1, 2, 3, and 4—S. Gibbons, score 94.7, $5.00; Corn Hill Corner, $5.00.

Butter—Special Prizes

$20.00, donated by Gunns Ltd., $5.00 for each section 1, 2, 3, 4, to makers whose butter scores first grade (92) or over (39 or over for flavor).

Section 1 (June)—1st, J. P. Simmonds; 2nd, Ed. Wheaton; 3rd, C. G. Goggin.

Section 2 (July)—1st, J. P. Simmonds.

Sectoin 3 (August)—1st, J. P. Simmonds; 2nd, Ben Gallant; 3rd, Ed. Wheaton.

Section 4 (September)—1st, J. P. Simmonds; 2nd, Ed. Wheaton; 3rd, Ben Gallant.

$20.00, donated by Canadian Salt Co., $5.00 for each section 1, 2, 3, 4, to eligible creameries whose butter scores first grade (92 or over 39 for avor.)

Section 1 (June)—1st, Farmers Co-operative; 2nd, Victoria Mills.

Section 2 (July)—1st, Farmers Co-operative.

Section 3 (August)—1st, Farmers Cooperative; 2nd, Madawaska; 3rd, Victoria Mills.

Section 4 (September)—1st, Farmers Co-operative; 2nd, Victoria Mills; 3rd, Madawaska.

$5.00, donated by Gunns Ltd., to the maker having the highest scoring box of butter in Section 1, 2, 3, 4—Won by J. P. Simmonds, score 96.8.

$5.00, donated by Canadian Salt Co., to eligible Creameries having the highest score for flavor in section 1, 2, 3, 4.—Won by Farmers Co-operative, score, 42.0.

Shields, donated by C. Richardson, St. Mary's Ont., to Creamery having the highest average score for Butter made with Success Churn.—Won by Victoria Mills and Sussex Cheese and Butter Co.

Camera, donated by Wyandotte Co., to maker having the highest score for butter in Section 1, 2, 3, 4—Won by J. P. Simmonds.

$10.00, donated by Swift Canadian Co., to maker whose butter score full points fo finish Section 1, 2, 3, 4.

Section 1 (June)—J. P. Simmonds.

Section 2 (July)—J. P Simmonds, Ben Gallant

Section 3 (August)—J. P. Simmonds, Ben Gallant.

Section 4 (September)—Ben Gallant and J. P. Simmonds.

$25.00, value on goods, donated by the DeLaval Co., for the highest average score in Section 1, 2, 3, 4, $10.00 to maker, to creamery $15.00—Won by J. P Simmonds, Farmers Co-operative.

Silverware, donated by The Diamond Crystal Salt Co., for the three highest scoring boxes of butter in Sec. 1, 2, 3, 4.—Won by, 1st, J. P. Simmonds; 2nd, Ed. Wheaton; 3rd, Ben Gallant.

SALESMAN WANTED

For Maritime Provinces. To commence at once, selling Shinn-Flat System of Lightning Protection. State selling experience.

SHINN MFG. CO. OF CANADA LIMITED
GUELPH, ONT.

MARITIME WINTER FAIR

Amherst, Dec. 2.—The Maritime Stock Breeders Association have been working hard to make this year's Winter Fair eclipse all previous efforts along that line. Their efforts are meeting with encouragement. This morning Mr. F. L. Fuller, Secretary of the Association received letters of acceptance, to be present and participate in the Fair, from Mr. H. S. Arkell, Live Stock Commissioner, Ottawa, Prof. George E. Day, Secretary of the Canadian Short Horn Breeders Association, Guelph and several other prominent stock men.

Hon. Murdoch McKinnon, Lieutenant Governor of Prince Edward Island, has consented to be present and to officially open the Fair at eight o'clock Monday evening, December 15. The opening will also be participated in by Hon. Dr. S. F. Tolmie, Minister of Agriculture and Prof. E. S. Archibald, Director of Experimental Farms Ottawa, who will be present thoroughout the Fair.

The attendance of these nationally eminent specialists in stock breeding and raising will make the Fair one of rare value to Maritime breeders, who according to present prospects will attend in greater numbers than ever. Special housing arrangements are being made so that all can be properly cared for.

WINTER PROTECTION OF PLANTS

(Experimental Farms Note.)

Alternate freezing and thawing may be the cause of plants winterkilling, or the winterkilling may result from continued cold drying out the wood. This latter killing is noticeable in the case of raspberries and roses. The more mature the canes or wood the less the liability to injury. Conditions favorable for late fall growth may produce wood that will not stand the temperature if more mature, as degree of maturity in the wood will lessen the injury due to a low temperature. To protect raspberry canes they are bent over along the row and covered with soil. Care is necessary not to break the canes. The canes are bent over and the tips covered and soil filled under the parts that do not touch the ground mounding up until the whole plant is covered. This covering is removed gradually early in the spring . Climbing roses may be taken down and covered as indicated for raspberries, and the bush roses mounded up cone shaped to a depth of eight or ten inches around the plant. The branches above this may be killed but the necessary buds will be ketp alive below the covering and all th dead branches can be cut out to good buds th next spring. Over this mound around the rose plants a mulch of thre or four inches of strawy manure should be placed. This should be done just before continuous cold weather sets in, and removed as soon as the saps begins to flow in the spring. In mounding avoid leaving deep holes for water to lodge in near the roots of the plants.

Perennials are better of a light mulch about two inches deep. However, care should be exercised in not making it too deep to cause rotting of the crown. This is particularly liable to happen with the biennials such is digitalis or foxglove, campanula, pansies, sweet william and hollyhock, for which a light covering of straw just su fficient so that the plants can be seen through the straw is we find the best, or just sufficient to prevent excessive freezing and thawing but not enough to hold the crown wet during a continued mild spell.—W. S. Blair, Supt. Experimental Station, Kentville, N. S.

The process of elimination of the unprofitable cow must be gradual.

True nobility is shown by consideration and courtesy to all, and brings its reward in the fineness of perception its practice bestows.

STANFIELD'S
Unshrinkable
UNDERWEAR
RED LABEL

"It wears longer"

THERE is no underwear in Canada to-day the equal of STANFIELD'S "RED LABEL"—for the outdoor worker. Made of the best grade of pure wool, cut to fit the form, permitting perfect freedom of movement for the most strenuous winter work.

STANFIELD'S "RED LABEL" affords comfort and absolute protection against the coldest Canadian winter. *Unshrinkable*—and wears longer. Sold by most dealers. We send free sample book showing weights and textures. Write

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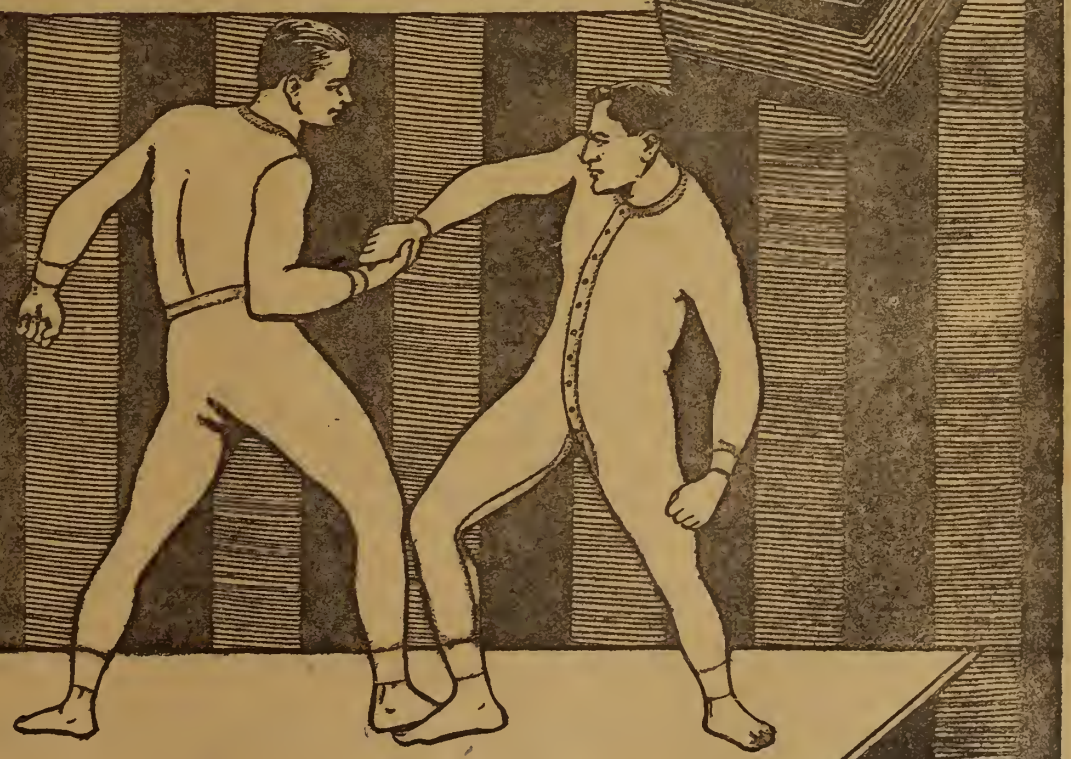


"Stands Strenuous Wear"

COSSAR STOCK FARM
Lower Gagetown, N. B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

Orders now booked for EWE and RAM LAMBS for fall delivery, several extra good animals for sale out of Ewes clipping 10 to 12 lbs. and sired by an Imported Ram weighing about 400 lbs. with a clip of 18 lbs.

BREED LEICESTERS the Sheep with THE HEAVY FLEECE.

G. C. Cossar, Proprietor. J. Melklejohn, Agent.

GUERNSEYS !

For Sale—Registered stock. Male or female.

T. D. BLAIKIE,
Great Village, N. S.

ELMHURST FARM

Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $2.00 per 15.

R. R. BLACK, Proprietor
Oxford Junction, N. S.

Elmwood Stock Farm
OFFERS FOR SALE:

Two choice young Holstein Bulls, 15 and 19 months old, sired by Dutchland Pieterje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad, "the world's greatest bull," 101 A.R.O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

Pure Bred Shorthorns For Sale !

Am offering for sale my herd of pure bred registered Shorthorn cattle. These cattle range in age from 7 years to 3 years, or a little less, with one bull calf two weeks old, and are all fine in type and color.

I have also exceptionally good grade cattle of various ages for sale. All will be sold at a reasonable price and offer an unusual opportunity to anyone desiring to start a herd of choice stock or to renew an old herd.

J. E. HETHERINGTON, - Codys, N. B.

Springbrook Farm Ayrshires !

Females, all ages. Also a number of bull calves ranging from one month to eight months. Sired by the prize winning bulls "Morton Mains Amanth" Imp. and "Cherry Bank Cicero."

McINTYRE BROS.
SUSSEX CORNER, - - N. B.

AYRSHIRE CATTLE. KARAKULE-ARABI SHEEP

We are offering two Ayrshire Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

For particulars and prices write

THE EASTERN KARAKULE-ARABI SHEEP CO., LTD. WINDSOR, N. S.

FOR SALE

Two yearling Gurnsey hulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

SARAH E. M. SMITH,
Woodwards Cove, Grand Manan, N. B.

Firshade Farm Dual Purpose Shorthorns

P. R. L. FAIRWEATHER
Rothesay, N. B.

Lawndale Stock Farm
Jerseys and Shorthorns (Pure Bred)

Jersey Offerings for the Winter of 1919—20

A few registered mature cows due to freshen the coming fall and winter.

Several yearlings, bred and not bred, registered and grades.

Several pure bred and grade calves, male and female.

Shorthorn Offerings for Winter of 1919—20

Two yearling heifers, very thrifty.

Several pure bred calves, male and female, by Imported English dual purpose Shorthorn bull, out of splendid producing dams.

We can supply intending purchasers a choice list of either Jerseys or Shorthorns to select from.

Come along with your inquiries.

Apply for information to

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

Holstein Herd Averages 18812 lbs. Milk

A herd of 13 purebred Holsteins last year averaged 18812 lbs. milk and 638.57 lbs. fat.

Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in

HOLSTEIN CATTLE

send for booklets—they contain much valuable information.

Holstein-Friesian Association of Canada
W. A. CLEMONS, Secretary.
ST. GEORGE, - - ONTARIO

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

F. W. C. Nase, Nerepis, N B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B'

Ayrshire Cattle

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co,, N. S.
C. A. Archibald, Truro N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

YORKSHIRE PIGS

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
C.A. Archibald, Truro, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

FOR SALE

We have to offer a nice bunch of Shorthorn bulls and heifers ages 1 to 3 years.

Also span 4 year old horses, span 5 year old horses, span of brood mares and a choice driver

For further particulars apply to

FRANK C. FAWCETT
Upper Sackville - - N. B.

AYRSHIRES BULLS !

fit for service, bred from heavy producing stock.

FRED S. BLACK & SONS,
Springvale Farm,
AMHERST, - - - N. S.

Advertise in the Farmer.

SUNNYSIDE STOCK FARM
Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

HIGHLAND LAKE HOLSTEINS

Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.

We have young bulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yonge St. Radial) JEFFERSON, ONT

BELLEVUE STOCK FARM
Shorthorn Cattle and Shropshire Sheep

The early maturing and good doing sort—bred from Show stock in every cross. Offering thirty ewe lambs and shearling ewes to avoid crowding winter quarters. Also a few ram lambs not booked yet.

C. A. ARCHIBALD, Bellevue, Clifton, N. S.

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for sale calves of both sexes, sired by Dutchland Pieterje Count, a bull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Johanna Lad, who has 101 A. R. O. daughters, 4 over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice, come and see these calves or write for further particulars.

We will also book orders for young Yorkshire pigs for next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - CANARD, N. S.

COBEQUID FARM HOLSTEINS

We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows have in turn been bred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter each in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a heifer calf or two. Get your orders in quick, they won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

Glenrane Farm Holsteins

We have for sale a number of Cows due to freshen in Sept. & Oct. also yearling Heifers & a few Heifer Calves. We still have a few Bull Calves 8 & 9 months old.

Our herd bull Homestead Hengrueld Rooker is also for sale after September. These cattle are all from stock backed by official records,

We will have a litter of York pigs due Sept. also our stock hoars 16 months old for sale. These are the finest type of York pigs.

One Oxford grown Ram and a number of grade Ewe Lambs.

ROBT. HICKS
WEST BATHURST, - - N. B.

Meadowlands Stock Farm

GAGETOWN, N. B.

We are offering a number of choice young Shorthorn bulls from six to fifteen months old. They are a splendid lot. We have also several exceptionally good cows and heifers priced right for quick sale.

For particulars phone or write

MORRIS SCOVIL & SONS

Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages. Have some good cows to freshen soon. Am booking orders for ram lambs for fall delivery. Write or phone for prices and description.

J. ROBIE MacDONALD,
Shubenacadie, - - Nova Scotia
Successor to J. MacDonald & Son

Five Ayrshire Bulls for Sale !

From good milking strain. All fit for service.

Prescott Blanchard,
Truro - Nova Scotia

ELMHURST STOCK FARM

Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S.

Advertise in the Farmer.

Made in the Maritime Provinces

QUALITY and SERVICE GUARANTEED

WALLACE ROOT PULPER

Side Wheel Reversible knife. Root pulper for pulping and slicing. Roller bearing. A convenient, strong, easy running Pulper.

SUSSEX WOOD CUTTERS

LONG SWING

Made in three styles. Long Swing as shown in cut, 4 ft. 3 ins. between balance wheel and saw. Short Swing, 3 ft. 3 ins. between bal. wheel and saw. Flat Roller Table, 4 ft. 3 ins. between bal. wheel and saw. Balance wheel 150 lbs. Frames made of heavy birch mortised and bolted together. Tables made of heavy sheet steel. Saws 28 ins. Simonds, supplied with each machine unless otherwise specified. Sussex Wood Cutters are not made to cut kindling wood, they are built to cut those heavy birch and beech sticks which you will have to cut and stand up to it day after day.

SUSSEX FOOD COOKERS

Stoves of heavy sheet steel Made in 3 sizes:

No. 30 cap. 1 bbl.
No. 40 cap. 1½ bbl.
No. 50 cap. 2 bbls.

SUSSEX LITTLE GIANT THRESHERS—A few new ones and a second hand machine left for quick sale.

You will need one of the above articles. Write us now for full particulars and prices. It will pay you.

PROMPT SERVICE AND QUALITY OUR AIM. AGENTS WANTED IN EVERY LOCALITY.

HOW CAN WE SERVE YOU?

WALLACE MACHINE WORKS, Limited, : Sussex, N. B.

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on, as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue, which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex N. B.

FOR SALE—Shropshire Lambs, two rams and eight ewes. $30 each. JAS. I. STEWART, Amherst Point.

FOR SALE—Pure Bred Holstein Bulls, 1, 15 months; 2, 10 months; 1, 1 month, will be sold cheap if taken soon. W. G. CAMPBELL, Salisbury, N. B.

FOR SALE—Two litters of Yorkshire Pigs. Registered and not Registered. Get my prices. W. HERB McINTYRE, Box 525, Campbellton, N. B.

FOR SALE—Pure Bred S. C. Black Minorcas and White Wyandotte Cockerels, bred from prize stock. Price $3.00 to $5.00. E. H. TAYLOR, Shediac, N. B.

WANTED TO BUY—I want to buy a Guernsey Heifer, age between six and twelve months; must be registered or eligible, and from good stock. F. MacINNIS, Port Hawkesbury, N. S.

PORTRAIT AGENTS write for prices, prints, finishes, frames, glass Free samples to our customers. Complete new line subjects. Quality and service the best.—MERCHANTS PORTRAIT CO, Toronto.

LADIES WANTED—To do plain and light sewing at home; whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING COMPAMY, Montreal.

GREAT WHITE LIGHT BURNERS—The lamp burner that doubles the light you get from your oil lamps. We have a few dozen to offer at 18c each, postpaid. They are a big investment for any person using oil lamps. In large size only. —THE MARITIME FARMER, Sussex, N. B.

THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and other premiscs. Price $3.50 per 100 lbs. Apply by mail to "NAILS." care of Office Maritime Farmer, Sussex, N. B.

Willow Glen Shorthorns!

Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

A. N. GRIFFIN,
New Mines - - - N. S.

Chester White Pigs for Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

LEG BANDS for all varieties Poultry. 12 for 15c; 25 for 25c. GEO. H. SEAMAN, Moncton, N. B.

FOR SALE.—Holstein Bull, Mercedes Prince Mingo, 3 years old Nov. 20th. JOS. R. TAYLOR, Upper Dorchester, N. B.

FOR SALE—Pure bred White Wyandotte and White Leghorn cockerels from Guild's bred-to-lay stock, $2.50 each; also eggs in season, $2.00 per 13. EDSON EAGLES, Windsor, N. S.

MAKE IT A POINT TO SEE "The Viking Cream Separator" to be shown at the Maritime Fat Stock Show. The easiest running, cleanest skimming, easiest cleaned Cream Separator on the market today. Agents wanted. THE SWEDISH SEPARATOR CO., W. C. Rothwell General Agent, 11 Water Street, St. John, N. B.

FOR SALE—Having sold our farm, we are now disposing of our entire herd of pedigreed dual purpose Shorthorns, both males and females from calves up in reds and roans; also large Berkshires from four weeks up. L. M. ANDERSON, Sackville, N. B.

Advertise in the Farmer

WISH-TON-WISH STOCK FARM

Breeders of Big, Smooth, Heavy Producing Holsteins

The kind that fill big pails the year through. Can sell a few good bulls fit for service and some choice Bull Calves; also some Heifers and Cows due to freshen soon. Write or 'phone for description and prices.

HARDING BROS., Proprietors, WELSFORD, New Brunswick.

FOR SALE!

Our Shorthorns are about ready for the block. Parties wishing to start a herd can do so at reasonable prices from us. If not sold for breeding purposes, will go for beef. Both sexes, all ages. Come and see them before buying.

A few very nice Berks for sale.

L. M. ANDERSON, Sackville, N. B.

FOR SALE

Jersey bull "Siccawei Figgis' Lad", No. 12184 C. J. C. C. Solid colour, born August 24th, 1918, sire "Fox's Abbess Lad O'Dreamwold"; 2nd, sire "Pedros' Grey Fox"; 3rd sire "Champion Flying Fox"; dam "Figgis' Daisy" by "Fontaine of Meadow"; 2nd dam, "Figgis of Meadowveiw" by "Hood Farm Rogis' 9th"; 3rd dam "Hood Farm Bonnie". This young bull won 2nd prize in his class at Sherbrooke and Ottawa Fairs, 1919. First prize being won by "Siccawei Mona's Fox", his half-brother.

For price, etc., write

"SICCAWEI FARM"
NORTH HATLEY - - - QUE.

Valley View Farm Berkshires

We have two litters of extra good young pigs ready to ship. Some good boars ready for service, and a number of young sows, bred, or ready to breed. All are of the same breeding as the heaviest prize-winners at the N. B. Shows, and will be sold at reasonable prices.

J. R. SEMPLE & SON, TRURO, N. S.

MORE MILK—BETTER MILK

Thorough tests on the Government Experimental Farms show that cows after being dehorned give more and better milk. The KEYSTONE DEHORNER is the most humane and efficient instrument for the purpose. Write for booklet. R. H. McKenna, 219 Robert Street, Toronto.

Rockhurst Farm Holsteins!

Am offering for sale six pure bred Holstein Cows, ranging in age from three to five, one eight; also two Bull calves, five and six months old, all large, straight, nicely marked. All underpriced.

N. M. CLARKE
ST. ANDREWS, N. B.

FAIRVIEW FARM

Holstein and Yorkshire Swine

Calves of either sex, eight mos. of age and younger, from well bred and Tuberculin-tested Dams. Write for further particulars or come and see them.

Booking orders for Yorkshire Pigs for Spring delivery—from 1st Prize Sire and Dams at Fredericton Exhibition, Fall 1919—either sex, six weeks old. $10 00 each.

FOWLER BROS.,
WELSFORD, N. B.

STOCK FOR SALE

Clyde Mare (registered), 1600 lbs., 7 years, sound, grand worker. Price $300.00.

Hackney Mare (registered) 1050 lbs., 7 years., broken. Price $275.00.

Filly foal, 6 mos., ½ Clyde, ½ Hackney. Very fine. Price $100.00.

Jersey bull (registered) 1¼ years. Very fine stock, good size. Price $60.00.

Apply,

C. A. WEBSTER
YARMOUTH, N. S.

Columbia Grafonola

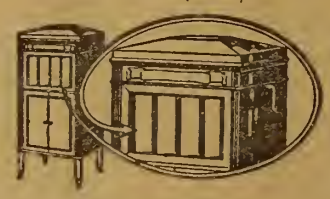
Which Grafonola will you give for Christmas?

The pure, sweet tone of Columbia Grafonolas, clear resonant, and full, makes them a constant joy to hear. The beauty of their cabinets makes them a joy to see. The great variety of Columbia Models makes it certain that there is a Grafonola for every purse and taste.

There are small, portable sizes you can carry anywhere. Big, handsome cabinets suitable for the most elaborate of interiors. All sorts of finishes, dull or lustrous. Prices as low as $32, and as high as $420.

Thus there are many styles and prices to choose from when you select your Christmas Grafonola. But one thing is always the same with every model of any price—the satisfaction of giving and receiving a perfect musical instrument

Look for the Tone Leaves



A standard Columbia Grafonola can be instantly identified by its Tone Leaves. This exclusive Columbia advantage, which permits the most exact and exquisite shading of tone volume, is a distinguishing feature of every standard model Columbia Grafonola at every price. Look for the Tone Leaves.

New Columbia Records out the 20th of every month

COLUMBIA GRAPHOPHONE CO.
TORONTO

Queen Anne Period Model

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The MARITIME FARMER AND CO-OPERATIVE DAIRYMAN

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REGISTERED TRADEMARK

Published Twice-a-month in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., DECEMBER 23, 1919 No 6.

"YOU SEE IT'S A MARITIME FENCE"

Maritime fences will stand the severest tests, because they are built throughout of extra heavy hard drawn No. 9 steel wire. The superior stretching power of No. 9 wire keeps the strands from snapping under heavy strains or hard frosts. Each fence is thoroughly galvanised and will sturdily resist the rust and rot of weather.

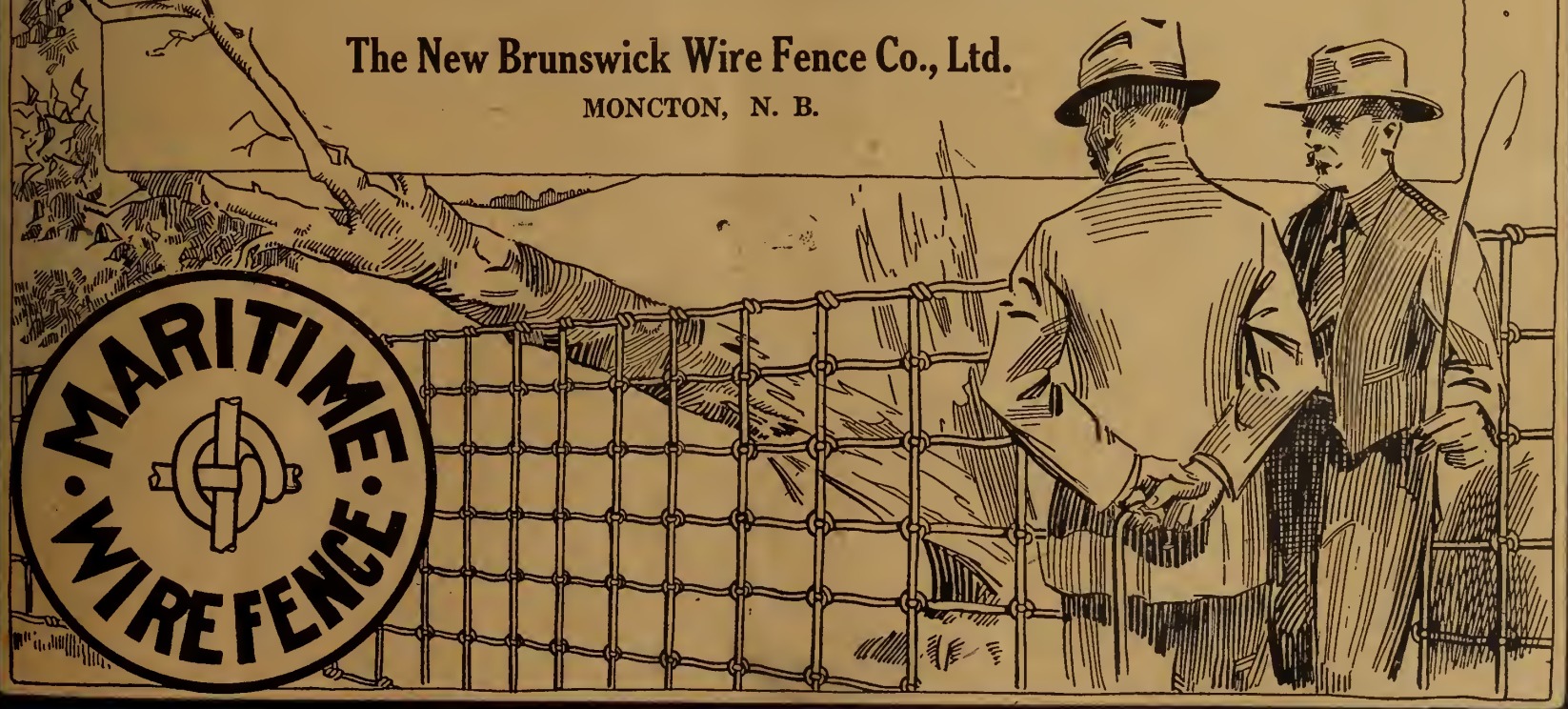
STANDS THE TEST OF MAN, BEAST, WEATHER and TIME

The strands and stays are firmly gripped at every join by our special time tried and tested never-slip lock. Even after years of hard service, Maritime wire fence retains its sagless shape and sightly appearance. All Maritime Fences are carefully inspected and rigidly tested before leaving the factory. When you buy it you know you have got something that is bull strong and hog tight, something that will withstand greater strain than it is ever likely to receive.

Before you buy fencing it will pay you to first learn what the Maritime has to offer in the way of real fence service.

For sale by agents and dealers in nearly every section.
If you don't know the local dealer, write to us direct.

The New Brunswick Wire Fence Co., Ltd.
MONCTON, N. B.



Wishing you the
Compliments
of the Season

The Wabasso Cotton Co., Ltd.
Three Rivers, Que.

FERTILIZER PRICES FOR 1920

¶Buy your mixed Fertilizers co-operatively through The Maritime Farmer.

¶We ship in car lots for cash on bank guarantee of payment of sight draft to Maritime Farmer subscribers.

¶If you no not want a full car yourself, get your neighbors to club their orders with you.

¶Prices will advance slightly each month you delay your orders—**so get it in soon.**

¶Your banker, if he is wide awake, will help you finance your purchases.

¶We guarantee all goods sold by us to be as represented as to formula.

¶We quote a few prices for December delivery :

1-8-1	per	ton	$39.81	**4-8-4**	per ton $64.97
2-8-2	"	"	48.72	**4-8-3**	" " 62.22
2-10-0	"	"	44.60	**3-10-0**	" " 50.33
2-10-2	"	"	50.32	**3-8-3**	" " 56.73
3-6-5	"	"	60.62	**Acid Phosphate**	" " 33.40

Cars are of twenty tons net. All goods bagged. 167 pound bags.
Deduct 25c ton for 200 lb. bgs. Special quotations in more than car lots.
We will also quote on Nitrate of Soda and Potash.

Watch the Maritime Farmer for future prices

Yours for reduced costs. Write for further particulars.

The Maritime Farmer, Sussex, N. B.

The Pillow Fight!

LIKE the laundry, the rough and tumble of childish affairs, strains each of the millions of cotton fibres in sheet, pillow-case, towel, counter-pane or underwear — even Nurse's apron will catch it when the baby scrambles, feet and all, into her lap!

THAT is why each thread must be a perfect thread. Twisted just enough, and woven with exactly the right number of warp and weft threads per inch to give the desired strength.
Prue Cottons have these qualities.

In refurnishing your "Cottons Chest" in these, the White Goods Months, ask for Prue Cottons.

Honest Cottons made in wholesome Canadian factories.

PRUE
COTTONS

DOMINION TEXTILE CO., LIMITED

MONTREAL TORONTO WINNIPEG

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTESED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 25. SUSSEX, NEW BRUNSWICK, DECEMBER 23, 1919. Number 6.

Thrift Practices on the Farm for 1920

Season for New Resolutions

The whole nation is now concerned with thrift, a lesson taught by the war.

The farmer and his family have always practiced thrift. This article summarizes thrift practices that have been common in good farming, and some practices suggested by the war —such as the almost universal habit of saving and investing in government securities.

Thrift means care and prudence in the management of resources and returns.

Thrift by the prevention of waste will help to lower the cost of living and the cost of commodities used in business of all kinds, including farming.

A thrifty population means a prosperous, progressive, contented nation.

Get More Out of Your Time and Labor

By arranging your home, outbuildings, and equipment to save work.

By using labor-saving appliances, horse power, and modern machinery whenever possible.

By giving the same value and consideration to the unpaid labor of the family as if it were paid for; by paying for labor of young people a fair price and encouraging them to save ahead for themselves.

By planning work ahead by using the slack season in preparation for the busy season and for repairs.

By getting the boys and girls into agricultural clubs to train them as to the value of time and money.

Get More Out of Your Soil

By disposing of surplus water by drainage, and preventing erosion of hill lands by terracing.

By conserving manure.

By using winted-cover crops.

By making better use of pasture and stubble.

By growing legumes and grasses on fallow and waste lands.

By taking care of your woodlot and protecting it from fire.

Get More Out of Your Building and Equipment

By fitting them to the special needs of your family and your farm.

By securing them against loss by fire; by using fire insurance to carry the risk.

By protecting them properly; by using paint and whitewash freely; by creosoting posts.

By making repairs promptly.

Get More Out of Your Crops and Stock

By securing good seed; treating it to prevent plant diseases; preparing seed beds properly.

By spraying plants against insects and palnt diseases.

By protecting orchard and garden crops from mice, rabbits and other rodents.

By improving the breeding live stock and keeping records to check up its quality.

By using preventive measures aginst animal disesases; for example, vaccination, tuberculin testing, disinfection.

By growing as much of your own food and the feed of your live stock as you can.

By using a silo to make such forage as beet tops, cane, and corn more palatable and profitable.

By conserving surplus farm and garden products by canning, drying, salting and preserving fruits, vegetables, meats and eggs.

By utilizing otherwise wasted skimmilk, whey, buttermilk, table leftovers, unsalable fruits, and vegetables to feed the pigs and poultry when they cannot be used as human food.

By providing proper storage for your products.

By effective marketing; by good grading; by co-operation with your neighbors.

Farmers Speak Plainly

Where the farmers stand in regard to organized labor and the forces of capital which are engaged in the presentent industrial conflicts was made very plain recently at a meeting of the executive of the Illinois Agricultural Association. This executive board is composed of representative farmers from all over the state and they went on record in decided tones as to their attitude to present conditions in the industrial world.

The following set of resolutions was adopted. The same resolution, by the way, were adopted recently by the representatives of Farm Bureaus which met at Indianapolis, Indiana:

1. "Capital has not reduced wartime profits to peace time condition. The strife between organized capital and organized labor is responsible in a large measure for the high cost of living. We declare the spirit of profiteering is inconsistent with the spirit of patriotism and if persisted in must lead to a national calamity.

2. "Organized labor achieved a great good for laboring classes and we want wage earners to have all that is justly due them. But organized labor too often falls under the leadership of radicalism and makes not only unreasonable demands on capital but demands prejudicial to the public welfare."

Therefore be it resolved that:

1. "We condemn the strike method of righting wrongs as duress methods of securing legislation.

2. "We condemn the demands for shorter hours which reduce production and increase the cost of living, and recommend a basic ten-hour day for all productive industries in order that farm labor may be on a par with other forms of labor.

3. "We condemn the effort to unionize the police officers of cities and regard a strike of the police which leaves a city in the hands of plunder and lust to be high crime against civil government.

4. "We condemn bolshevism, sovietism, I. W. W. movements, and denounce as traitors to this country any persons who in any way advocate anything pointing toward revolution.

5. "We declare it to be the sense of this conference that we favor a league of all industrial organizations for the purpose of determining controversies that may arise among them and for the purpose of enforcing industrial peace.

6. "Finally, we call upon all law abiding citizens to join in meeting the changing conditions of the times and in bringing our country to an economic standard of living."

These resolution were passed by the above named conferences unanimously. They speak in plain language the attitude of the farmer of the great central West toward present conditions.

The members of the conference also spoke in no uncertain terms their opinion of the city people, members of both capital and labor classes, who are advocating the reduction of the cost of living by reducing the price of foodstuffs paid to the farmer. How little the average city person realizes the true situation when he thinks that the farmer is to blame for the high cost of living is shown by this general attitude to make the farmer "the goat."

That prices cannot be reduced to the farmer as long as he is compelled to pay constantly increasing prices for labor and all materials which he has to buy is evident to everyone but the city person. If prices are to be reduced to the farmer it means the farmer must decrease his production to keep prices up.

Wyle Johnson of Bloomington, Illinois, chairman of the Live Stock Committee of the Illinois Agricultural Association, said: "The only result when the market prices of farm products are forced down is to ut production. Take, for instance, pork; market prices were recently 10 cents. The farmer then turns his attention to something else not caring to prepare an article that is dropping in value. If pork is kept down, next year will see a serious shortage with the inevitable high prices.

"It is all right to cut prices of food but when you do that you forget that the farmer—the producer— must continue to pay high prices for all the things he needs to produce that arti-

(Continued on page 197)

Get More Out of Your Home

By making the house and its surroundings healthful, convenient, comfortable and attractive.

By securing a sanitary water supply; by using running water wherever possible—a simple piped system for water may cost only a few dollars.

By providing for proper disposal of sewage.

By thorough screening against flies and mosquitos.

By adequate ventilating, lighting, and heating and well-arranged storage places.

By equipping the kitchen and other workrooms as conveniently as the farm buildings—get the man to study this problem with the woman.

By machine equipment — pump ; power washer and wringer; milk separator; churn; car, but don't buy a $3,000 car and carry water because "we can't a fford a water system."

By cutting out waste spoce and useless belongings.

By choosing furnishings that are comfortable, easy to care for, and pleasing to look at.

By providing simple, well-planned, well-cooked, palatable meals.

By choosing clothes which are comfoirtable, suitable, and becoming.

By having a simple, practicable plan for the housework and following it.

By training all the family to prevent needless work.

By providing all the family with wholesome enjoyment, recreation and chances for self-improvement — a neighborhood magazine club, for example.

By making the home a friendly, helpful part of the community—have people in and visit their homes.

Get More Out of Your Money

By knowing where it comes from and where it goes to; that is, by keeping home and farm records and planning expenditures; by taking an annual inventory of property and savings to show progress made; by having a checking account at the bank.

By buying and selling advice only from men of recognized standing and business ability; by refusing to be lured into unwise investments; shares of stock are less certain than bonds.

By distinguishing between what you need and what you wish before you spend.

By saving regularly a part of all money when received, for future needs and advancements.

By investing your savings and surplus where absolutely safe.

By having a "Ready Money Fund" invested in government securities—for emergencies, for business opportunities; starting a "home-betterment fund" from eggs or other smaller income, in Thrift and War Savings Stamps to use for some definite purpose; having each boy and girl save for an independent "start-in-ife fund" similarly invested.

The Sixteenth Maritime Winter Fair

Many events have transpired since the fifteenth Maritime Winter Fair was held in December, 1915. The occupancy of the Fair buildings by the military authorities necessitated the abandonment of the Stock Breeders' activities along Winter Fair lines, but the fact that the breeders plodded steadily on improving their herds and flocks, despite war-time conditions, was very evident to all who had the opportunity of visiting the Sixteenth Annual Winter Fair at Amherst on December 15th to 18th.

After a lapse of four years many thought the breeders would be somewhat unprepared to show to the best advantage this year. The breeders, however, on the cessation of hostilities, recognizing the importance of their industry and the prominent part they must play in the reconstruction period, lost no time to plan for the re-opening of the fair that had in the past so mightily encouraged the improvement of live stock and seeds in Canada.

Visitors to the 1919 Fair could not possibly view its various sections without being greatly impressed with the splendid work that is being done by many of our stockmen and with the unbounded loyalty of these men to their efficient President, A. E Trites, and Secretary-Manager, F. L. Fuller.

Stabled at the Fair were upwards of three hundred head of cattle ranging from the majestic steers and matronly aged cows to calves only few days old. Many of the calves were not competing for prizes but quite a number of the breeders who brought them along to take care of the surplus milk supply found them a good advertisement for their breeding operations and not a few at the close of the fair passed over to new owners.

A large number of animals of mature years also changed ownership at remunerative figures. A demand for good stock is bound to encourage our breeders to improve their herds in point of numbers and in quality.

The various herds were out in the pink of condition—the number of misfits were noticeably fed in numbers.

THE BEEF CLASSES

J. M. Laird & Son of Prince Edward Island were over with a splendid herd to vie with the R. A. Snowball, C. N. Black and Dominion Experimental Farm herds from New Brunswick and individuals from the herds of Forrest Bros., Geo. M. Holmes and A. S. Fisher from Nova Scotia.

The sweepstakes trophy, a beautiful mounted shield, donated by Massey & Co., Limited, wholesale dealers in dry goods, St. John, for the best Shorthorn animal, any age, went to Peach the first prize aged cow, owned by J. M. Laird & Son. Peach, with her two-year-old daughter, Belle Brandon, her yearling daughter, Stately Peach, and the heifer calf, Red Blossom, captured for the Messrs. Laird the R. A. Snowball silver cup for the best four Shorthorns, any age.

The Massey Harris Co. trophy, a No. 20 two horse hoe for the best beef animal, any breed or grade, went to Messrs. Laird on their white, senior yearling, heifer Stately Peach out of Peach, the sweepstakes Shorthorn by Stately Monarch.

The W. W. Black silver cup for the best grade beef animal went to Forrest Bros. for the third consecutive time on their grade two-year-old Hereford steer.

C. N. Black & Son captured the D. B. Bent $15.00 prize for the best bull, any beef breed, with a young grandson of Stately Monarch.

Forrest Bros., Edward P. Anderson, and Wm. O'Brien & Sons showed their well fitted Herefords. The O'Brien herd captured the majority of the choicest awards including the sweepstakes with their junior yearling heifer Delia Windsor.

Forrest Bros. and Anderson also got a fair share of the awards.

Horne Bros., of Prince Edward Island, showed a well fitted string of Aberdeen Angus cattle and had every thing their own way without competition.

Forrest Bros were the big winners in the finished steers class as will be seen on perusing the list of awards published elsewhere. The majority of these steers were of Hereford breeding.

There were only four beeves sent to the block. Edwards Anderson's senfor yearling Shorthorn—Angus Cross, topped the list, followed by a senior yearling Hereford pure bred steer in second place, while a pure bred aged Hereford cow dressed up for third money, and a pure bred Aberdeen Angus three-year-old heifer was at the foot of the list.

THE DAIRY TEST

The three day dairy test was conducted on the same basis as in previous years, viz.: 25 points for each pound of fat; 3 points for each pound of solids not fat and 1 point for each ten days in milk after the first 30 days. Limit ten points, with a stipulation that no four year old cow shall win a first prize that does not produce at the rate of 10 pounds of butter per week, or a second or any other prize that does not produce at the rate of 8 pounds of butter per week.

No three year old cow shall win a first prize that does not produce at the rate of 9 pounds of butter per week, or a second or any prize that does not produce at the rate of 7 pounds of butter per week.

No two year old heifer shall win a first prize that does not produce at the rate of 8 pounds of butter per week, or a second or any other prize that does not produce at the rate of 6 pounds of butter per week.

No heifer, one year old, shall win first prize that does not produce at the rate of 7 pounds of butter per week or a second or any other prize that does not produce at the rate of at least 5 pounds of butter per week.

Tied up in the Dairy Test stables were 24 Ayrshires, 17 Holsteins, 9 Guernseys, 4 Jerseys, and 13 Grades. The total aggregate was not up in point of numbers to that of 1915, the obvious reason being that it takes a long time to plan ahead for a dairy test.

The highest scoring cow at the Fair was the aged cow Gardrum White Floss, 50306, shown by the Nova Scotia Agricultural College, scoring 270.98 points, with a milk production of 198.1 lbs., yielding 8.75 lbs. fat and 17.49 lbs. solids not fat. It may be said, however, that this cow was shown, not in competition for the prize monies, but for the educational feature of having such a cow displayed where she could be seen, and her excellent qualities studied by the visiting farmers from the three provinces.

The first prize money and sweepstakes award went to her closest competitor in her class, and to the next highest scoring cow, Ruby Westboro Fayne, a three-year-old Holstein, exhibited by Fowler Bros., that scored 265.36 points on a milk production of 247.1 lbs. yielding 8.14 lbs. fat and 20.02 lbs. solids, not fat.

Owing to the lack of space and the short time intervening between the closing of the fair and our going to press, the detailed scores will not appear until next issue. In the meantime, our readers will be interested in the following list which shows the prize winners in their respective dairy classes and the score of each individual:—

DAIRY TEST

Shorthorns

Cow, 4 years old and upwards—2 and 3, Geo. M. Holmes.

Ayrshires

Cow, 4 years old—1, N. S. Agricultural College, Truro, N. S., 270.97; 2, F. S. Black, 199.17; 3, Bert R. Brown, 195.11; 4, A. McRae & Sons, 193.52; 5, McIntyre Bros., 167.80; 6, John Retson, 164.59; 7, F. S. Black, 162.93.

Cow, 3 years old—1, Geo. L. Boswall, 182.01; 2, Bert R. Brown, 140.01; 3, McIntyre Bros., 138.79; 4, Geo. Retson, 136.95; 5, Roy W. Stephen, 136.92; 6, McIntyre Bros., 125.25.

Ayrshire heifer, 2 years old—1, A. McRae & Sons, 117.45; 2, John Retson, 115.40; 3, F. S. Black & Son, 112.29; 4, John Retson, 102.29; 5, McIntyre Bros., 101.56.

Ayrshire heifer, 1 year old—1, Bert R. Brown, 119.05; 2, McIntyre Bros., 106.16.

Holsteins

Cow, 4 years old—1, Arthur Dickie, 257.07; 2, P. S. Bremner & Son, 244.37; 3, Fowler Bros., 218.47; 4, Dickie Bros., 199.53; 5, R. L. Hicks, 145.24; 6, Dickie Bros., 107.23.

Cow, 3 years old—1, Fowler Bros., 265.36; 2, R. L. Hicks, 239.05; 3, N. S. A. College, 230.73; 4, Fowler Bros., 184.45; 5, R. L. Hicks, 182.08.

Heifer, 2 years old—1, Dickie Bros., 198.62; 2, Dickie Bros., 180.20; 3, Arthur Dickie, 176.60; 4, Dickie Bros., 165.78; 5, R. L. Hicks, 129.25.

Heifer, 1 year old—1, Arthur Dickie, 153.79.

Guernseys

Cow, 4 years old—1, D. G. McKay & Son, 186.37; 2, Roper Bros., 156.29; 3, Roper Bros., 137.98; 4, D. G. McKay & Son, 134.63.

Heifer, 2 years old—1, D. G. McKay & Son, 117.36; 2, D. G. McKay & Son, 104.03; 3, Roper Bros., 91.92; 4, Roper Bros., 81.65.

Heifer, 1 year old—1, Roper Bros., 94.13.

Jerseys

Cow, 4 years old—1, H. S .Pipes & Son, 144.95; 2, R. A. Snowball, 143.82.

Cow, 3 years old—1, H. S. Pipes & Son, 111.88; 2, H. S. Pipes & Son, 110.14.

Grades

Cow, 4 years old—1, Fowler Bros., 233.80; 2, Fowler Bros., 222.38; 3, Roper Bros., 176.48; 4, Courtenay Lusby, 174.86; 5, E. P. Anderson, 163.85; 6, D. G. McKay & Son, 151.69.

Cow, 3 years old—1, T. W. Keillor, 171.50; 2, Chas. Etter, 141.69; 3, H. S. Pipes & Son, 131.23; 4, Row W. Stephen, 120.93; 5, H. S. Pipes & Son, 105.44.

THE SHEEP CLASSES

The sheep classes, as usual at Amherst, were out in prime condition to the tune of 266 head. The various breeds were well represented as will be seen by the published list of awards.

The Bank of Montreal special prizes for the best pens of four lambs went to James I. Stewart and Burder Goodwin with their Shropshires and Oxford Downs.

The Bank of Commerce special for the best three shearling wethers, went to a trio of South Down shown by Oliver Saunders, who also captured first place in the dressed carcass group of three yearling wethers, and who thoughtfully, in appreciation of Mr. Fuller's work in behalf of the stock breeders, presented him with the best dressed carcass. Mr. Fuller appreciated this token of thoughtfulness, which was an utter surprise, but nevertheless welcome.

The New Brunswick Wire Fence Co. special prize of 40 rods of wire fencing for the best collection of sheep, all one breed, went to the veteran Shropshire breeder, James I. Stewart.

Shropshires in the hands of Geo. L. Boswall won the Royal Bank special prize for best pen, consisting of one ewe lamb, 1 shearling ewe and one two year old ewe.

The best group of three lamb carcasses was shown by R. A. Snowball.

SWINE

The Swine display was not up to 1915 in point of numbers. The total number being 63, of which 38 went to the block. The grand championship silver cup donated by the Atlas Stock Food Co. for the best bacon animal, any breed or age, went to a Yorkshire barrow, under 9 months, exhibited by Geo. L. Boswall.

The quality of the swine classes was of a high order and a clear indication that it is not necessary for any one to go outside the Maritime Provinces for good young stock next spring.

POULTRY

Poultry, as usual, made up the noisy end of the show, but despite the (fowl language) as our friend Rev. Father Tompkins so aptly termed the commotion, the visitors spent a great deal of time in this department viewing the many splendid specimens of the respective breeds numbered among the 1300 birds on exhibition.

The best exhibit of American breeds was made by Samuel Steeves with his White Wyandottes, capturing the Maritime Poultry Association Silver Cup. This cup was also won by Mr. Steeves at the time the 1916 Maritime Poultry Show was held at Moncton.

The Silver Cup donated by E. N. Rhodes, M. P., for the best two cockerels and best two pullets in the Utility Class, was captured by A. V. Gibson, with a quartet of Buff Orpingtons.

The best Barred Rock display was made by T. C. Latham, who captured the Kingsdale Cup.

The poultry display included only three turkeys, 21 ducks and 34 geese.

There was a fair display of dressed poultry with quite a lot of room for improvement in their preparation for the show.

The display of eggs graded for market was carefully noted by both producers and consumers who visited the fair.

SEEDS

The seed grain display was the best yet seen at Amherst.

The Wm. Ewing Silver Cup for the best exhibit of wheat, oats and barley went to R. A. Snowball. This winning reflects a lot of credit on Mr. Snowball's progressive farm and stock manager, Mr. James Easton, who recognizes the importance of good seed to the live stock breeder, as Dr. Cumming so aptly showed forth in his address at the Seed Growers' meeting.

The S. J. Moore Silver Cup for the best selected and arranged group exhibit of any variety white oats, went to Jas. E. Murphy of Prince Edward Island, who also captured the Steele Briggs Cup for the most creditable showing in not more than three varieties of selected seed.

THE ATTENDANCE

The attendance at the Fair was rather disappoiting, owing to the extremely cold weather, which made driving in the country rather unpleasant and particularly so as there was no sleighing.

The opening exercises were presided over by Mr. A. E. Trites, President of the Maritime Stock Breeders' Association. His Worship Mayor Rogers of Amherst and Warden G. N. Allen, of Cumberland, welcomed the visitors in behalf of the town and county. H. M. Canfield, President of the Amherst Board of Trade, also extended a hearty welcome in behoif of the Board.

The reply in behalf of the M. S. B. A. was made by Hon. W. M. Lea, Commissioner of Agriculture for P. E. I. in a most practical manner, during the

course of which he touched upon many of the problems confronting the farmers of the Maritime Provinces.

Hon. J. E. Sinclair, M. P. for Queens County, P. E. I., in the absence of Hon. M. McKinnon, Lieutenant-Governor for P. E. I., declared the Fair officially open and strongly eulogized the Sock Breeders' Association for the manner in which they had continued to carry on matters relative to live stock improvement during the period when our country was at war and no Fairs were held.

Hon. J. F. Tweeddale, Minister of Agriculture for New Brunswick, was the last speaker of the evening. He expressed his pleasure at the splendid showing that was being made in the various sections of the Fair. In the course of his remarks he enumerated the various activities of his Department and his close co-operation with the Federal Department of Agriculture to advance the live stock interests of his Province.

Prior to the official opening the Director's Banquet was held. The ladies of the Amherst Hospital Aid, headed by their president, Mrs. Allen, catered to this pleasant event at which upwards of two hundred stock men and their invited guests enjoyed the toothsome repast and the addresses of the various speakers who proposed and responded to the various toasts, among whom were Hon. L. P. D. Tilley, Hon. H. J. Logan, Hon. E. H. Armstrong, Hon. Fred Magee, Mr. S. J. Moore, Prof. G. E. Day, W. S. Harding, L. H. Newman, C. C. Avard and others.

THE CONVENTIONS

During the Fair week several important meetings were held in the board room—The Canadian Seed Growers' Association, The Maritime Bee Keepers' Association, The Maritime Poultry Association, The Maritime Sheep Breeders' Association and the Canadian Guernsey Breeder's Association, as well as a number of interesting meeting for propaganda and reconstruction work, reports of which will appear in future issues.

The trophy offered by Dr. M. Cumming to the person making the highest score in judging beef cattle, dairy cattle and sheep, was awarded to W. A. Flemming, Truro, while the M. S. B. A. Trophy to the person not a regular student of an Agricultural College, making the highest score in the above section, went to Major McRae, Charlottetown.

PRIZE WINNERS AT THE SIXTEENTH ANNUAL MARITIME WINTER FAIR

BEEF CATTLE

Shorthorns

Steer, two years and under three—1, Forrest Bros.

Steer, 18 mos., and under 2 years—1, Forrest Bros.; 2, J. M. Laird & Son.

Steer, 1 yr., and under 18 mos.—1 J. M. Laird & Son.

Steer, under 6 mos.—1 and 2, George Holmes.

Cow, 4 years old or over—1 and 2,

Cow, 4 years old or over—1 and 2, J. M. Laird & Son; 3 and 5, R. A. Snowball; 4, A. S. Etter.

Cow or heifer, 3 years and under 4—1, J. M. Laird & Son; 2, R. A. Snowball; 3, Experimental Station, Fredericton.

Heifer, 2 yrs. and under 3—1 and 2, J. M. Lard & Son; 3, Experimental Station, Fredericton; 4, R. A. Snowball.

Heifer, 18 mos. and under 2 yrs.—1, J. M. Laird & Son; 2, Experimental Station, Fredericton; 3, R. A. Snowball; 4, George Holmes.

Heifer, 1 yr. and under 18 mos.—1, C. N. Black & Son; 2, J. M. Laird & Son; 3, R. A. Snowball; 4, A. S. Etter.

Heifer, six months and under 1 yr.—1, Experimental Station, Fredericton; 2 and 3, J. M. Laird & Son; 4, R. A. Snowball; 5, Experimental Station, Fredericton.

Heifer, under six mos.—1 and 2, J. M. Laird & Son; 3, R. A. Snowball; 4, A. S. Etter.

Bull, 3 months and under 1 yr.—1, C. N. Black; 2, J. M. Laird & Son; 3 and 4, R. A. Snowball; 5, George Holmes.

Sweepstakes—Best Steer or Heifer any age—J. M. Laird & Son.

Donated by Canadian Shorthorn Breeders' Association.

Best Pure Bred Steer, any age—1 and 2, Forrest Bros.

Best pure bred Heifer, any age—1 and 2, J. M. Laird & Son.

Bull, 3 mos. and under 1 yr.—1, C. N. Black & Son; 2, J. M. Laird & Son.

Shield donated by Vassie & Co., for best Shorthorn animal, any age—J. M. Laird & Son.

Silver Trophy donated by R. A. Snowball for best group of four Shorthorn animals, won by J. M. Laird & Son.

Heresford and Devons

Steer, 2 yrs. and under 3—1, Forrest Bros.

Steer, 18 mos., and under 2 yrs.—1, Edward Anderson; 2, Forrest Bros.

Steer, 1 yr., and under 18 mos.—1, Edward Anderson; 2, Forrest Bros.

Cow, 4 yrs. old or over—1 and 4, Forrest Bros.; 2 and 3, Wm. O'Brien & Son; 5, Edward Anderson.

Cow or heifer, 2 yrs. and under 4—1 and 2, Wm. O'Brien & Sons.

Heifer, 2 yrs. and under 3—1, 2 and 3, Wm. O'Brien & Sons.

Heifer, 18 mos., and under 2 yrs.—1 and 2, Forrest Bros.

Heifer, 1 yr. and under 18 mos.—1 and 2, Wm. O'Brien & Son; 3, Edward Anderson.

Heifer, 6 mos. and under 1 yr.—1, Wm. O'Brien & Sons; 2, Forrest Bros.

Heifer, under 6 mos.—1 and 4, Wm. O'Brien & Son; 2, Edward Anderson; 3, Forrest Bros.

Bull, 3 mos. and under 1 yr.—1 and 4, Wm. O'Brien & Son; 2, Edward Andersin; 3, Forrest Bros.

Sweepstakes, Steer or heifer, any age—Wm. O'Brien & Sons.

Aberdeen Angus and Galloways

Cow, 4 yrs. old or over—1, 2 and 3, Horne Bros.

Cow or heifer, 3 yrs. and under 4—1 and 2, Horne Bros.

Heifer, 2 yrs. and under 3—1, 2 and 3, Horne Bros.

Heiver, 18 mos., and under 2 yrs.—1, Horne Bros.

Heifer, 1 yr. and under 18 mos.—1, Horne Bros.

Heifer, 6 mos. and under 1 yr.—1, Horne Bros.

Heifer, under 6 mos.—1, Horne Bros.

Bull, 3 mos., and under 1 yr.—1, 2 and 3, Horne Bros.

Sweepstakes, best steer or heifer, any age—Horne Bros.

GRADE BEEF

Steer, 2 yrs. old and under 3—1, 2 and 4, Forrest Bros.; 3 and 5, C. W. Pugsley & Son; 6, Arthur Etter.

Steer, 18 mos. and under 2 yrs.—1, Edward P. Anderson; 2 and 3, Forrest Bros.

Steer, 1 yr. and under 18 mos.—1, Edward P. Anderson; 2, 3 and 4, Forrest Bros.

Steer, under 6 mos.—1, Forrest Bros.; 2, Chas. Etter.

Steer, 6 mos. and under 1 yr.—1, Experimental Station, Fredericton; 2, Edward P. Anderson; 3, Forrest Bros.

Cow, 4 yrs. old and upwards—1 and 4, Wm. O'Brien & Sons; 2, Arthur Etter; 3, J. M. Laird & Son; 5, Forrest Bros.; 6, Geo. M. Holmes.

Cow, 3 yrs. old and under 4—1, J. M. Laird & Son; 2, Forrest Bros.

Heifer, 2 yrs. and under 3—1 and 3, Forrest Bros.; 2, J. M. Laird; 4, Geo. Holmes.

Heifer, 18 mos., and under 2 yrs.—1 and 4, Forrest Bros.; 2, J. M. Laird & Son; 3, Edward P. Anderson; 5, Geo. Holmes.

Heifer, 1 yr. and under 18 mos.—1, J. M. Laird & Son; 2, Edward P. Anderson; 3, 4 and 5, Forrest Bros.; 6, W. E. Harding.

Heifer, 6 mos., and under 1 yr.—1, Wm. O'Brien & Sons; 2, Forrest Bros.; 3, Edward P. Anderson; 4 and 5, Experimental Station, Fredericton; 6, R. A. Snowball.

Heifer, under 6 mos.—1, Wm. O'Brien & Sons; 2, R .A. Snowball; 3, Forrest Bros.; 4, Edward P. Anderson.

Sweepstakes, best animal, any age—Forrest Bros.

Special Prizes Offered by Live Stock Branch Federal Department of Agriculture for Finished Steers, Any Breed or Grade

1200 lbs. or over—1, 2 and 3, Forrest Bros.; 4, C. W. Pugsley & Son.

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1000 to 1200 lbs.—1, 3 and 5, Forrest Bros.; 2, C. W. Pugsley & Son; 4, Edward P. Anderson.

Under 1000 lbs.—1, 2, 3 and 4, Edwd. P. Anderson; 5, C. W. Pugsley & Son.

For Groups finished Steers any Breed or Grade

Best 3, owned by one exhibitor—1, Forrest Bros.

Best 5 owned by one exhibitor—1 and 3, Forrest Bros.; 2, Edwd. P. Anderson; 4, C. W. Pugsley & Son.

Silver cup donated by W. W. Black for best grade beef animal, any age, won by Forrest Bros.

Two horse hoe donated by Massey Harris Co., Moncton, for best beef animal, any breed or grade, won by J. M. Laird & Son.

Fifteen dollars in goods donated by B. D. Bent, Amherst, for best bull, any beef breed, won by C. N. Black & Son.

DRESSED BEEF CARCASES

Dressed beef carcass from animal shown in foregoing classes—1, A. P. Anderson; 2, Forrest Bros.; 3, Wm. O'Brien & Sons; 4, Horne Bros.

Special Prize Offered by the Live Stock Branch, Federal Department of Agriculture.

Dressed Carcasses, Hogs—1, Bert R. Brown; 2, Fowler Bros.; 3, Fowler Bros.; 4, Bert R. Brown; 5, E. J. Vessey; 6, Geo. L. Boswall; 7, Geo. L. Boswall; 8, A. E. Dickie; 9, A. E. Dickie; 10, E. J. Vessey.

Best Group of 3—1, Fowler Bros.; 2, Bert R. Brown; 3, S. O. Stewart & Son; 4, A. E. Dickie; 5, Jas. J. Stewart; 6, Logan Bros.

Best Group of 5—1, Geo. L. Boswall; 2, E. J. Vessey; 3, eGo. M. Holmes.

DAIRY BREEDING CLASSES

Ayrshire

Heifer, 18 mos. and under 2 yrs.—1, Wm. R. Yonker; 2, McIntyre Bros.; 3, Burt R. Brown; 4, Geo. Retson.

Heifer, 1 yr. and under 18 mos.—1, Burt R. Brown; 2, John Retson; 3 and 4, McIntyre Bros.

Heifer, 6 mos. and under 1 yr.—1, John Retson; 2, A. McRae & Sons; 3, Experimental Station, Fredericton; 4, Burt R. Brown; 5, Geo. Retson.

Bull, 3 mos., and under 1 yr.—1, John Retson; 2, A. McRae & Sons; 3, McIntyre Bros.; 4, George Retson.

Best Heifer, any age—1, Wm. R. Yonker.

Holsteins

Heifer, 18 mos. and under 2 yrs.—1, R. L. Hicks; 2, Dickie Bros.; 3, Exp. Station, Fredericton; 4, A. S. Etter.

Heifer, 1 yr., and under 18 mos.—1 and 2, Dickie Bros.; 3, Exp. Station, Fredericton.

Heifer, 6 mos. and under 1 yr.—1 and 4, Dickie Bros.; 2, T. W. Keiller; 3, A. E. Dickie.

Bull, 3 mos., and under 1 yr.—1, 2 and 3, Dickie Bros. ;4, W. L. Fillmore.

Best heifer, any age—1, Dickie Bros.

Jerseys

Heifer, 18 mos., and under 2 yrs.—1, 2 and 3, H. S. Pipes & Sons.

Heifer, 1 yr., and under 18 mos.—1 and 2, H. S. Pipes & Sons.

Heifer, 6 mos., and under 1 yr.—1 and 3, H. S. Pipes & Sons; 2 and 4, J. R. Semple.

Bull, 3 mos., and under 1 yr.—1, H. S. Pipes & Son; 2, J. R. Semple.

Best heifer, any age—H .S. Pipes & Son.

Guernseys

Heifer, 18 mos. and under 2 yrs.—1, Roper Bros.; 2, J. Milligan & Son.

Heifer, 1 yr., and under 18 mos.—1, Roper Bros.

Heifer, 6 mos., and under 1 yr.—1, 2 and 3, D. G. McKay & Son; 4, J. Milligan & Son.

Bull, 3 mos., and under 1 yr.—1, J. Milligan & Son; 2 and 3, D. G. McKay & Sons.

Best heifer, any age—1, D. G. McKay & Son.

Grades

Heifer, 18 mos., and under 2 yrs.—1, Expeirmental Station, Fredericton; 2, McIntyre Bros.; 3, T. W. Keiller; 4, Geo. Holmes; 5, Courtney Lushy.

Heifer, 1 yr., and under 18 mos.—1, A. McRae & Sons; 2, Geo. Holmes; 3, W. E. Harding.

Heifer, 6 mos., and under 1 yr.—1, Experimental Station, Fredericton; 2, R. A. Snowball; 3, Exp. Station, Fredericton; 4, F. S. Black; 5, Geo. Holmes; 6, Roy W. Stevens.

Best animal, any age—1, A. McRae & Sons.

SHEEP

Leicesters

Ewe, 2 yrs. old or over—1, 2 and 3, S. L. Boswall; 4, S. C. Stewart & Son.

Ewe, 1 yr. and under 2—1 and 3, S. L. Boswall; 2 and 4, S. C. Stewart & Son.

Ewe Lamb—1, 2 and 3, S. C. Stewart & Son; 4, S. L. Boswall.

Yearling wether—1 and 2, S. L. Boswall.

Wether lamb—1 and 2, S. L. Boswall.

Lincolns

Ewe, 2 yrs. old or over—1 and 2, Albert Boswall; 2 and 4, C. W. Pugsley & Son.

Ewe, 1 yr. and under 2—1 and 2, Albert Boswall; 3 and 4, C. W. Pugsley & Son.

Ewe lamb—1, 2 and 4, Albert Boswall; 3, C. W. Pugsley & Sons.

Yearling wether—1 and 2, C. W. Pugsley & Sons.

Wether lamb—1 and 2, C. W. Pugsley & Son; 3, George L. Boswall.

Cotswold

Ewe, 2 yrs. old or over—1, Almon Boswall; 2 and 3, George Retson.

Ewe, 1 yr. and under 2—1 and 2, Almon Boswall; 3, George Retson.

Ewe lamb—1, George Retson.

Cheviots

Ewe, 2 yrs. old and over—1, 2 and 3, John H. King & Son; 4, Cephas Nunn.

Ewe, 1 yr. and under 2—1, John H. King & Son.

Ewe Lamb—1, 2, 3 and 4, John H. King & Son.

Yearling Wether—1, Albert Boswall.

Horned Dorsets

Ewe, 2 yrs. old and over—1, 2 and 3, Geo. L. Boswall.

Ewe, 1 yr. and under 2—1 and 2, George L. Boswall.

Ewe Lamb—1, 2, 3 and 4—George L. Boswall.

Yearling lamb—1 and 2, George L. Boswall;

Southdowns

Ewe, 2 yrs. old and over—1 and 4, Oliver Saunders; 2 and 3, J. R. Semple.

Ewe, 1 yr. and under 2—1, J. R. Semple; 2 and 4, Oliver Saunders; 3, E. Saunders.

Ewe lamb—1, 2 and 3, Oliver Saunders; 4, E. Saunders.

Yearling wether—1 and 2, Oliver Saunders.

Wether lamb—1, 2, 3 and 4, Oliver Saunders.

Shropshires

Ewe, 2 yrs. old and over—1 and 2, Geo. L. Boswall; 3, John H. King & Son; 4, Jas. I. Stewart.

Ewe, 1 yr. and under 2—1 and 2, Geo. L. Boswall; 3, John H. King & Son; 4, Jas. Stewart.

Wether Lamb—1, Geo. L. Boswall.

(Continued on page 198)

THE MARITIME FARMER

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Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

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The Maritime Farmer, instead of giving you one receipt in the year for a paid subscription, sends you 24, or one every two weeks. You will find it on the GREEN COLORED LABEL on which your address appears. The date printed thereon is that on which your subscription terminates. If on payment of your subscription the date is not changed within two weeks, please notify us. No other receipt will be sent.

DATES OF ISSUE.

January - - - - - - 6—20

DECEMBER 23, 1919

A MERRY CHRISTMAS AND A HAPPY NEW YEAR TO ALL MARITIME FARMER READERS

The management, Editors and staff of the Maritime Farmer extend their best wishes for a Merry Christmas and Happy New Year to all its readers.

A SEASON FOR NEW RESOLUTIONS

The Christmas rush is on. By the time this number of the Maritime Farmer reaches its readers, Christmas will be here and the New Year, 1920, will be closely following on the trail of the old year. It is always well to reflect and at this season take a retrospect of the work accomplished during the year. Success and progress will be evident in many instances, but there will also be cases of failure and retrogression. Successes are always inspiring—they encourage greater effort in future operations—but what of the failures? Have they brought their lesson? Have they pointed out a needed rebuke for doing work in a manner not consistent with good business methods? If they have not had this effect, the same failures are liable to occur again. If they have taught their lesson and an honest effort is made to prevent their recurrence by paying stricter attention to business details, they will have proven a blessing in disguise.

Lest we forget, it is well to review the year's work now and make our resolutions for the future. There are so many places where we can all do just a little better than we have done in the past. Let New Year resolutions be made, not to be broken, but to be fulfilled, and the close of the year 1920 will find us all on a higher plane mentally, morally, physically and financially. We will all be better citizens and our community will be a better and happier place in which to live.

WHY NOT RAISE CERTIFIED SEED POTATOES?

A recent issue of the Potato Magazine says:—"If you had a chance to get part of a million dollars, you would jump at the chance, and yet there are over $1,000,000 worth of seed potatoes going to southern markets every year. There is no trouble to get one hundred per cent more for seed stock than is procured for ordinary market potatoes."

There are sections of the Maritime Provinces that are eminently adapted to the growing of seed potatoes, free from disease, just the kind of stock that our southern friends desire. A word to the wise is sufficient.

FARMERS' HOURS AND FOOD PRICES

Laborers of the city are asking for shorter hours, higher wages, and cheaper foods. Demands have been made by miners for a five-day week, consisting of 30 hours, and a 60% increase in wages. For some time a very large number of the city laborers have been working but 48 hours a week. If labor has become efficient enough and machinery has supplemented their efforts sufficiently to enable them to sustain themselves and their families by working 30 to 48 hours a week, there can be no serious objection made against this plan. But let us view the hours necessary for the farmer to work in order that he may supply these people with food and gain a competency for himself and family. There are very few farms, if any, that do not require the owner or some of the hired help to devote some time every day in the week. There are no free days, no half holidays, as in other industries. If we survey the hours of labor that the farmer puts in each week we find they vary from 60 to 80. In other words, the farmer labors nearly double the hours of those engaged in many other enterprises. The labor income per hour of the farmer has never been equivalent to that of the man who works at skilled labor in the city.

The farmer, it is true, is making progress. If he applies himself industriously and intelligently to his work, he is capable of securing for himself a competency for old age. This is done by the utilization of his time, his family, and through thrift. Farming is not an individual job—it is a family undertaking, and when all hands apply themselves to the labor of the farm, there is opportunity for each one to work and this, in the sum total, amounts to a considerable income. If the laborer's family of the city were in position to work the same number of hours a day as the farmer's family and to earn the same amount of money that the farmer's children earn for him, his occupation would prove in most cases more remunerative than the farmer's.

The city laborer is not proceeding along safe grounds for himself or for industry, as a whole, when he is asking for shorter hours, higher wages, and cheaper foods The higher wages of the city affect the farmer, for there is a tendency everywhere for laborers to seek the market where they can secure the highest return for their labor. This has brought about a shortage of labor on the farm, and it has forced the farmer to pay a higher compensation for his help. If prices of foods are not in keeping with the prices of labor, the farmer will not hire help but will prefer to let some of his acres lie idle. He will reduce his herds and flocks so that his family can take care of them more comfortably than in the past.

It is not necessary to look far for an example which will illustrate this point. Hogs advanced to $24 per hundred last summer and two or three weeks ago they declined to $12.25 per hundred. This rapid falling off in price was not due to the large receipts in the market, for spring pigs had not then begun to make their way to the market to any considerable extent. But the prices fell. Various reasons are given which we will not discuss here. The results, however, brought about this condition. Farmers are hesitating to feed high priced corn to their young pigs. We know of eleven little pigs, seven weeks old, which were offered for sale for $30. These pigs would have been readily purchased before the decline in price because they would have been a good bargain and the farmer could have made some profit by feeding his corn to them if hogs had remained at $18 or $20 per hundred, but there seems to be no market for these little pigs now. It is due to the uncertainty of making any profit by feeding them.

This is only one illustration, but it points out clearly how farmers retrench in their products when prices will not return some profit for their labor. It is, therefore, unreasonable for the city laborer to push his demands for shorter hours and higher wages unless he is willing to pay present prices for foods. He may find himself and family hungry next year because the farmer has not worked his acres to their full limit.—Hoard's Dairyman.

WATER AND MILK

It is just as important to provide a cow with an adequate quantity of water and in the right condition as it is to provide a suitable ration. Milk is 87 per cent water and 13 per cent solids. This fact needs no argument in behalf of water. What we must consider is how the water should be supplied and in what condition.

We have no hesitancy in recommending the drinking cups as this keeps fresh, warm water, that is, water at a temperature of 50° F. or above, before the cow all the time. If this method is not followed the system of watering the cow in the manger may well be practiced. The next best method is watering the cows twice a day from a tank which is protected from the cold winds and where the water may be warmed by a tank heater. We would discourage the practice of giving dairy cows cold water but once a day and in a cold place. Under such conditions no dairy cow will drink enough water to supply her needs and, further, what she does drink must be warmed with expensive feeds. The result will be a shrinkage of milk flow per cow per day of at least two or three quarts of milk and a larger consumption of feed. The shrinkage in milk flow at the present price of milk would soon pay for the best kind of a watering system. Providing cows with warm, fresh water in the barn not only produces more milk and saves feed, but is a great saving of labor which is no small item now.

A man who permits his cows to have water but once a day and that from a hole in the ice or from a tank of ice water is not making money with cows. What is more he is not entitled to make money. The fact that water forms a large part of milk; that cows drink water at night as well as in the day time; that they will not drink enough once a day to supply their needs; that it requires feed to warm water, if other provisions are not made, should lead every sensible man to supply his cows with an adequate supply of warm, fresh water. Give the cow an opportunity to become a "drinker."

The tested and approved cow and the dairyman determined to do his best, makes a winning combination.

* * *

Make the most of yourself, for that is all there is of you.—Ralph Waldo Emerson.

* * *

The silo, cream separator and the manure sperader are indispensable to the successful dairy farmer.

* * *

Barnyard manure or commercial fertilizers help to make big yields.

FARMERS SPEAK PLAINLY

(Continued from page 193)

cle. In other words, his cost of living isn't helped at all. Reduce the cost of production of farm produce before you can expect to see the price of farm produce become lower."

And in that last sentence Mr. Johnson voiced the sentiment of farmers in general.

The reduction of the price of the food depends upon the reduction of the cost of production—and the farmer can't reduce that cost alone. Everything he uses to produce food must come down. The people of the cities must wake up to the fact that they can't work eight hours a day or less producing the things the farmer uses to produce food and then expect him to work sixteen or more hours a day in giving them cheaper food.

Capital and labor can't keep on fighting and expect the farmer to feed them in their idleness—and with cheaper food.

They have got to learn that they have got to quit fussing and get in the game and produce if they expect to reduce costs. The day of making the farmer a goat is passing. The various farm organizations speaking for the farmer are telling in no uncertain voice what they think of capital and labor, and that voice is going to he heard. The people are going to wake up to the fatc pretty soon that they are dependent on the farmer absolutely and that if they expect to live reasonahly or live at all for that matter(they have got to get over their fussing and fighting and get down to brass tacks and keep their feet on the ground and get busy. Work a real day's work for a decent wage, produce adequate goods for an adequate price, help reduce the cost of raw materials to the farmer, and then they will see the cost of living drop and not until then.

With labor and capital in the present turmoil the country is going to realize that after al there is one cool head in the country, that there is a steady hand on the steering wheel and that hetter times are coming if they work with that cool head and steady hand, and that head and hand belong to the sanest branch of our present civilization—the farmer.

TILE-DRAIN YOUR LAND

Under-draining renders the soil more porous and facilitates thorough cultivation by carrying off rapidly the surface water by filtration, thus drying the land quickly.

In deciding to under-drain, careful study should be given to the best manner of laying out a system of drains, the aim heing to secure the greatest fall, the least amount of digging, the hest outlet for tile and the most perfect drainage.

Drains should be laid so that no two lines will take the water from the same territory. The outlets should be as few as possihle and large enough to carry off all the water. Where a good fall is doubtful, it is hest to employ the services of an engineer. If the land-owner proposes to act as his own engineer, the hest instrument is a spirit level, with an eight-foot straight edge, the straight edge to be placed level on top of two pickets. The operator can then sight ahead to any reasonahle distance.

When the levels are taken, it is well to mark the depth on a stake and at the same time to mark them in a note-book, as the stakes are liable to be disturbed.

Opening the Trenches

When possible, use the ditching machine, as it will materially lessen the cost. If a ditching machine cannot be secured, horsepower should be used. The bottom should be dug with a narrow draining spade or shovel and the loose earth should be thrown out with a crummer. To secure the proper grade for the bottom of the drain, the spirit level should be used with a straight edge. The grade should he dug about 100 feet before laying the tile.

Fall of Drain Should Not Be Less Than 2 Inches to 100 Feet

The depth of the drain will vary with the character of the soil and the nature of the slope. The outlet of the tile drain should be clear and unobstructed. The first ten feet of the drain should be a thick plank hox placed back a considerahle distance to keep the cattle from disturbing the outlet.

The proper size of tile can be definitely stated only when the detailed conditions under which one is to work are known. They should he large enough to remove, in from 36 to 48 hours, the excess water of the heaviest rains likely to occur. No tile should he used less than 3" diameter.

Tile laying should begin at the outlet of the main, proceeding upward to the first lateral, where the junction should he made and tile enough laid in the lateral to permit the main to be partly filled. Teh greatest care should be taken to pack sods or straw ahout the joints so as to avoid large openings through which the water may rush during heavy rains, washing silt into the tile.

Filling the Ditch

After the sod or straw has been well placed on top of the tile it is necessary to put in one foot or more of surface soil and sods which were first ploughed out. This will allow the water to enter the tile more freely and at the same time will keep out fine sand. Th balance of the drain may be filled in with either the plough or drag scraper. The ordinary road machine also makes an excellent joh.—John Fixter, Supervisor, Illustration Stations

MAINTAINING EFFICIENCY IN FARM MACHINERY

The saving that comes to the farmer who keeps his farm machines in perfect working order is great. Efficient machines mean good work quickly done and at proper time. Neglected machines mean delays—poor work, loss of time and labor.

Every farmer should have a repair shop of ample size aid equipped with tools and repair materials sufficient to make any needed repair or adjustment required to keep the farm machines up to a high standard of working efficiency. Under good management, days or hours when weather conditions are unfavorable to out door work will be spent on farm machine adjustment or repair. During the winter period, all machines should be given careful inspection. Go over each piece with a wrench, tighten all loose nuts, replace lost holts, screws or nails or put in additional ones if needed. All parts that are exposed to wear in the soil as harrow teeth, drill and cultivator shovels, discs, plough points, etc., should he properly sharpened and put back into position. Soil tillage tools such as disc harrows, cultivators and ploughs should have all bright surfaces coated with a rust preventative, such as axle grease or machinery oil or anti-rust grease, hefore heing put away after the season's work. At the close of the haying season and also at the close of the harvest, a card should he tied to each machine used and notes of needed repairs written thereon. This card record will serve as a guide and save much time when the day arrives on which the machine is to be repaired, in that it will indicate just what is wanted. Some immediate lork is required on all haying and harvesting machinery the very day on which the work ceases. A good cleaning brush and cloth, followed hy an application of oil or grease to all parts that are not protected by paint or other covering, is the first essential. Then write up the needed repair record and await the day. To give good service, mower and binder knives and also the ledger plates on which such move, should be in proper alignment and very sharp. Spare knives shoult be kept at hand and ready, all rivets should be hammered tight, hroken blades or ledger plates removed and renewals put in. Paint will preserve the wood and metal portions of all implements from the weathering influences, adding much to a machine's durahility and appearance. Farm machines should be painted frequently; no farm boy can take pride in a ramshackle, weather beaten machine.

The machine tool box or the man operating any machine or implement should he supplied with useful wrenches, pliers, hammer, bolts, nails and other necessary repair material with which all field repairs or adjustments may he made. Neglect to oil has done more to reduce the period of usefulness of farm machines than any other factor. Good luhricating oil applied to the hearings as needed will increase the period of usefulness of any machine. The great neglect, no oil on the hearings, is causing a loss to Canadian farmers that would aggregate millions of dollars each. Develop the hahit of taking care of your machinery and keep it as fit as a well-cared-for horse. Protect from weather, keep all parts tight and in proper adjustment and don't neglect the oiling.—L. Stevenson, Supt. Experimental Station, Sidney, B. C.

LOSS SMALL IN PROPERLY STORED POTATOES

Potatoes properly stored should not sustain a loss throughout the winter season of more than 5 per cent., and under exceptionally good conditions not more than 3 or 4 per cent., according to specialists of the United States Department of Agriculture. The maximum return from the crop after it is produced depends on the care with which the potatoes are harvested, stored, graded, sacked and the ability of the grower to sell at the most advantageous time. Approximately one-third of the main potato crop is marketed at harvest time and the remainder is stored as a reserve supply for winter and spring. It is physically impossible, as well as economically undesirable, to attempt to market the entire crop in the autumn, and the only way in which potatoes can be handled successfully, so as to insure a uniform supply, is to provide sufficient storage on the farm or at the shipping station for from 65 to 75 per cent. of the crop.

Various types of storage places are now in use, ranging from pits or cheaply constructed dug-outs to large, substantially huilt storage houses,

The successful storage of potatoes involves their protection from extremes of cold and heat and their maintenance at a temperature of from 35 to 40 degrees F. Sufficient ventilation must he provided to remove foul air and excess moisture. The storage house must be so constructed as to exclude light, as the table quality of potatoes quickly deteriorates in the light. The tuhers must be dry and reasonahly free from dirt when put into storage, as an excess of moisture or soil increases the amount of heat generated in a newly stored supply of potatoes. The soil tends to close up the spaces hetween the tubers, thus cutting off air circulation and helping to retain heat that would otherwise escape. All diseased, badly cut or bruised tubers should be removed from the crop before putting it into storage. It is not advisahle to permit the stored potatoes in any bin to exceed a depth of 5 or 6 feet, and the floor dimensions of a single hin should not be greater than 12 by 12 feet unless it is provided with a series of ventilating shafts for the escape of moisture and heat. Ventilated division walls and floors are also desirahle.

Loss from Deep Storage

Some commercial growers and shippers of potatoes store in bins so deep that the tubers form a layer 10 to 15 feet thick. This is almost certain to entail a much heavier shrinkage loss than when stored at a depth of not more than 6 feet. The heavier shrinkage is the result of the greater amount of heat generated by a large pile of potatoes, which results in a higher moisture loss as well as a heavier loss from decay, as heat and moisture hoth help to develop organisms causing tuher rots. The loss under these conditions may reach 25 per cent., and where all diseased tuhers have not heen removed at the time of storing the loss may exceed that figure.

Potatoes stored throughout the winter season under conditions meeting the requirements suggested above should not sustain an actual loss in storage of more than 5 per cent., and under exceptionally good conditions it may he as low as 3 or 4 per cent. Assuming that 5 per cent, represents the average loss under good storage conditions and that 20 per cent. would be a fair average allowance under poor conditions, the actual monetary loss sustained hy the grower or dealer on 300,000 pounds of potatoes would in the one case he 5,000 pounds and in the other 60,000 pounds, or $1 a hundredweight, a loss of $150 under good and of $600 under poor storage conditions. Besides this there is an additional loss in storing potatoes to a depth of 10 to 15 feet which is not usually taken into consideration, and that is the mechanical injury through the cracking and bruising of the tubers at the bottom of the pile due to the great weight of the potatoes on top.

FIRE DONT'S

Don't allow anyone to smoke in your barn or your outbuildings.

Don't keep your automohile or your tractor in the harn, but provide a separate garage, which should not expose another building.

Don't keep gasoline except in closed safety containers. Never store quantities of 10 galls or more except in underground tanks or at least 150 feet from any building.

Don't hang up old clothes or oily rags in barn or other out-buildings except in metal lined lockers.

Don't allow steam engines without spark arresters near barn or other buildings.

Don't fail to provide lightning rods for every important building.

Don't burn trash, brush or rubbish near buildings. fences or other property, and nowhere except with greatest care

MILK STRINGY YET SWEET

Can you tell me what is the matter or what acuses milk and cream to look slimy or stringy when poured from one dish to another?—G. W.

Reply.—Stringy milk is caused by bacteria. Of course, sour milk is caused hy a bacteria hut a different kind. Lactic acid hacteria causes milk to sour, but the stringy milk hacteria causes it to become stringy while the milk is yet sweet. This hacteria gets on to the cow's teats and falls into the milk pail, and there germinates and develops. It can be done away with by washing the cow's teats and udder after milking, with a weak solution of sulphuric acid. The dairy utensils—skimming cloth, pails, etc., should also be rinsed with water containing a small amount of sulphuric acid. You will only have to give this treatment a few times to obviate the troubfe. This hacteria gets on to the cow's udder usually fro muddy pastures.

In Professor Sherman's class for teachers at Columbia University some one asked: "How long should a child keep up the use of milk" and he laughed and said: "Well, I should think that by the time he was forty, he might safely leave it off."

PRIZE WINNERS AT THE MARITIME WINTER FAIR

(Continued from page 195)

Oxfords

Ewe, 2 yrs. old and over—1, J. M. Laird & Son; 2 and 3, Burder Goodwin; 4, F. S. Black.

Ewe, 1 yr. and under 2—1, 3 and 4, Burder Goodwin; 2, F. S. Black.

Ewe lamb—1, 2, 3 and 4, Burder Goodwin.

Wether lamb—1 and 2, George L. Boswall; 3, F. S. Black.

Hampshires

Ewe 2 yrs. old and over—1 and 2, Agricultural College; 3, 4, 5 and 6, Cephas Nunn.

Ewe, 1 yr. and under 2—1, 2, 3 and 4, Cephas Nunn.

Ewe lamb—1 and 2, Agr. College; 3, 4, 5 and 6, Cephas Nunn.

Wether lamb—1, Cephas Nunn.

Suffolks

Ewe 2 yrs. old or over—1, 2, 3 and 4, Horne Bros.

Ewe, 1 yr. and under 2—1, 2, 3 and 4, Horne Bros.

Ewe lamb—1, 2, 3 and 4, Horne Bros.

Wether lamb—1, Horne Bros.

Grades or Crosses

Ewe, 2 yrs. old and over—1, E. Saunders; 2, Cephas Nunn; 3, Experimental Farm, Nappan; 4 and 7, George L. Boswall; 5, Jas. I. Stewart; 6, R. A. Snowball.

Ewe, 1 yr. and under 2—1, Burder Goodwin; 2 and 5, Geo. L. Boswall; 3, E. Saunders; 4, Oliver Saunders; 6, Albert Boswall.

Ewe Lamb—1, Cephas Nunn; 2, Oliver Saunders; 3 and 5, Geo. L. Boswall; 4, Jas. I. Stewart.

Yearling Wether—1, Oliver Saunders; 2, E. Saunders; 3, Cephas Nunn; 4, J. M. Laird & Son.

Wether Lamb—1, Geo. L. Boswall; 2, Oliver Saunders; 3, Experimental Farm, Nappan; 4, E. Saunders; 5, Cephas Nunn; 6, R. A. Snowball.

Special Prizes offered by the Live Stock Branch, Federal Department of Agriculture

Best group of 5 shearlings, ewes or wethers—1, E. Saunders; 2, Geo. L. Boswall; 3, Albert Boswall; 4, Burder Goodwin; 5, Cephas Nunn; 6, C. S. Stewart & Son.

Best group of 5 lambs, ewes or wethers—1 and 3, Geo. L. Boswall; 2, Burder Goodwin; 4, Cephas Nunn; 5, Experimental Farm, Nappan; 6, R. A. Snowball.

Best group of 10 shearlings, ewes or wethers—1, Oliver Saunders.

Best group of 10 lambs, ewes or wethers—Jas. I. Stewart; 2, F. S. Black; 3, Oliver Saunders; 4, R. A. Snowball; 5, Geo. L. Boswall.

Donated by the Bank of Montreal, Amherst, N. S., for the best 4 lambs, all one breed, in classes 31 to 40, inclusive, 1st, $8.; 2nd, $7.—1, Jas. I. Stewart; 2, Burder Goodwin.

Donated by the Canadian Bank of Commerce, Amherst, N. S., for the best 3 shearling wethers—1, Oliver Saunders.

Donated by the New Brunswick Wire Fence Company, Moncton, N. B., 40 rods of wire fencing for the best collection of sheep, all one breed and owned by one exhibitor—1, Jas. I. Stewart.

Donated by the Royal Bank of Canada, Amherst, N. S., for a pen, including 1 ewe lamb, one yearling, 1 ewe, 2 years old or over, 1st, 10 dollars; 2nd, $5.—1, George L. Boswall; 2, S. C. Stewart & Son.

DRESSED SHEEP CARCASSES

Dressed sheep carcasses from sheep over 1 year and exhibited in foregoing classes—1, Oliver Saunders; 2, S. C. Stewart & Son; 3, Jas. I. Stewart; 4, Oliver Saunders; 5, J. M. Laird & Son; 6, Geo. L. Boswall.

Dressed carcasses from sheep under 1 year and exhibited in foregoing classes—1, Oliver Saunders; 2, 3, 4, 6, R. A. Snowball; 5, Jas. I. Stewart.

Best group of three yearlings—1, Oliver Saunders.

Best Group of three lamb carcasses—1, R. A. Snowball; 2, Oliver Saunders; 3, Jas. I. Stewart; 4, Geo. L. Boswall; 5, R. A. Snowball.

WOOL PRIZES

Long Wool, Lamb (Hogg) fleece—1, S. C. Stewart & Son; 2, S. L. Boswall.

Long wool, sheel, (wether fleece—1, Albert Boswall; 2, S. C. Stewart & Son.

Medium Wool, lamb (Hogg) fleece—1, E .Saunders; 2, John H. King & Son.

Medium Wool, sheep, (wether fleece)—1, J. E. Semple; 2, Oliver Sounders.

CHAMPIONSHIP

Best Long Wool fleece—S. C. Stewart & Son.

Best Medium Wool ueece—E. Saunders.

SWINE

Yorkshire

Barrow, six months and under 9—1 and 2, George Boswall; 3, A. J. Vessey; 4, S. C. Stewart & Son.

Barrow, under 6 mos.—1, Geo. Boswall; 2 and 3, George Holmes.

Sow, 9 mos. and under 15—1, Hiram E. Black.

Sow, 6 mos. and under 9—1, Geo. Boswall; 2 and 5, S. C. Stewart & Son; 3 and 4, Bert R. Brown.

Sow, under 6 mos.—1 and 2, Roper Bros.

Berkshires

Barrow, 6 mos. and under 9—1, Peter Brodie; 2 and 3, Jas. I. Stewart.

Barrow, under 6 mos.—1, Peter Brodie; 2 and 3, J. R. Semple.

Sow, 9 mos. and under 15—1, Peter Brodie; 2, Logan Bros.; 3, Jas. I. Stewart.

Sow, 6 mos. and under 9—1, 2, 3 and 4, J. R. Semple; 5, Jas. I. Stewart.

Sow, under 6 mos.—1 and 2, Logan Bros.; 3 and 4, J. R. Semple.

Grades of any breed

Barrow, 6 mos., and under 9—1, E. J. Vessey; 2, George Holmes; 3, 4 and 5, H. S. Pipes & Son.

Barrow, under 6 mos.—1, Fowler Bros.; 2 and 3, A. E. Dickie; 4, George Holmes.

Sow, 9 mos. and under 15—1, Harley Smith; 2, H. S. Pipes & Sons.

Sow, 6 mos., and under 9—1 and 2, Fowler Bros.; 3, H. S. Pipes; 4, Chas. Etter; 5, E. J. Vessey.

Sow, under 6 mos.—1, E. J. Vessey; 2, Harley Smith; 3, Geo. Holmes; 4 and 5, A. E. Dickie.

Special Pries offered by Live Stock Branch, Federal Department of Agriculture

SWINE

Finished Bacon Hogs any Breed or Grade

Best Group of 3—1, Bert R. Brown; 2, S. C. Stewart & Son; 3, Fowler Bros.; 4, J. R. Semple; 5, A. E. Dickie; 6, Logan Bros.

Best Group of 5—1, George L. Boswall; 2, E. J. Vessey; 3, J. R. Semple; 4, George Holmes; 5, H. S. Pipes & Son.

Donated by Dominion Swine Breeders Assoc. Open to Nova Scotia.

Best Sow, 9 mos. and under 15—1, Hiram E. Black.

Best sow, 6 mos., and under 9—1, J. R. Semple.

Best sow, under 6 mos.—1, Logan Bros.

Open to Prince Edward Island

Best sow, 9 mos. and under 15—1, Peter Brodie.

Best sow, 6 mos. and under 9—1, George Boswall.

Best sow, under 6 mos.—1, Roper Bros.

Grand Championship

Silver cup donated by Atlas Stock Food Co. for best animal, any breed or grade, judged from a bacon standpoint, quality and conformation to count equally, won by George L. Boswall.

LIVE POULTRY

Anconas, cock.—1 and 2, G. H. Seaman.

Hen.—1 and 2, G. H. Seaman; 3, Chas. H. Smythe.

Cockerel.—1, Alfred Springall; 2, G. H. Seaman; 3, Aubrey Jackson.

Pullet.—1, Alfred Springall; 2 and 3, G. H. Seaman.

Andalusians, hen.—1, Mrs. Frank Locke.

Cockerel.—1 and 2, Mrs. Frank Locke.

Pullet.—1 and 2, Mrs. Frank Locke.

Braham, Light, cock.—1 and 3, Day Bros; 2, Chas. Smythe.

Hen—1 and 2, Day Bros.; 3, Chas. H. Smythe.

Cockerel.—1, Day Bros.; 2 and 3, W. L. Lowe.

Pullets.—1, Day Bros.; 2, Chas. Lowe; 3 and 4, Mrs. Frank Lowe; 5, Day Bros.; 6, W. L. Lowe; 7, Chas. Lowe.

Brahma, Dark, cock—1 and 2, Day Bros.

Hen—1 and 2, Day Bros.

Cockerel—1 and 2, Day Bros.

Pullet—1 and 2, Day Bros.

Black Spanish White Face, hen—1 and 2, Stanley Carter.

Cockerel—1, Stanely Carter; 2, John P. Bain.

Pullet—1, John P. Bain; 2, Stanley Carter.

Campines, Golden, hen—1. John P. Bain.

Cochin Partridge, cock—1, Day Bros.

Hen— 1and 2, Day Bros.

Dominiques, cock—1, John P. Bain.

Hen—1 and 2, John P. Bain.

Dorkings, Silver Grey, cock—1 and 2, Day Bros.

Hen—1, John P. Bain; 2and 3, Day Bros.

Cockerel—1, John P. Bain; 2, Day Bros.

Pullet—1, Day Bros; 2, John P. Bain.

Dorkings, White, hen—1, John P. Bain.

Game, Black Red, cock—1 and 2, John A. Scott.

Hen—1, John A. Scott; 2, Stanley R. Seaman.

Cockerel—1, Donald Keith.

Pullet—Donald Keith.

Game, Indian, cock—1, J. W. Gould; 2, S. R. Seaman.

Hen—1 and 2, Chas. Lowe; 3, John P. Bain.

Cockerel—1, Chas. Lowe; 2, John P. Bain.

Pullet—1, Chas. Lowe; 2, Stanley Lowe; 3, Chas. Lowe.

Game, Pyle Standard, hen—1 and 2, John A. Scott; 3, Donald Keith.

Pullet—1, John A. Scott.

Leghorns, Brown, R. C., cock—1, John A. Scott; 2, Geo. Holmes.

Hen—1, John A. Scott; 2, George Holmes.

Cockerel—1, and 2, John A. Scott;

Cockerel—1, and 2, John A. Scott.

Pullet—1 and 2, John A. Scott.

Leghorns, Buff, S. C., cock—1, C. F. Clarkson.

Hen—1, C. F. Clarkson.

Cockerel—1, C. F. Clarkson; 2, E. I. Peel.

Pullet—1, E. I. Peel; 2 and 3, C. F. Clarkson.

Minorcas, Black S. C., cock—1, W. J. Cudmore; 2, Alf. Mollin; 3, W. J. Cuudmore.

Hen—1, W. J. Cudmore; 2, Robt. & Gordon Carter; 3. W. J. Cudmore.

Cockerel—1, Alf. Mollin; 2 and 3, W. J. Cudmore; 4, John A. Scott; 5, W. C. VanBuskirk; 6. E. I. Peel.

Pullet—1 and 2, W. J. Cudmore; 3, and 4, Alf. Mollin; 5 and 6, W. C. Van Buskirk; 7, Alf. Mollin.

Minorcas, Black, R. C., cock—1, John P. Bain.

Hen—1, John P. Bain.

Pullet—1 and 2, John P. Bain.

Langshans, cock—1, O. J. Taylor; 2, Chas. H. Smyth.

Hen—1 and 2, O. J. Taylor; 3, Chas. H. Smyth.

Cockerel—1 and 2. O. J. Taylor.

Pullet—1 and 2, O. J. Taylor.

Orpingtons, Buff, S. C., cock—1, A. Vye Gibson.

Hen—1 and 2, A. Vye Gibson.

Cockerel—1 and 2, A. Vye Gibsch.

Pullet—1 and 2, A. Vye Gibson.

Orpingtons, White, Any Variety—cock—1, Mrs. Frank Locke.

Hen—1and 2, Robert and Gordon Carter; 3, Mrs. Frank Locke.

Cockerel—1 and 2, B. W. Ralston.

Pullet—1, Mrs. Frank Locke; 2. B. W. Ralston; 3, Mrs. Frank Locke.

Orpingtons, Black any variety, cock—1, Camp Hill Poultry Yards; 2, Geo. Holmes.

Hen—1 and 2, Camp Hill Poultry Yards.

Pullet—1, Camp Hill Poultry Yards.

Plymouth Rock, Barred, cock— 1, T. C. Latham; 2 and 3, Alfred Springall.

Hen—1, Aubrey Stevenson; 2, Watson Lutz; 3, 4, 5, and 6, T. C. Latham; 7, Watson Lutz.

Cockerel—1 and 2, Kentville Poultry Yards; 3, 4 and 5, T. C. Latham; 6, E. I. Peel; 7, Watson Lutz.

Pullet—1, 2, 3, 4, 5, and 6, T.C. Latham; 7, Aubrey Stevenson.

Plymouth Rock, cock—1, Albert Boswall; 2, Samuel Steeves.

Hen—1, Albert Boswell; 2, Samuel Steeves; 3, G. B. McPherson.

Cockerel—1, Albert Boswall; 2, Samuel Steeves; 3, G. B. McPherson.

Pullet—1, Albert Boswall; 2 and 3, Samuel Steeves; 4 and 5, Chas. Simmons; 6, Samuel Steeves; 7, Allison Lutz.

Rhode Island Reds, S. C., cock—1, W. H. Henry; 2, Mount Pleasant Poultry Yards; 3, W. H. Henry.

Hen—1 and 2, W. H. Henry; 3, Mrs. Frank Locke.

Cockerel—1 and 2, W. H. Henry; 3, C. B. McMullen; 4, 5 and 6, W. H. Henry; 7, E. F. McKim.

Pullet—1, C. B. McMullen; 2, W. Retson; 3, W. H. Henry; 4 and 5, C. B. McMullen; 6 anl 7, W. H. Henry.

Rhode Island Reds, R. C., cock—1, W. H. Henry; 2, Mrs. Frank Locke.

Hen—1, W. H. Henry; 2, Mrs. Frank Locke.

Cockerel— 1, 2 and 3, W. H. Henry.

Pullet—1 and 2, W. H. Henry; 3, Carl Fowler.

Red Caps, cock—1, John P. Bain.

Hen—1 and 2, John P. Bain.

Cockerel—1, John P. Bain.

Pullet—1, John P. Bain.

Sussex, Speckled, hen—1, A. A. Sutherland.

Cockerel—1, A. A. Sutherland; 2, C. F. Clarkson.

Pullet—1 and 2, A. A. Sutherland.

Wyandottes, Golden, cock—1, David Babcock.

Hen—1 and 2, David Babcock.

Wyandottes, Buff, cock—1, Wm. Beazley; 2, W. S. Swetman.

Hen—1, Wm. Beazley; 2, W. S. Sweatman.

Pullet— 1, P. J. Rose; W. S. Swetman; 3, P. J. Rose.

Wyandottes, White, cock—1, Evaneline Poultry Yards; 2 3, and 4, Samuel steeves; 5, Eveangeline Poultry Yards; 6, Samuel Steeves; 7, E. I. Peel.

Hen—1, 2 and 3, Sumuel Steeves; 4 and 5, Evangeline Poultry Yards; 6, Carl Fowler; 7, J. H. Gould.

Cockerel—1 and 2, Samuel Steeves; 3, 4 and 5, Odbur Jones; 6 and 7, J. H. Gould.

Pullet—1, Samuuel Steeves; 2, Odbur Jones; 3, Samuel Steeves; 4, Odbur Jones; 5, Robt. and Gordon Carter; 6, Odbur Jones.

Wandottes, Columbian, cock—1 and 2, Cicle Church.

Hen—1 and 2, Cicle Church.

Cockerel—1 and 2, Cicle Church.

Pullet—1 and 2, Cicle Church.

Wyandottes, Black, cock—1, Camp Hill Poultry Yards.

Hen—1, Camp Hill Poultry Yards.

Cockeerl—1 and 2, Camp Hill Poultry Yards.

Pullet— 1 and 2, Camp Hill Poultry Yards.

Wyandottes, Partridge, cock— 1, John Feetham; 2, C. E. Casey, Jr.

Hen—1, John Feetham; 2, C. E. Casey, Jr.; 3, John Feetham.
Cockerel—1, 2 and 3, C. E. Casey.
Pullets—1, 2 and 3, C. E. Casey.
Wyandottes, Silver Laced, cock—1 and 2, E. S. Brown.
Cockerel—1 and 2, E. S. Brown.
Pullet—1 and 2, E. S. Brown.
Wyandottes, A. O. V., cock— 1, Day Bros.
Hen—1, E. C. Griffin; 2, Day Bros.
Cockerel—1, E. C. Griffin; 2, Day Bros.
Pullet— 1 and 2, E. C. Griffin.

LIVE UTILITY POULTRY

Wyandottes, White, pair of cockerels—1, E. I. Peel.
Pair of Pullets—1, Courtney Lusby; 2, E. I. Peel.
Wyandottes, Silver, pair of pullets—1, E. S. Brown.
Wyandottes, Buff, pair of cockerels—1, Wm. Bezzley; 2, W. S. Swetnam.
Pair of Pullets—1, Wm. Beazley; 2, W. S. Swetnam.
Wyandottes, Columbian,Pair of Pullets—1, Cicle Church.
Plymouth Rock, Barred, Pair of Cockerels—1, Warren Black; 2, Alex. Clegg; 3, T. C. Latham.
Pair of Pullets—1, Alex Clegg; 2, W. E. B. Tait.
Plymouth Rock, White, pair of Cockerels—1, Chas. Simmonds.
Pair of Pullets—1 and 2, Chas. Simmonds 3, G. B. McPherson.
Orpingtons;, Buff, pair of Cockerels—1, A. Vye Gibson; 2, Elwyn U. Harrison.
Pair of Pullets—1, A. Vye Gibson; 2, Elwyn U. Harrison.
Orpingtons, A.O.V., pair of Cockerels—1, B. W. Raltson.
Pair of uPllets—1, 2 and 3, Mrs. Frank Locke.
Rhode Island Reds, S. C., pair of Cockerels—1, Wm. Retson; 2, Kentville Poultry Yards; 3, Mount Pleasant Poultry Yards.
Pair of Pullets—1, Mrs. Frank Locke; 2 and 3, Wm. Retson.
Sussex, pair of Pullets—1, C. A. Crawford.
Brahamas, pair of Pullets—1, Day Bros.
First Cross from any pure Breed, pair of Cockerels—1, W. E. Harding; 2, George M. Holmes.
Pair of Pullets—1, B. W. Ralston; 2, C. E. Casey, Jr.; 3, Geo. Holmes.

UTILITY BREEDING PENS

Wyandottes, White—1, Evangeline Poultry Yards.
Wyandottes, Buff—2, P. J. Rose.
Plymouth Rock. Barred—1, Alex. Clegg; 2, Warren Black.
Plymouth Rock, White—1, Albert Boswall.
Orpingtons, White—2, Robert and Gordon Carter.
Rhode Island Reds, S. C.—1, Wm. Retson; 2, George Holmes.
A. O. V.—1, Corey S. Black.

MATING PENS

Barred Plymouth Rock Breeder' pen to consist of one male and four females mated to produce exhibition cockerels—1, J. A. McFarlane; 2 and 3, Watson Lutz.
Barred Plymouth Rock Breeders' pen to consist of one male and four females mated to produce exhibition pullets—1, T. C. Latham; 2, Watson Lutz; 3, Experimental Station Kentville.
Brown Leghorn Breeders' pen to consist of one male and four females mated to produce exhibition cockerels—1, Geo. Boswall; 2, Corey S. Black.
Brown Leghorn Breeders' pen to consist of one male and four females mated to produce exhibition pullets—1, John A. Scott; 2, Geo. Boswall.

ORNAMENTAL PET STOCK

Bantams Game, Black Breasted Red, cock—1, A. F. Houston.
Hen—1, A. F. Houston.
Cockerel—1, Dwight Smith.
Pullet—1, Dwight Smith.
Game Brown Red, Cock—1, A. F. Houston.
Hen—1, A. F. Houston.
Cockerel—1, A. F. Houston.
Pullet—1, A. F. Houston.
Bantams Game, A. O. V., Cock—1, A. F. Houston.
Hen—1, A. F. Houston.
Pullet—1, A. F. Houston.
Bantams Seabright, Cock—1, W. S. Swetman; 2, A. F. Houston; 3, W. S. Swetman.
Hen—1, W. S. Swetman; 2, A. F. Houston; 3, W. S. Swetman.
Cockerel—1, W. S. Swetman.
Pullet—1, W. S. Swetman.
aBntams, R. C., White, Cock—1, E. I. Peel.
Bantams, R. C., Black, Cock—1 and 2, A. F. Houston.
Hen—1, A. F. Houston; 2, W. S. Swetman.
Cockerel—1 and 2, A. F. Houston.
Pullet—1 and 2, A. F. Houston.
Bantams Cochin, ,Buff, Cock— 1 Chas. H. Smith; 2 and 3 W. S. Swetman.
Hen—1, Chas H. Smith; 2 and 3, W. S. Swetman.
Cockerel—1 and 2, W. S. Swetman.
Pullet—1 and 2, W. S. Swetman; 3, Chas H. Smyth.
Bantams, Cochin, White, Cock—1, Robert and Gordon Carter; 2, Chas. H. Smyth.
Hen—1, A. F. Houston; 2, Robert and Gordon Carter.
Cockerel—1, W. S. Swetman; 2, A. F. Houston.
Pullet—1, W. S. Swetman; 2, A. F. Houston.
Bantams, Cochin Black, Cock—1, Robert and Gordon Carter; 2, W. S. Swetman; 3, Chas. H. Smith.
Hen—1, W. S. Swetman; 2, A. F. Houston; 3, W. S. Swetman.
Cockerel—1, A. F. Houston; 2 and 3, W. S. Swetmaan.
Pullet—1 and 2, W. S. Sweman; 3, Chas. H. Smyth.
Bantam, Japanese, Cockerel—1, E. I. Peel; 2, A. F. Houston.
Pullet—1, E. I. Peel; 2, A. F. Houston.
Bantams, A. O. V., Cock—1, Colby Canning.
Hen—1, Colby Canning.
Pigeons—1 and 2, E. I. Peel; 3, Robert and Gordon Carter; 4, C. W. Pugsley & Sons.

LIVE POULTRY SPECIALS

Donated by the Maritime Poultry and Pet Association, silver cup, valuue $25.00, for the best exhibit of American breeds of poultry. Pet stock not included. To be won three times before becoming the property of the exhibitor. Won by Samuel Steeves, Sunny Brae, N. B.
Silver cup donated by E. N. Rhodes, M. P., Amherst, N. S., for the best two cockerels and best two pullets in class 115. To be won thre times, not necessarily consecutively, before becoming the property of the exhibitor. Won by A. Vye Gibson, Moncton, N.B.
Silver cup donated by the Kingsdale Poultry Yards and Supply Company, Sussex, N. B. Silver cup valuue $25. For the best male Barred Plymouth Rock Bird. Cup to be won three times not necessarily consecutively, before becoming the property of the exhibitor.—Won by T. C. Lathem, Alma, N. B.

EGGS

Eggs—Fresh Gathered

One Dozen Specials—1, John Hough; 2, C. J. Cook; 3, A. F. Houston; 4, Warren Black.
One Dozen extras—1, Warren Black; 2, Alex. Clegg; 3, C. J. Cock; 4, E. J. Vessey.
One Dozen No. 1's—1, C. J. Cock; 2, Alex. Clegg; 3, Geo. M. Holman; 4, E. J. Vessey.
Six Dozen Specials—1, E. J. Vessey.
Six Dozen Specials—1, Warren Black; 2, E. J. Vessey.
Six Dozen No. 1's—1, E. J. Vessey.

TURKEYS

Turkeys, Bronze over 1 year, male—1, Geo. M. Holmes.
Female—1, Geo. M. Holmes.
Turkeys, A.O.V., over 1 year—1, E. C. Griffin.

GEESE

Geese, Toulouse, over 1 yeai, Male—1, Almon Boswall; 2, George Boswall; 3, Almon Boswall.
Female—1, Almon Boswall; 2, Geo. Boswall; 3, Almon Boswall.
Geese, Toulouse 1919, Male—1, Almon Boswall; 2, Almon Boswall.
Geese, Brsmen or Embden over 1 year, Male—1 and 2, Albert Boswall.
Female—1 and 2, Albert Boswall.
Geese, Bremen or Embden 1919, Male—1 and 2, Albert Boswall.
Female— 1 and 2, Albert Boswall.
Geese, African over 1 year, Male—1, E. C. Griffin; 2, John Feetham.
Female—1, John Feetham; 2, E. C. Griffin.
Geese, African 1919, Male—1, E. C. Griffin; 2, John Feetham.
Female—1, E. C. Griffin.

DUCKS

Ducks, Pekin over 1 year, Male—1 and 2, Albert Boswall.
Female—1 and 2, Albert Boswall.
Ducks, Pekin 1919, Male.—1 and 2, Albert Boswall.
Female—1 and 2, Albert Boswall.
Ducks, Rouen over 1 year, Male—1, H. L. Boswall.
Female—1, H. L. Boswall.
Ducks, Rouen 1919, Male—1, H. L. Boswall.
Female—1, H. L. Boswall.
Ducks, A.O.V. over 1 year, Male—1, Albert Boswall.
Female—1 and 2, Albert Boswall.
Ducks, A.O.V. 1919, Male—1 and 2, Albert Boswall.
Female—1 and 2, Albert Boswall.

DRESSED POULTRY

Best two geese, colored—12 Aubrey Forest 2, W. E. Harding.
Best two ducks, colored—1, C. J. Cock.
Best two Barred Plymouth Rock cockerels—1, John R. Harrison; 2, Warren Black; 3, Alex. Clegg; 4, C. J. Cock.
Best two Barred Plymouth Rock pullets—1, John R. Harrison; 2, C. J. Cock; 3, C. J. Cock.
Best two A.O.V. Plymouth Rock cockerels—1, John R. Harrison; 2, E. J. Veysey.
Best two A.O.V. Plymouth Rock pullets—1, John R. Harrison.
Best two White Wyandottte cockerels—1, E. J. Veysey; 2, C. J. Cock.
Best two White Wyandotte pullets—1, C. J. Cock.
Best two A.O.V. Wyandotte cockerels—1, C. J. Cock.
Best two Orpington cockerels—1, C. J. Cock.
Best two Orpington cockerels—1, W. E. Harding; 2 and 3, C. J. Cock.
Best two Orpington pullets—1, W. E. Harding.
Best two Rhode Island Red cockerels—1, Wm. Retson.
Best two cockerels, any pure bred variety having yellow legs, nor previously specified—1, C. J. Cock.
Best two pullets, same as above—1, C. J. Cock.
Best two hens, any pure bred variety having white legs—1, W. E. Harding.
Best two hens, any pure bred variety having yellow legs—1, C. J. Cock; 2, Wm. Retson; 3, Alex. Clegg.

(Continued on page 214)

Fruit Packages

We Manufacture Strawberry Boxes and Crates for same, 6 qt. Baskets, Apple Boxes, Box Shooks, Apple Graders, Wheelbarrows. Now is the time to lay in a supply of Fruit Packages for the coming season. We have a good stock on hand, order early and ensure prompt shipment. Price on application to

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38A

DAIRYING.

SHOULD COWS BE GIVEN MEAL THIS WINTER?

With bran at $45 per ton, oats at 90 cents per bushel, and oil cake close to $100 per ton, it is little wonder that dairymen are wondering whether or not they can afford to feed these h priced concentrates this winter. the investigation recently conducted into the high cost of living it was found in almost every case that the extreme high cost of millfeeds was the insurmountable obstacle in the cost of milk production. When the Board of Commerce had the milk business of Montreal under consideration a short time ago they were unable to fault the figures brought forward by Prof. H. Barton, of Macdonald College, and finally accepted the price asked for by the producers as fair. However, it is interesting to note that in the figures submitted by Prof. Barton as to the cost of producing 100 pounds of milk which amounted to $3.84, that $1.54 of that amount was made up of millfeed costs. The concentrates were figured at a flat rate of $70 per ton, that being the actual cost of the feeds used in the herds under investigation. Can the average dairyman afford to feed such high priced feeds at a profit

Taking these figures as they stand it does not require a great deal of figuring to find a place for the other $2.30, with hay at $20 per ton, silage and roots at $5.00 or over, and labor, to say nothing about the various overhead expenses, etc., that are particularly prevalent in dairy farming. Prof. Barton allows almost 34 pounds of meal to 100 pounds of milk which practically speaking means the product of two cows. Seventeen pounds of meal per cow must be regarded as fairly heavy feeding and it is just a question if it would no pay the average dairyman better to sacrifice a little in the milk yield and save upon the meal raton. A moment's reflection wil lbe sufficient to bring out the fact that the increase in the price of roughages has been greatly outstripped by the rise in concentrates. It was not in years gone by an unheard of thing for hay to bring twelve and fifteen dollars per ton, and a general average, taking one year with another would run it around $10 per ton. Today double that price is perhaps a little high. The same thing is true in the case of roots and ensilage. $3.00 used to be a common figure for calculation and $5.00 is the one taken today. But what about concentrates? Oats are selling around 90 cents per bushel unground, and barley is considered good buying at $1.45 for 48 lbs., while oil cake and cotton seed meal have reached $90 and $100 laid down to the farmer.

Roughly speaking concentrates have advanced anywhere form 140 to 150 per cent. or better, while the coarser home-grown roughages have only in a few cases reached a figure double that of pre-war times. Naturally then, if these figures were anywhere near a par basis in pre-war times, they are decidedly out of balance today, and theoretically speaking if expensive concentrates could be cut out altogether milk production today would be a profitable business.

In practise the above is not possible as the cows must have a balanced ration in order to produce milk in any quantity, but at the same time it is quite possible to feed a herd in such a manner that they will produuce a reasonable amount of milk without an exceptionally heavy allowance of meal. In that regard the maximum use must be made of good quality roughages such as ensilage, roots, clover or cereal hay. An extra allowance of these cheaper feeds will generally be found to produce milk at less cost than when a more highly concentrated and expensive ration is used. Of course, there is a limit to the amount of substitution possible and a great deal will depend upon the amount and quality of the roughage used. Next to roots, ensilage and clover hay, there is nothing better than well cured cereal hay. That is a mixture of oats, peas and barley, cut green and cured as hay. It is almost as good a feed as choice alfalfa, and when fed to dairy cows will produce milk in abundance. In the matter of yield per acre it has few equals, while at the same time it does not prevent the field from being seeded down to grass and clover. In short it makes an excellent cattle feed, and when combined with good quality roots and ensilage it has few equals for dairy cattle feeding.

Granted, therefore, that the above points are well taken, is the average dairy farmer justified in feeding a heavy meal ration this winter? The answer will, of course, depend upon local conditions, such as the character and quality of roughage available, and the price being obtained for the milk. In some instances such as in the case of pure bred cows that require developing or are under test, stinting the meal ration would be very foolish, but in the case of ordinary dairy cows it seems hard to figure out where the farmer is going to make money of even break even by feeding a heavy concentrated ration at present prices. Bran is costing the farmer well on to $50 per ton this winter and oil cake is

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Any farmer owning eight or more cows can profitably use a Hinman. Cost per unit is only $60—you can't afford to be without.
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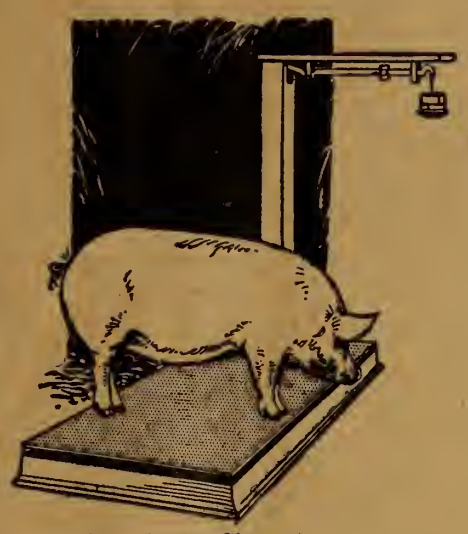
around $90 per ton and hard to get, while cotton seed meal, although quoted on the market at around $85 per ton, costs the farmer a sum close up to three figures. Taking these figures as a basis for calculation the amount of digestible protein and starch equivalent that can be purchased for $1.00 in each of the various feeds is a great deal greater in the case of oil cake and cotton seed meal than in any of the others. The price per ton is high but the feeding value is also high, and in the end it is the cheapest source of protein, which is the main constituent necessary in concentrated foods. In the case of the ground screenings now being sold by the Federal Live Stock Branch under the name of "Standard Stock Feed" at $46 per ton, we are not in a position to pudge, not being informed as to the quality of the same. If the quality is good and weed seeds not too plentiful, it looks like good buying, but of course it all depends upon the quality. Weed seeds are not good cattle feed, in some cases are poisonous and must be used cautiously.

However, in view of the above arguments and viewing the situation as it appears today, this much at least seems certain—that the best use should be made of roughages and the ration balanced up as much possible by the use of high-testing protein feeds such as cotton seed, oil cake and glutten feed. The prices being obtained for milk just now do not seem to justify the feeding of heavy meal rations in order to maintain the maximum production except in special cases.—Ottawa Farm Journal.

Feed for the Quality Prices!



The Scales Show the Quality Feeders

HOG feeding has made rapid strides just the same as everything else on the farm. The old-fashioned method of utilizing mill feeds that happened to be easy to get at low prices, or happened to be handy on the spot, is gone forever. Both experts and farmers now know it pays handsomely to feed an accurately and properly mixed ration. Experiment and experience have shown that careless feeding is one of the causes of poor quality bacon. The markets are demanding higher quality standards. There are attractive profits if you can reach the standards required. You can do it with

Monarch Hog Feed

It is a perfectly balanced ration of corn products, shorts and digester tankage—a rich feed, but not too much so to feed alone.

It gets hogs to market in shortest time, at least cost of production. It means heavier hogs sent to market in best condition for selling. It is easily digested. Hogs fight for this palatable feed. Guaranteed analysis: protein 15%, fat 4%.

Mill feeds are often hard to get, but Monarch feeds—ready for use—are always obtainable. Order a ton from your dealer. If he cannot supply you, write us direct, giving dealer's name.

MONARCH DAIRY FEED
has guaranteed analysis of 20% protein and 4% fat. It is a properly mixed combination of Oil Cake Meal and Cotton-seed Meal with the bulky feeds, bran and corn meal. Thougb very rich, ensuring splendid results, it can be fed alone.

SAMPSON FEED
This general purposes feed is somewbat similar to Monarch Hog Feed, except that oil cake meal is used instead of digester tankage; it gives results for both cattle and hogs. Guaranteed analysis: 10% protein and 4% fat.

The Campbell Flour Mills Co., Ltd., West Toronto 15

WINTER DAIRYING — DOES IT PAY? SOME ARGUMENTS IN ITS FAVOR

The first essential in profitable dairying is good cows, the second is year-round dairying. A combination of these two generally brings happy results and the man who can so arrange his activities as to bring that about seldom has any regrets for pinning his faith to dairy farming. Such a combination has several advantages, and apart from the financial consideration there are some points that bear heavily on the side of dairying the year round.

In the first place if the cows are to be profitable they must milk close up to ten months each year, and even if they do freshen in the spring there is more or less winter dairying to be done. They must be fed, and apart from the short period in which they are dry, feeding is almost as expensive as if they were milking. Of course it is quite possible to carry dry cows over winter very cheaply, but that is not a profitable way, and with good cows it is nothing short of disastrous. Heavy producing cows must be well fed at all times and it is beyond all doubt that if the dairy cows of this country were better fed there would be fewer men going out of dairying. If the cow does not receive a sufficient amount of good wholesome feed during the winter months she must make up for it during the summer, with the result that the first few weeks on pasture are devoted to building up the body rather than the production of milk. Therefore, since the cow must be fed why not have her freshen so as to produce milk throughout the winter months and pay for that feed? It will require more expensive feeding it is true, but the extra price received for the milk together with the additional amount produced will more than make up the difference in the cost of feed. It is a well-known fact and one that is borne out by study of the records of the cows that have quolified in the Record of Performance that cows that freshen in the fall or early winter produce more milk and fat than those that freshen in the spring. They produce well all winter and when turned out to pasture in the summer they take on another spurt and for a while they milk almost as well as spring freshening ocws. In that way their production does not drop on account of weather conditions because they are almost at the end of their lactation period when the flies become troublesome.

On the other hand there is the labor situation to contend with, and in that regard preference must be given to winter dairying. During the winter months there is more time to care for the herd than in summer thereby resulting in greater milk production to say nothing of the great advantage to the calves and young stock by reason of that greater attention. All this tends towards greater profits from the herd and at the same time it means a better and more even distribution of labor, less milking during the busy harvest season and affords profitable employment for men throughout the entire year, and in most cases to the extent of being able to engage a married man and furnish him with a house. Right here is the whole secret of why extensive dairymen have less trouble keeping men do their fellow farmers who milk their cows in the summer months only. They are able to employ them twelve months of the year and do it profitably.

Apart from the above argument comes the question of marketing, which in reality is the deciding question as to the advisability of engaging in winter darying or not. If one is so situated that milk or cream cannot be shipped to some city, creamery or condensery, and there are no local cehese factoris or creameries operating throughout the winter months, winter dairying is almost impossible. However, in Central Canada, at least, such conditions are the exception rather than the rule, and the districts that are so isloated as to be unable to obtain acesibility to markets are few and far between. For the inhabitants of these sections the summer cheese factory is the only alternative, and probably it suits them as well as any other. They receive less money, but their expense is also less, and in the end perhaps their profits are just as great. But that argument does not justiiy the dairy farmer who has the advantage of a convenient market from ignoring the advantages of winter dairying, yet they can be found in almost every district, not excluding those in close proximity to Montreal, the greatest milk market in Canada. It seems hard to understand why such farmers continue to ignore the advantages of winter dairying and the city milk trade. They have the cows, equipment, etc., already, but they continue to crowd almost all their farm work into the few short summer months, with the result that they are always in labor difficulties. For the latter there are two reasons. One is that they cannit employ their hired menn all year, and the second is that they do not obtain enough money to pay the wages asked. Wherein lies the remedy? The writer may be wrong, but he is inclined to place a large part of the blame upon the continued practice of summer dairying. At any rate this much is true, and it must be quite apparent to anyone who has studied the dairy situation in Canada, that the dairy farmers who today own the best homes, are the most prosperous and happy, have the least labor diffiulties and own the best cattle are in almost every case the farmers who are engaged in winter dairying. There must be some reason. It undoubtedly costs more to produce winter milk, but the increased price obtained makes up the difference and leaves a fair margin of profit on the year's business.

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LIVE STOCK.

WINTER HOUSING OF SWINE

In providing shelter for swine during the winter months the chief consideration is dryness. Other points such as warmth and ventilation are important and closely related, but the absolute essential is dryness. Buildings heated by the warmth of animals have a great tendency to excessive moisture because the warmth comes chiefly from the animals' breath, which is moisture laden. An excessively moist atmosphere is detrimental to the health of an yanimal, but to pigs it is particularly objectionable as they are more subject to rheumatism and other troubles traceable to dampness.

Wintering in Piggery. The brevity of this article will prevent any full discussion of piggery construction but a few essentials may be noted. Cement floors are the best from the standpoint of sanitation and durability, but a pig should never lie on a cement floor.. Sleeping platforms should be provided. These may be raised only an inch or two above the cement or may be elevated so that there is a two story pen with a gangway up to the sleeping quarters. Cement should not be used for piggery walls; it makes a damp building. Wooden walls with plenty of insulation by means of paper and dead air spaces are best. A piggery should have ample sunlight, and the rays should shine on the sleeping quarters keeping the bedding dry and sweet. The area of glass should not be extreme, however, as that defeats the object, making the building too hard to warm and consequently damp. The ceiling of a piggery should not be too high; a low ceiling allows the place to warm up more readily and facilitates ventilation. A good system of ventilation should be installed such as the Rutherford system or a straw-filled loft with slatted ceiling may take the place of the foul air vents.

Wintering in Straw Pile. Where straw is plentiful, pigs may be wintered quite successfully in a large pile of straw. A start at a burrow in the straw should be made for them by threshing the pile over a clump of bushes, some home-made trestles, a fence or other obstacle that will make a hollow place in the centre of the pile and a runway out from it. The pigs will then burrow from this and make their nests.

Where the amount of straw to be used is not unlimited, the same kind of shelter can be made with much less straw. The shelter place should be surrounded by a fence and roofed over with poles. A second fence should surround this at a distance of at least six feet. Straw is then perched in the intervening space and piled over the top. A crooked entry passage at the south side will allow the pigs to come in and out without too much direct draft entering the pen.

Wintering in Cabins.—Pigs can be wintered quite comfortably in the ordinary cabins used for providing shelter on pasture in summer. Where the location is well drained and the climate dry, these cabins are better without floors. The pigs work the soil into a fine dust which makes an excellent warm bed. Floors up a distance from the ground have a cold draft under them and are likely to be wet from the pigs' urine unless bedding is changed frequently. However, on level locations and in wet climates, where the earth would be muddy, it is necessary to put in a wooden floor. Where this is done the cabin should be well banked wtih earth or manure so that the cold air cannot blow under the floor, and dry bedding given whenever needed. The ordinary A-shaped cabin is found very satisfactory at Brandon and is cheaply and quickly made. A cabin with straight walls and shingled roof is more durable but considerably more expensive. Two or more of these cabins may be placed in a row and the space between filled with straw. Straw should be piled against the sides of the end cabins. It is advisable to keep the pigs away from this straw or they will tramp is down and carry it into the cabins. An odd length of woven fencing is quite suitable for this purpose.

Brood sows wintered in such shelters as above described, are found to winter better than in the most elaborate piggery. They have to take exercise in coming out for food and their quarters are always dry. They will produce larger and stronger litters than are possible from sows wintered in limited quarters no matter how comfortable the latter may seem to be.

W. C. McKILLICAN,
Superintendent, Experimental Farm,
Brandon, Man.

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FLUSHING BREEDING FLOCK OF SHEEP IN THE FALL OF THE YEAR

Much of the weakness and unfitness of sheep to do well under ordinary good care is due to the condition of sire and dam at mating time and subsequent treatment of the dam throughout the winter. The annual mortality of pregnant ewes is a most serious matter and could largely be prevented by proper care and management. That also is true of the loss of little lambs from ill-treated ewes that manage to survive. Before a lamb can have a good start it must have good parents and both of them must be kept in good health and condition.

Flushing the Ewes

"Flusing," is a term given to extra feeding at mating time. To insure strength in the dam and her lamb "flushing" should be done before mating time and until the mating season is over; then the ewes should be properly fed and managed in winter. Flushing consists in allowing the ewes, a specially saved pasture, which will be fresh and green from fall rains. On such grass the ewes quickly pick up in flesh and get their bowels in proper condition. In addition to green grass, clover, alfalfa, or rape it is well to feed some grain to ewes that are not in good flesh and strong condition. A mixture of whole oats and bran, in equal parts, will be found suitable. Start with a quarter of a pound per ewe daily, and increase to half a pound if the ewes are not thriving sufficiently.

Where flocks are treated by flushing or specially treated in the manner described, the percentage of barrenness among ewes is less than with those untreated. These facts are well known to flock-masters and farmers who have consistently practised the methods of liberally treating their sheep during mating time.

Flushing the Ram

To secure strong and healthy lambs, it is equally necessary to "flush" the ram. He should be prepared for the mating season by "flushing," in a paddock of his own. He should not be allowed to run with the ewes to overserve, and so weaken himself and the lambs he begets. Where the unprepared ram is allowed to run with the ewes he will serve too often; be sure to run down in consequence and beget weak lambs. This is the unsuspected cause of weak lambs in many a flock.

It is a harmful custom to allow the ram to run with the ewes the whole twenty-four hours of each day. He will stand around with the ewes and neglect his feeding. A study of their habits will reveal the fact that mating largely takes place at night. The ram should be taken from the ewes during the day and be liberally fed, and only let out to the ewes during the night. If the fertility of the female is as sensitive to the feeding as results have proven, then would not that fertility be accelerated by the proper nourishing of the ram, which cannot be done by allowing him freedom of the ewes day and night. The ram will soon get accustomed to the usage, and seek his paddock by day for his extra feed. Have him tame and quiet, so that he can be easily handled and can be caught in the field.

Twins Instead of Single Lambs

A good deal of attention has been given in sheep rearing countries to the fertility of ewes and the increase in the number of lambs. One of the best tests as to the utility of flushing in giving greater increase of lambs at birth, as well as uniformity of good health, is to be found in the history of the Blackfaced Highland sheep in Scotland. It is one of the sights of that country in the fall to see the flocks of sheep migrating in millions from the mountains to the lowlands. The ewes are brought at breeding time, down to the lowland fertile pastures of the arable farms. The placing of the flock of ewes upon superior pasture, and looking after them well in the winter months, always result in an increase in lambs. The fertility of the Highland Blackfaced sheep is the lowest of all breeds, and experiments tried in order to raise fecundity in this breed are increasing. One lamb per ewe is the usual occurrence at lambing time, but as high a percentage as 160 lambs per 100 ewes has been attained by special treatment. A case came under the writer's notice where 60 ewes were put upon rape and grain at breeding time, and 50 of these had twins, and 4 had triplets. The ewes were taken promiscuously from a flock that averaged less than one and half lambs to each ewe the previous year, and their fertility in the number of lambs far exceeded those from the same flock that weer differently treated.

Inherited Fertility

Fertility is a character that can be inherited, and breeders of every class of live stock about the farm, as well as the experienced students of plant life, bear testimony to the truth of this statement. Farmers who go in for exhibition or for selling ram lambs for breeding are often satisfied with singles at a birth, simply because they get a better specimen of animal to suit their purpose, but there are few, if any, flock-masters who do not prefer twin lambs to singles, even though the latter be better nourished.

When Scottish sheep breeders first

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started to introduce the Down sheep of England into their herds, they found they were largely single bearing. Single bearing is not more common with Down breeds than with long-wooled, but the reason for single bearing in the Scottish imported stock was due to the flock-masters of England offering their prize-taking and best-looking sheep at the sales, and these invariably were single lambs. A large percentage of the ram lambs on offer at all sales are singles; they are stronger and are chosen by the seller in order to command more money, while the fertile lesser animals is disposed off to the butcher.

Sheep that are bred from twin-bearing parents will on the average bear twins each succeeding year. This has been found to be the general rule amongst sheep whose fecundity is naturally of a higher order, but amongst cattle of a more single bearing tendency twin-bearing only appears in each successive second generation. The system of keeping records of twin-bearers, even among the small flocks around the farms, may seem an insignificant matter, but collectively it would be of great national importance to the industry.

It must be observed, however, that overfeeding is prejudical to fertility. In a like manner a low condition of the system, especially if the animal is exposed to wet and cold, is often a cause of temporary barrenness. Climatic conditions have a marked influence on fertility. If a snowstorm occurs at breeding time and sheep are exposed to it, there is a diminution in the number of twin lambs. The breeding animal, therefore, should be kept in a condition in which all the functions of the body are perfectly performed.

MILKING CAPACITY OF SOWS

The business of the brood sow is to produce good sized litters of strong, healthy pigs and nourish them liberally until weaning time. In so far as she fails in this, she fails in the purpose for which she is kept. This milking function in the sow is a matter that should be given greater consideration by all who raise pigs, whether few or many.

In cattle there are well known milking strains in all breeds and the value of a cow for use in the dairy depends rather more on individuality than on breed; furthermore, the capacity to give a large quantity of good milk is well understood to be a transmissible quality. The ready recognition of these facts in cattle is largely owing to the fact that we are in the habit of seeing the product of the cow in one mess in the milk pail and can judge and compare her performance with that of other cows and that we have the same opportunity to judge of the performance of a good cow's calf. In the case of the sow we only see the results and we don't always trace them to their true cause. We know that large numbers of little pigs die young after struggling along trying to make a living of it and that a great many more do struggle through and manage to survive after a fashion, although greatly stunted. These results are known and are ascribed to various causes, some of which are true, but very often the real though unsuspected reason is merely that the dam did not have milk enough for the litter or that the quality was not sufficiently nutritious to sustain the pigs. This is a fault in a sow for which no excellence of blood lines will compensate.

It matters not how good the sow may be in every other respect, if she cannot give milk of good quality and plenty of it so as to push her pigs from the start, she is not of much account as a brood sow. One may blame the bad results that follow her farrowing time on a bad "nick" in mating or on laik of care and proper feeding during the period of gestation or on cold weather when the litter comes, or on other causes that interfere with success, but, after all, in numerous cases the trouble simply is that she does not make milk enough to keep the pigs growing properly after they are born.

The hog is grown with a view of making meat, it is bred with the idea of putting on flesh largely and speedily. This being the case the females of a race bred with that view have to be watched with special care in regard to the milking function, for putting on flesh and making milk are habits of constitution that are rather inconsistent and are not likely to be found highly developed in the same animal. We need only to go to dairy experience for evidenec of this.

The principal test of whether a sow is a good milker or not is the thrift of her pigs and her condition while suckling them. If they do well and she eats liberally and keeps up good health and digestion and at the same time gets a little thing while nursing them, it is pretty good evidence that she is a good milker and will do to keep as long as her usefulness lasts. But look out for the sow that fattens between farrowing and weaning time. Her pigs either die off soon after birth or become runts for she is not making the use of her feed that a good milker and mother should make. It will be found that the milking habit runs in families. Some dams can give but little milk and can't produce a sow pig that can give much milk, while others almost invariably have sow pigs that make good milkers and mothers. The latter are born for motherhood just as the former only have motherhood thrust upon them.

A. O. CHOATE.

COWS THAT ARE HARD TO MILK

I have several cows that are very hard to milk. What is the cause and how can it be remedied? G. B. R.

There are two causes of this trouble. The first and most common cause is an abnormally tight sphincter muscle at the orifice of the teat. A less frequent cause is a stricture of the teat canal or a small growth in the canal. The first cause can usually be removed by a simple surgical operation. There is also an operation for the trouble when the condition is due to a stricture of or growth in the teat canal; but the results are not always so successful as in the former case.

A competent veterinarian who will carefully carry out the necessary antiseptic precautions should always be employed to perform either operation as there is considerable danger of infecting the udder unless such precautions are taken. If the operation is properly done there is little danger of udder infection and the results are practically always successful when due to a tight sphincter muscle and many of the other cases may be greatly benefited by operation.

In the improvement of beef cattle care has been taken to develop most those portions of the body from which are obtained the high priced cuts of beef. These points should be kept in mind when selecting breeding animals.

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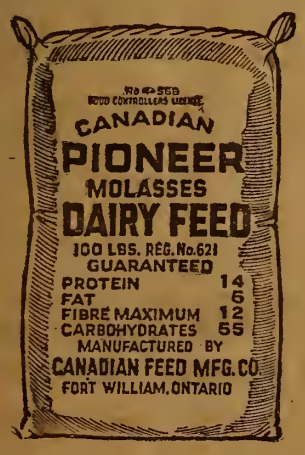

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THE HORSE

WEANING THE YOUNG COLT TO CONSERVE VIGOROUS LIFE

While horses of all ages and conditions require special care at all times, it is especially necessary during the early periods of the existence of the young horse. As he grows older he becomes habituated to the conditions of life and manner of care that are thrown about him so that he is better able to withstand any adverse circumstances that may come to him. But it is entirely different with the young animal which has had the benefit of only a short experience, and a condition which may seem to be quite insignificant to the onlooker, may be sufficient to sap the health and spirit of the animal all its life time. This is specially true at weaning time.

The Time to Wean

A strong colt may be weaned at five months but if it is at all possible it will be better to let it run six months with its dam. To secure the best results, the young colt should be taught to eat grain and should also be halter broken previous to the training period. They can thus be grain fed by themselves, making the weaning process less difficult. There is always danger in allowing a foal to feed itself from the grain ration of its dam, as it will be liable to get too much, and be overfed while still getting milk. The feeder is the only man who knows hiw much food the colt will require for its growth and development. The individuality of the animal is what counts in feeding. There is no feed superior to a mixture of bran and oats, and the average rate of two pounds per day per hundred pounds of live weight is considered sufficient. But the eye of the feeder is the guiding rule. One thing imperative is that a colt should never get more than it will clean up at a feeding. Nothing will run down a foal faster than allowing stale food to collect in the boxes, and mangers from one feeding to the next. The digestive system needs rest at all times. The colt should never lose the foal flesh but should be gaining from birth to maturity on the kinds of feeds suited to its needs.

Training Before Weaning Time

The loss of flesh and condition at weaning time may be reduced if the colt is taught to eat before it is weaned. It is not the best practice to feed the colt large quantities of grain while the mare is giving plenty of milk, but rather get it accustomed to small amounts. Teach it to stand tied, so that it will not fret when taken away from its dam. Colts that are accustomed to being fed and tied are much easier to manage during weaning time.

Bowel trouble may also come at weaning time unless great care has been taken to provide for the change which this time makes necessary. At the commencement of the weaning the colt should be getting practically all its nourishment from hand feeding, supplemented by its mother's milk. As it is gradually deprived of the latter, there should be no change made in its other feed except to gradually increase the grain. If the colt, before weaning, has had the run of the pasture, do not confine it to the barn on dry feed. If it has been otherwise fed, do not suddenly change it from dry feed to pastures. Bowel trouble is almost always caused by sudden changes in the feed either in variety or quantity, or by the use of unsuitable or impure feeds or bad water. If studied care is taken to avoid these unwise practices, bowel trouble will seldom bother.

A colt that is stunted during the first winter never makes as good a horse as it will if fed a liberal ration of grain and kept in good flesh throughout the first winter season. It is even of gerater importance that the colt should grow more rapidly the first season than the second. A small feed of carrots every day is good for the colt, but do not overdo the carrot feeding; one or two good sized carrots per day will be sufficient. Never forget that the colt needs salt. Colts are liable to be troubled with worms, and a good plan to keep this trouble under control is to mix up equal parts of sulphur, ground gentian, and dried sulphate of iron. To this mixture add an equal quantity of salt. Keep this mixture in a dry place where the colt can have constant access to it. In this way, while the colt is consuming salt it also gets a small amount of the drugs mentioned, which will prevent worms and other similar stomach troubles.

When Colt is Taken from it's Mother

When the foal is taken away from its dam, put it in a box-stall that is well ventilated. The stall will afford it more exercise than a single stall, but do not think it will furnish enough opportunity for exercise; the foal must be turned out every day when the weather will permit. It should not, however, be sent out to be left exposed to rain or wet snow storms. It will be better off in the barn on cold, wet days. Dry cold, however, will not hurt it. Keep the stall clean. Manure that is allowed to lie and ferment in the stall is injurious to the colt's feet. Keep the stall well bedded, and remember that even if the colt is allowed plenty of out-door exercise it is still under artificial conditions and consequently is not apt to wear its hoofs off as rapidly as they grow. If the toes are allowed to get too long and the heels too high, the colt is apt to sustain permanent injury.

Some prefer to wean colts abruptly —that is, to take them away from the mares and not allow them to suck after that at all, while others prefer gradual weaning by allowing them to run to their mothers once per day for a week or so, milking them to some extent previous to allowing the colts to suck, and in that way gradually the milk supply is cut down. The writer has all along adopted the plan of taking the colt away, and never allowing it to again get milk from tis mother. By this method the colt will forget its mother sooner, and become more quickly settled to adjust itself to the new feeding arrangement. If it has never been taught to eat by itself and has not been handled or halter broken, the sudden change away from the mother will cause serious loss to the foal flesh and growth. Weaning is thus a slow training process, and it should be conducted in such a way that the final parting of colt and dam does not cause any serious break in the constitutional life of the colt.

At this time also the food and udder of the dam require extra attention. Work the mare right along if she has been at work but reduce her grain ration till she is dried off. When the udder becomes so full as to cause her uneasiness, part of the milk should be drawn, but she should not be milked dry. If the milk is all withdrawn each time it will take longer to dry her. When the udder swells up even when milked, it should be bathed once a day with cold water and a little spirits of camphor. Spirits of camphor dries up the milk glands.

Healthy growth is the most valuable quality of the colt, and to tis preservation the owner or caretaker should give his first and most careful attention. From weaning time until it is full grown it should have plenty of bone and muscle-forming foods, and be given the run of a good pasture at all times when the weather is favorable.

CAUSE AND TREATMENT SWOLLEN LEGS, GREASE AND CRACKED HEELS IN HORSES

Horses during the fall season are very subject to swollen legs, indeed it is a very common complaint. Occasionally when the horse does not seem to labor under any other disease

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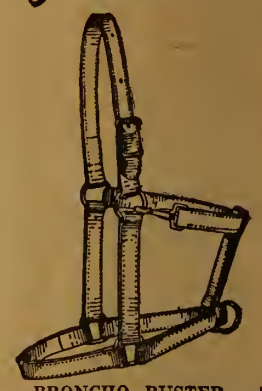
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the hind legs commence suddenly to swell to an enormous degree from the hock to fetlock, attended by heat and extreme tenderness of the skin, accompanied by a peculiar lameness. It occurs in young horses, and in those which are overfed and little exercised, wtihout any previous illness. It is this appearance, without any apparent illness of the animal, that causes apparent surprise to many inquiries. The kind of swollen legs of most frequent occurrence is that which appears when the horse is seemingly in perfect health, and has a full allowance of food, while suffered to remain for days without exercise. The arteries and their capillaries convey a great deal of fluid to the extremities. As a result of over-feeding and the want of exercise, and the perspiration connected with it, the fluids accordingly accumulate, lodging in the extremities because of the inabilty of the vessels to return them. The want of exercise deprives the limbs of the principal power by which fluids are returned. The blood is materially assisted in its return through the veins by the action of the muscles and the absorbents are aroused to action by the exercise and motion of the different parts.

Horses taken from pastures in the fall and brought into close stables very speedily have swollen legs. The same happen in the spring time. The powers of the constitution are principally employed in providing a new coat of har for the animal, and without having additional care and exercise to increase blood circulation there is the usual clogging up of fluids at the extremities.

The Indiscriminate use of Diuretic Medicines

The horse is more subject to gatherings of fluid in particular parts than any other domestic animal. Swollen legs is a disease peculiar to him. The great idea with the average man who owns horses is to give an animal affected with swollen legs large quantities of diuretics, that is medicines to excite the secretion of urine.

The indiscriminate use of diuretic medicines such as nitre, turpentine, and digitalis, etc., is the cause of more harm than good, but unless they are prescribed for the patient, the average man thinks there can be no cure, or that the disease is not understood by the vet. who is called to examine the animal. But there is one medicine that will effect a cure where the animal is still kept under the same conditions, that gave rise to the disease. It is just possible that giving medicines while the animal is in the midst of surroundings that produced the disease, may increase rather than check the disease. The frequent use of diuretics is one of the absurdities of horse management. Not only are the kidneys so often over-excited, weakened and therefore disposed to disease, but the whole frame becomes debilitated, for the absorbents will carry away a great part of that which is necessary to the health and condition of the horse, in order to supply the deficiency of blood occasioned by the inordinate discharge of urine. By seeking to remove these humors, by the imprudent use of diuretic medicines, a horseman is only attacking a symptom at consequence of disease, and not the disease itself. The legs will fill again, while the cause remains, the effect will be produced.

The cure is to give more exercise, to walk the horse out daily when the usual work is not required, and by some mechanical means to supply to the extremities the want of the motion of the parts, and the consequent urging on of the return fluid. Friction by hand rubbing is an excellent means at least for a time. Bandages have a greater and more durable effect, for nothing tends more to support the capillary veins, and rouse the action of absorbents, than moderate pressure. If the swelling bids defiance to exercise and friction and bandage, the aid of diuretics may be resorted to, but never until these have failed, unless there is an evident tendency to grease.

Grease

There is much bad practice done by the average horseman in seeking to cure a horse of grease. Swollen legs although distinct from grease, are apt to degenerate into it. Grease is a local complaint; it is produced principally by causes which act locally, and it is most successfully treated by local applications.

Physic may be useful in abating inflammation in the organs that control the humors and fluids of the horse's body, but to abate the inflammatory action which exists in the skin of the heel is to heal the wounds and remedy the mischief which it has occasioned.

The first appearance of grease is usually a dry and scurfy state of skin of the heel, with redness, heat and itchiness. The heel should be well washed with soap and water, and as much of the scurf detached as is easily removable. The part washed should then be well dried and rubbed once a day with an ointment composed of acetate of lead one ounce; sulphate of zinc, half an ounce; water, one pint. This will usually cool and heal the part. The disease very often arises owing to the poor condition of the animal, and he should therefore have a complete change of diet, supplying him with the best and freshest of hay, oats, some roots, and with the grain feed, a handful or two of linseed meal should be added daily. Comfortable and clean housing should also be provided, and once a week a moderate dose of aloes—about five drachms in a pint of water. An ounce of saltpetre should be placed daily in his bucket of water.

Cracks

When cracks appear, the mode of treatment will depend on their extent and depth. When slight, a lotion composed of a solution of two drachms of copper sulphate and four drachms of alum in a pint of water, will often speedily dry them up and close them. But when cracks are deep and a discharge is coming from them it will be necessary to poultice the heel. Linseed poultice may be used, also a carrot poultice is very effective in cases where poulticing becomes necessary. When the cracks have discharged a good deal of matter, and show signs of healing after poulticing, they may be dressed twice daily with a solution of subacetate of lead, one ounce; glycerine, eight ounces. Sometimes the legs will continue swollen after the cracks are healed, and for this a flannel bandage over the whole of the swollen part will be found very serviceable. No blistering should be done because of the danger of bringing back the inflammation of the skin and discharge from it.

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Yours truly,
ERNEST LEVEILLE,
216 Rue Ontario East, Montreal.
Feb. 14, 1908.

POULTRY SELLING FAIRS

by G. R. Wilson, B.S.A., Dominion Poultry Repres. for N. B.

The present trend of the Poultry industry is toward eggs and more eggs. Governments, Associations and producers are emphasizing utility stock. But in order to get eggs, pullets are necessary. Since no poultryman has yet been able to detect sex before incubation and not definitely before the chicks are six to eight weeks old, it becomes necessary to rear approximately as many cockerels as pullets to keep the laying flock up to strength.

The turkey and goose industry the past few years has come into the foreground with the high ranging of prices. While roast chicken would prove a sumptuous meal in everyday life, people demand the turkey and goose for Christmas festivities. So it comes that more attention is being paid, and rightly so, to turkey and goose raising.

As a marketing method for all kinds of poultry the Poultry selling fair has much to commend it. It has been a marketing channel in Ontario for a considerable length of time. While popular in Ontario it has never been augurated in the Maritime Provinces until this year. On December 10th the first Poultry Selling Fair in N. B. was held at Port Elgin and met with great success. The prices received by the producers were above prices ever expected. Buyers and producers were brought directly in touch thereby eliminating the jobbers and middlemen with great satisfaction to both buyer and producer.

But while the fair was a monetary success, there is another feature that should prove of a great deal more benefit to the poultry industry in N. B. than an increase of prices. The condition in which poultry has been put on the market in the past has been anything but satisfactory. Cities and towns have demanded poultry with entrails removed. Not much attention has been paid to keeping qualities of poultry on the market or to freedom from disease. Birds have been scalded, torn and bruised. Some of the most unsightly birds the writer has ever seen have been seen on New Brunswick markets. Such marketing conditions have continued to exist in spite of all investigational information. Investigations by the Bureau of Chemistry of the United States Dept. of Agriculture prove that "undrawn poultry contrary to the general impression in some localities keeps better in cold storage and while passing through trade channels than does drawn poultry. Careful observation in a large number of shipments of both drawn and undrawn poultry, made under commercial conditions, showed that the undrawn poultry reached the consumer with fewer bacteria and with less chemical change in composition than the drawn poultry. The shipments were accompanied by the investigators from the time the poultry was killed, while en route on trains, and until placed in the cold storage warehouses, and after being taken out of the cold storage were followed while being handled by the wholesalers, commission men and retail dealers. Recording thermometers accompanied the shipments through their entire course, and the varying temperatures to which the shipments were subjected were recorded. Samples were taken from the shipments at the time the poultry was killed, at the time it entered cold storage, at intervals while in storage, at the time they reached the commission men, again when the shipments reached the retailers and finally when sold to the ultimate consumer. Bacteriological examination and chemical analyses were made of all the samples taken at the various stages. Changes as they developed were noted and studied. Comparisons were made of the samples taken from the undrawn poultry with samples taken from the drawn poultry. It was found that bacteriological and chemical indications of deterioration developed much quicker in the drawn poultry and as the shpments progressed through the various steps of commercial handling the differences in the signs of deterioration became more marked. By the time the shipment reached the consumer much of the drawn poultry was unfit for food. The experiments revealed that the drawing of poultry as practised commercially always resulted in the birds becoming contaminated with bacteria which caused spoilage. These bacteria multiply rapidly, and while their growth is checked by cold storage it is not entirely stopped. If it were practicable to draw poultry with the same precautions to avoid contamination that the surgeon uses in performing an operation—that is, with the use of sterile instruments and rubber gloves and under strictly scientific sanitary conditions, so that there would be no bacterial contamination in the process of drawing—the drawn poultry would be preferable to the undrawn. However, it is not practicable under ordinary commercial conditions to prevent some bacterial contaminations in the drawing of poultry. To produce this result a trained bacteriologist and highly skilled workmen would be required in every poultry-killing establishment. The cost of such a process would be prohibitive.

It is the opinion of the specialists therefore, that under usual commercial conditions, undrawn poultry will be much better than drawn poultry. The experiments under which this conclusion was based were conducted several years ago, but continued observation of thousands of shipments of poultry under ordinary commercial conditions since then has only served to strengthen the opinion of the specialists who made the original experiments."

Aside from the keeping qualities when we consider the proposition from a health standpoint, we find that health alone is adequate proof that poultry should be marketed undrawn. Traces of destructive diseases to which poultry are subjected can all be removed in preparing poultry for market according to the old haphazard methods. Tuberculosis affects the internal organs, chicken-pox affects the head, cholera in chickens and blackhead in turkeys and chickens affect the intestines. It can therefore readily be seen that a bird affected with any of these diseases can be dressed with entrails removed, head and shanks off, and the consumer be none the wiser.

The Port Elgin Poultry Fair proved beyond doubt that such fairs would go far towards improving market methods. At Port Elgin the poultry was displayed on tables, care being taken that excellent finished lots of turkeys, geese and chickens were displayed prominently and the attention of producers drawn to them. Everybody present had the opportunity of seeing the value of finish in these lots. All poultry was marketed according to the latest market requirements—that is, all poultry was undrawn, and absolutely no scalding permitted, shanks were left attached and heads removed from geese and ducks only.

While no effort was made to grade the poultry, the range of prices automatically did the grading. Lots of poultry poorly dressed or poorly finished did not sell so readily or at as good a price as did well dressed and well finished lots. There seems no doubt that such fairs would be a great stimulus to the poultry industry; would prove a suitable market for surplus stock; and would go far toward improving the methods in which poultry is at present being dressed for market.

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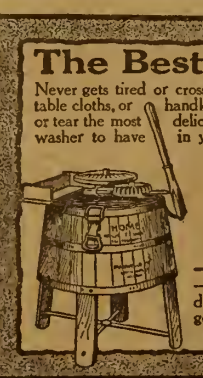

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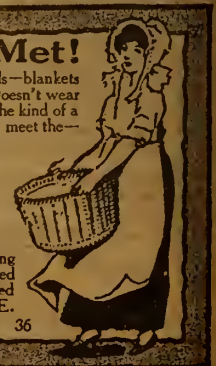

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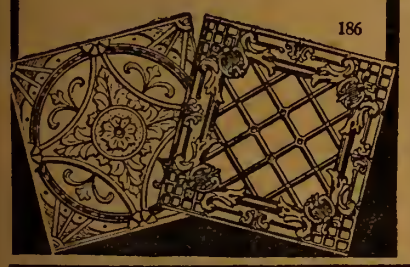

starts to molt the following summer. To make successful winter layers the early hatched pullets should begin laying by November first, when the prices of new-laid eggs are high, and should continue to lay at the rate of 40 to 50 eggs a day per hundred hens until February, and thereafter at the rate of 60 to 75 eggs a day per hundred hens until molting time.

A good depth of litter covering the float will encourage the vigorous scratching necessary to replace the accustomed outdoor exercise. The active hen is most productive, and if the fowls are kept busy scratching for their grain the first few weeks they will begin laying sooner and will have little time to cultivate the unprofitable habits of egg eating and feather pulling. Wheat straw and shredded corn fodder are excellent litter materials.

In preparing nests and roosts, bear in mind that the light breeds, such as Leghorns and Campines, require six to eight inches of roost space and nests 12 inches square, while heavier fowls, such as Plymouth Rocks and Wyandottes, need 10 to 12 inches of roost space and nests 14 inches square.

As eggs are about 70 per cent. water, some arrangement should be made to supply the fowls with drinking water heated to a comfortable temperature. An ordinary two-part galvanized gallon fountain, filled with warm water and set upon a hot soapstone, will do this, or a larger fountain heated by a small lamp will solve the problem with a minimum of attention.

The greatest problem in producing winter eggs at a profit this season lies in the poultryman's ability to select from the available grains and feeds an economical ration that will stimulate laying. The following are the rations that have been used with great success, both in starting pullets to lay and in maintaining production:

Mash: One hundred pounds bran, 200 middlings, 100 ground oats, 100 alfalfa meal, 100 feet scrape.

Scratch grain: Sixty pounds corn, 40 oats.

The following methods of feeding are practised by many poultry keepers who are successful in producing eggs in the winter time: The mash is fed in open hoppers which are before the fowls the entire day. At ten a. m. a feed of moist mash is given—all the pullets will clean up in 20 minutes. Three times a week this wet feed is mixed with half its bulk of cooked mixture of equal parts by measure of pumpkin, cull potatoes and whole oats. The wet mash is seasoned lightly with salt and red pepper, with a heaping teaspoon of dry ground mustard to each 25 fowls.

Cooked rations of this nature give good success in starting pullets to lay. Cooking breaks up the bulky, fibrous feeds, which are now the cheapest and which form a high proportion of the ration, making them more nutritious and lessening the danger of indigestion.

Scratch grains should be given about an hour before the fowls go to roost, and the average quantity is about fourteen pounds to the 100 layers. Scratch grains being high in price, hens should be encouraged to eat greater quantities of mash, the grain ration being only given once a day. Corn has been found to be indispensable for maintaining health and egg production in cold winter weather.

Self feeding hoppers should be procured to supply grit, oyster shell and charcoal. Given comfortable quarters, layers will produce more eggs, and with less feed if confined to the house continually throughout the winter than if allowed to run out in the snow and cold.

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BUYING PURE-BRED PULLETS

A poultryman recently told me that he figured on pure-bred pullets being worth at least 75 to 100 per cent. more for breeding purposes than for market. This may be true, but there is a great variation in the value of pure-bred pullets and the birds are not of much value as breeders just because they are pure-bred. It is fundamental that the birds be pure-bred as a foundation. Then their value is built up according to their other characteristics.

One reason that some farmers are prejudiced against pure-bred poultry is due to some poor quality pure-breds they have seen. Some farmers who have culled their grade stock for years and kept only the best will never cull the pure-bred birds, but keep them all. A pure-bred flock should receive a culling and birds of inferior vigor sold on the market. Such birds are not worth 75 per cent. more than scrub stock just because they are pure-bred.

When buying pure-bred pullets we figure the value of the birds by the birds themselves. Some pullets are a poor investment at any price. Others might be a bargain at five dollars each. There can be no set rule for purchasing pure-bred poultry and no set price that will accurately determine their value. A pure-bred flock that has been bred for many years for either fancy points or egg production or both, is apt to produce pullets of great breeding value. They are worth more money than ordinary stock because of the blood lines. The qualities for which they are noted have been stamped on them by many years of careful breeding operations and they are able to produce progeny of like qualities.

A flock of pure-bred poultry might be carelessly bred with no effort made to select the best and most vigorous birds for reproduction. At the end of a few years the stock might be pure-bred and yet worth no more than the market value of scrub stock.

We do not like to buy pullets in large quantities as some poultry-men do. Usually it is the beginner who wishes to purchase a large number of pullets so that the dream of a large egg production can begin promptly. Frequently the pullets purchased do not come up to expectations. If pullets are purchased it is better to sacrifice quantity and buy a few first class birds as foundation stoc kfo rthe larger flocks which are to be raised at home.

The poultryman or farmer who raises his own pullets can cull them rigidly and keep the best. The others can be sold on the market if they are of little value as breeding stock. It does not pay to sell the cull pullets where they will be used for breeders, as too often it causes disappointment. When buying pullets, care should be taken not to purchase the culls from another breeder. Examine the pullets carefully. Find out their age and see if their development corresponds to their age. If possible study the breeding stock from which the pullets were produced.

Pure-bred pullets as foundation stock for poultry flocks should be worth at least seventy-five to one hundred per cent. more than scrubs. But do not stop there. tI also pays to classify the pure-breds and not buy foundation stock just because it is pure-bred. It must have other points of value to make it a profitable investment.

R. G. KIRBY.

Prince Edward Island Poultry Association

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Send for Prize List and be convinced that we mean to have the best Poultry Show in the Provinces.

A. F. HOUSTON, Secretary,
Charlottetown, P. E. I.

WATERING FOWLS IN WINTER TIME

In find it a very troublesome chore among my poultry in the winter time to keep them supplied with clean water, free from freezing. They spill the ordinary water dish, thus wetting the floor and litter. A fountain does not help, for in cold weather it makes more trouble than an ordinary dish.

P. C.

To overcome many of the troubles arising from watering hens in the winter time, the following home-made arrangement will be found very useful. Take a small wooden box, one side open, and fasten it with screws to one side of the hen-house, about four inches above the floor. Next get a large rectangular shaped bread tin that will hold about three quarts of water, that will fit neatly within the box. There should be four inches of space between the top of the tin and the top of the box; enough room for the hens to reach in and drink. The tin cannot be tipped over by the fowls and little dirt can get into it because of the box roof above.

Stand by the hen, handle her right, and she will lay eggs with all her might.

Make the hens work for what they get. Unless they have to scratch for their feed they become lazy parasites, just like folks.

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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

"There is always a toast for the Future,
To the years that speed on ahead,
There is always a toast to the things that are new
To life's books that have never been read,
But here's to what lies behind us
To the heart aches, the failures, the tears
We are better able for just these things,
To drink to the future years."

THE MAKESHIFT

Lydia Arch sat in the wide verandah of her aunt's house studying a fashion journal which was already several months old. She was only trying to see how she could combine the fabrics of two dresses so that they would make one.

Two dresses had been left behind by one of the summer boarders with which Mrs. Arch filled her house from June to September. Lydia got most of her clothing that way and cost her aunt nothing, for she did the work of a servant without pay.

It took a great deal of material of any kind to cover Lydia. She was tall and rather heavily built. That was what was puzzling her now. Miss O'-Grady had been small, and, besides, trouble lay in the fact that the two colors were those Lydia hated—green and red.

The creak of wagon wheers came to her ears, and lifting her head she studied the road gravely. When a wagon and a silt-legged bay horse and a red-haired man came round the turn she only blushed slightly.

"I thought it was," she breathed to herself. "And I know where he's been out to Biddie's."

Her head dropped low over the page, but she did not see it. Instead she saw Cassy Biddle on the porch hammock, her arm behind her head in that coquettish way of hers, stealign longlashed glances at her lover, for Colin was her lover, and had been for a long time. His devotion and his patience were common topics of conversation. Aunt Abby said Collin was a fool to chase a worthless butterfly like Cassy Biddle. To Lydia she was the most charming of beings, and she did not blame Collin, even though he waited forever.

But why was he returning from Biddie's tonight at this early hour? She sighed and lifted her head to find that the bay horse had stopped, and Collin was standing with his hand on the bridle, motioning for her to come to him. She rose and went.

"I couldn't leave Crystal standing, and there's nothing to tie her to," he explained. "I've been driving her pretty fast. Don't you want to take a little ride with me?" Lydia could not have been more surprised. "Get in and take up the lines," he said. "She'll probably jump the moment I let go the bridle."

Lydia climbed into the runabout and gathered up the lines. She held the mare down, while Collin took his place beside her. To Lydia nothing cauld have been more delightful than guiding the beautiful, fleet mare along the smooth country road. She forgot her dressmaking perplexities—almost forgot Collin himself until he spoke:

"I've been out to see Cassy for the last time. What do you think of that?" he said.

Lydia did not speak, but her color faded.

"I was afraid it was going that way," Collin went on. "When Cassy and I got engaged she said if I wouldn't ask her to get married under a year she's be ready then. She wanted to earn her trosseau. Well, she's had time enough to earn six, and still she isn't ready. Of course, she gets good wages, and there's a lot going on in town, and I guess she has a pretty good time at the store, but still, I can't wait forever. Mother lies there in her bed helpless, and Mrs. Murray won't stay a minute longer than next week, and threshing's coming right on. I need a woman and now if ever. I—I've got to have a wife. You see that, don't you, Lydia?"

He looked at her, and Lydia looked back at him gravely. How was a man to work indoors and out the way they said Collin was doing It was too hard for him. He not only looked troubled, but worn out.

"Lydia, you will marry me, won't you?" he asked suddenly.

The lines twitched, and Crystal, mistaking the signal, started up. Collin took the lines. "There, I'll drive now," he said gently. "You think, Lydia; I'd be pleased if you should decide to marry me."

They did not speak again. Each was busy with thought too grave to be expressed. Lydia was trying to realize it all. Collin had asked her to marry him after she had thought Cassy Biddle had him forever. It did not seem true, and yet it was true. What could she answer but one word? A great happiness seized her. Her lips began to smile.

And Collin did not look at her until he was ready to leave her at her own door. Then he said, with another sigh: "Well, Lydia, have you made up your mind?"

Lydia smoothed back her crinkly hair. "Yes, I will, Collin," she said, and added seriously, "if Aunt Abby is willing."

Mrs. Arch was more than willing; she was delighted. After all, she had Lydia's welfare at heart, and she felt that it was a fine thing for the girl to be able to marry Collin Howe. She immediately began to make plans. "I'll make you a nice wedding, Lydy," she said. "And you shall have some clothes that oyu needn't be ashamed of. And Cassy Biddle shall be bid to the wedding to see 'em."

But Cassy Biddle did not come to the wedding, and Lydia looked very happy and shy in a white silk gown, which was the first becoming dress she had ever had.

Afterwards she went home with Collin to the farm house in the lane, where his mother lay ill and where Angie Clapp had done something in the way of "setting to rights." Two days later she was cooking for the harvest hands and doing all the work of the house alone.

This was no harder, however, than she had been used to doing during the busy season at Aunt Abby's, and very, very much more interesting. Collin had said to her at the outset: "We are partners now, Lydia. You know what that means. You go ahead and do just as you think best in the house. Don't bother me with it. I've got all I can do to look after the outdoors."

So Lydia looked after the house and was very content in being her own mistress.

Scarcely was the harvesting over when Collin's mother died. Collin grieved and Lydia was a great comfort to him during that time of sorrow. And then for the first time she was able to impress upon him the fact that she was a friend as well as a helpmeet.

"You're a good comrade, Lydia," he said. "I don't know what I'd do without you."

All this was very sweet to hear, and yet Lydia knew that there were times when Collin went into a room in his life and shut the door upon her. There was nothing she could do about it but stand outside and wait till he opened the door and came back to her, and never did he return without finding welcome in her eyes and a smile upon her lips.

Cassy Biddle did not come home once all that winter. Whenever her people wanted to see her they had to go to town to do so. She was so busy, Mrs. Biddle told Mrs. Arch. "Why Cassy was about the busiest person you ever saw in your life! She was the head of her department now—coats and suits—and earning splendid wages.

Spring came, and Collin told Lydia one day that he was going to town. At first he seemed to intend to go alone and then he asked Lydia to accompany him. "Must be something you want, Lydia," he said. "A new suit now. I believe you'd look elegant in a suit!"

"Well, have your own way' Collin,,' Lydia returned. So they went to town together.

Collin was very silent all the way. Lydia knew that he had been restless for a long time and that he was going to town just for the sake of getting a glimpse of Cassy Biddle. The suggestion concerning the suit for her was just another means to the end.

In the train she sat sadly gazing from the window. It was such a beautiful day and she could be so happy if only she had Collin's love. "I don't believe I shall ever have it now," she thought. "He isn't a changeable man and these first loves are awfully beguiling."

But by the time they had reached the city Lydia had conqquered her gloom. She entered the big store at Collin's side as composedly as though the new suit was all she expected to find inside. On the way upstairs she stopped at the millinery department to buy a hat."

"Go on, dear," she said. "I'll catch up with you. It will be tedious for you to wait round while I choose a hat and maybe you'll find someone to talk to."

"There, I've given him his chance," she thought. "Well, I had to. It wouldn't have been fair not to."

She was a long time getting the hat, then withit upon her head, she sought her husband. He was talking to Cassy Biddle, who seemed to be in a great flutter. Lydia shook hands with Cassy and tried not to notice Collin. Then the suit was mentioned and Cassy took her into one of the alcoves to try it on.

"This one is a good color for you," she said.

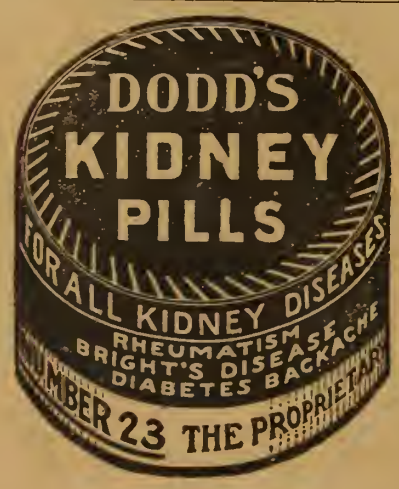
But Lydia had ideas of her own. She chose a quiet dark suit of severe tones. The suit fitted her and she decided to keep it on. As she emerged from the store she met Collin's eyes. He came forward eagerly.

"Why say!" he exclaimed. "Say, I didn't know you could look like that, Lydia."

His glance went past her to Cassy, but it did not linger. "Doesn't she look fine in that suit?" he demanded of her.

"Fine," echoed Cassy. But there was elasticity in her voice.

"Collin paid for the suit hurriedly.



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For Nearly Two Years.

When pimples and boils appear on the face and body it seems as if the skin is the seat of the trouble. but the real disease is in the blood.

Lotions and ointments may allay the trouble for a while, but seldom if ever cure.

You have to get under the skin; get at the blood which is the cause of the trouble.

Burdock Blood Bitters goes direct to the root of the disease and restores healthy, normal action to the different organs, and cleanses the blood of all its impurities.

Mr. E. C. Goodwin, Cambridge, N.B., writes:—"For nearly two years I suffered from boils and pimples on my face and neck, and nearly all of my body was covered with the pimples. I tried most everything, but got no relief. One day a friend advised me to try Burdock Blood Bitters, and after using three bottles the boils and pimples had all left me and there is no sign of them returning. I can strongly recommend B.B.B. to anyone who is troubled with skin disease."

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—Mr. S. Kaulbach.

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—Mrs. S. Masters

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"We'll go somewhere now and find a bit of dinner," he said. "Good bye, Cassy. I'm glad to have seen you." He drew Lydia away.

In a nearby restaurant they sat down at a small table. Collin leaned his head in his hand and fell into deep thought. Lydia pretended to study the menu card. Suddenly he lifted his head. "Say," he said, "how Cassy has changed hasn't she?"

Just that. But Lydia knew. The door of the little room was open to her for the first time.

She smiled radiantly into her husband's admiring eyes.

Spanking Doesn't Cure!

Don't think children can be cured of bed-wetting by spanking them. The trouble is constitutional, the child cannot help it. I will send **FREE** to any mother my successful home treatment, with full instructions. If your children trouble you in this way, send no money, but write me to-day. My treatment is highly recommended to adults troubled with urine difficulties by day or night. Write for free trial treatment.

Mrs. M. Summers
Box 309 WINDSOR, Ontario

OUR CHILDREN'S TABLE MANNERS

Table manners, like most of the conventions are not arbitrary rule, they are based on common sense. Back of every breach of table etiquette lies either a parctical or an esthetic objection. A cup with a spoon left in it is apt to tip over. Biting one's bread instead of breaking it is suggestive of animals and therefore not pleasant to see.

How many parents teach the children not to smack their lips, not to lean their elbows on the table, not to be noisy at meals, and let table manners go at that. And when those children grow up, they learn the conventions at the cost of painful embarrassment and agonized self-consciousness.

A child of two is not too young to acquire the first principles of table etiquette. Explain to him the common sense of everything he must and must not do, and if, for one reason or another you allow him to break the rule, be sure that he understands what the proper thing really is.

All our teaching will be of no avail if we do not set him a good example. Grown-ups fall too easily into careless habits, secure in their knowledge that they know how to eat when they "go out." But the youngster carries his bad home habits with him.

There are children who seem absolutely incapable of keeping their fronts cleaan, without the aid of a napkin tucked in the collar or tied around the neck. If such be the case the mother is only courting trouble if she insists that he spread the napkin in his lap. Tell him that he must wear it "baby fashion" until he has learned not to spill his food as soon as he can eat nicely, he may spread the napkin, foided once, on his lap, in the proper grown-up way. This furnishes him an incentive for good manners.

Children fall into the habit of cutting up their meat into small pieces before beginning to eat, because, when they are very small, this is done for them by their parents. But as soon as a child can manage his knife, let him letrn to cut off only one piece at a time, "as mother and father do." It will save him embarrassment in later years.

In the same way, a child learns to butter a whole slice of bread and bite into it. When mother stops buttering it for him ,he imitates her method. into mouthfuls, each morsel bitten off, int omouthfuls, each morsel buttered separately. This is not difficult for children to learn. It is based on good sense—for a bite into a buttered slice is likely to leave greasy traces around the mouth.

In a large family of children, where there is much passing of plates for a "second help" from one to another, it is often the better part of valor to allow the owner of the plate to hold his knife and fork in his hand. A wise mother, however will begin early to teach youngsters that the proper way is t oleave the knife and fork resting on the plate, for well mannered people can supposedly pass the plate without accident. Let the kiddies look upon this, and other points, as a grown up privilege to which they may aspire, and they will need little urging to do their best.

When a knife or fork is not in use, it should rest wholly on the plate. At the end of the meal, the knife and fork should be placed together the ends touching on the plate, but not crossed.

The child should not be allowed to leave the spoon in his cup, for this is abad habit easy to acquire. Remember that everything you can drill into him now will save him future embarrassment. If for lack of patience, you have failed to teach him good manners, be sure that he will blame you at some later date.

Eating soup noiselessly is easier when the liquid is taken from the side of the spoon than when the spoon is sipped from the end. Also, it is not good manners to place the whole spoon in the mouth, which the child is likely to do when eating from the tip.

A child should learn not to pat his

We have already given away $5.000 FREE. $200.00 more IN CASH and numbers of Merchandise Prizes will be GIVEN AWAY at an Early date.

1st Prize, **$50.00** in Cash. 2nd Prize, **$40.00** in Cash
3rd Prize, **$35.00** in Cash. 4th Prize, **$25.00** in Cash
5th to 9th Prizes—Each **$10.00** in Cash.

TOGETHER WITH MANY MERCHANDISE PRIZES

Herewith will be fonnd the picture of a Log Hut in the Woods. At first glance all yon see is a man, a woman and a dog. If yon look closely the faces of 8 other persons will be found. Can you find them? It is no easy task but by patience and endurance can be accomplished.

You may win a cash prize by doing so. Many have done this as will be shown by the names and addresses which we will send you. If you find the faces mark each one with an X, cut out the picture and send it to us, together with a slip of paper on which you have written the words "I have found all the faces and marked them." Write these nine words plainly and neatly, as in case of ties, both writing and neatness are considered factors in this contest.

This may take up a little of your time but as TWO HUNDRED DOLLARS in cash and many merchandise prizes are given away, it is worth your time to take a little trouble over this matter. Remember all you have to do is to mark the faces, cut out the picture and write on a separate piece of paper the words, "I have found all the faces and marked them."

WE DO NOT ASK YOU TO SPEND ONE CENT OF YOUR MONEY IN ORDER TO ENTER THIS CONTEST

Send your answer at once; we will reply by Return Mail telling you whether your answer is correct or not, and we will send you a complete Prize List, together with the names and addresses of persons who have recently received over Five Thousand Dollars in Cash Prizes from us, and full particulars of a simple condition that must be fulfilled. (This condition does not involve the spending of any of your money.)

Although these persons are entirely unknown to us, they are our references. An enquiry from any one of them will bring the information that our contests are carried out with the utmost fairness and integrity.

Winners of cash prizes in our late competitions will not be allowed to enter this Contest.

This Competition will be judged by two well known business men of undoubted integrity, who have no connection with this Company, whose decisions must be accepted as final.

Your opportunity to win a good round sum is equally as good as that of anyone else as all previous winners of cash prizes are debarred from entering this contest.

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food, or t omove itabout unnecessarily on the plate, for this is also a difficult habit to break, and one annoying to others at the table.

At many tables, chicken bones, chops, etc., are taken up in the hands. This is quite permissable at a family meal, but it is well to train the youngsters int oasking permission to "take it up in my hands" so that he may regard it as th eexception, not the rule.

A child should learn to cut lettuce with his fork, without aid of his knife. He should learn not to scrape the bottom of a cup, not to clash his spoon or fork against a plate in an effort to clean up every vestige of some favorite dish. If he must use a "pusher," let it be a piece of bread, not his fingers. He should avoid the habit of suspending a fork or spoonful in mid air while he talks. When food is taken from the plate it should be carried directly to the mouth. At the close of the meal he should fold his napkin and ask to be excused.

DRINK HOT WATER

The internal warm bath is as gratifying, cleansing, and generally satisfying, as the external one. There is nothing like a cup or two of hot water, taken half an hour or so before breakfast, to clear out the whole digestive tract and put it in readiness for its day's work. It makes one feel good all over, touching up the appetite, encouraging the body to an early performance of its natural features in the way of beneficent effects felt throughout the whole system.

Unless one is really ill, a cup taken just before going to bed is usually better than any medicine for which there is slight need, and a "course" of it will cure constipation without leaving the body dependent on drugs to more or less frequently help out.

If you feel sluggish and dull stop eating and drink hot water plentifully till your appetite tells you that you are all right again and ready for food. If there is gas on your stomach—drink hot water. If you feel a sick headache coming on—drink hot water and the heat will rout that chilly feeling and, if taken soon enough, rout the cold; while everyone knows that plenty of water is the best "medicine" for a cold already under headway.

To those who say that hot water is distasteful to them, I would suggest that they experiment until they find some addition that will make it agreeable to them until they can enjoy it "straight." A little cream or sugar or salt or phosphate or a slice of lemon, perhaps.

From some source, the body must have three or four quarts of water every twenty-four hours, to replace waste and insure health. Some of this we get in food and drink, but much of it should be clear water, and it will really be better if some of it is hot as a regular thing.

STERILIZING LINENS

If there is illness in the home, the most important thing to do is to thoroughly sterilize the linen, not only the bed linen, but all handkerchiefs, towels and everything with which the patient has come or is constantly coming in contact.

Blankets should be used over the sleeping sheets, for then they may be washed, as well as the sheets, pillow slips and other linen. First, it should be remembered that germs cannot rise from a damp surface. Germs have no means of flying about of their own volition; they have no legs to run with or crawl with or wings to fly with, nor do they need them, for when everything is dry the germs float with the dust on every breath of air.

The moment that linen is removed from a sick bed it should be put in cold water and kept there until time for washing. In water it becomes quite harmless and absolutely all danger from it is eliminated.

Practically all trained nurses today in private families know that linen put in water and kept in water will remain quite harmless. After the linen has thoroughly soaked the laundress may easily wash out the stains before putting such linen into the hot water for boiling, or before soaking in some germ destroying preparation. As a matter of fact no germicide is needed; a long and thorough boiling of this linen will serve that purpose and kill every germ that lurks in the folds or mesh of the cloth.

It is perfectly safe to handle such wet linen, unless there are abrasions on the skin of the hands, providing the person handling it does not get her hands on either her face or her clothes. As a double preventative rubber gloves may be worn by the laundress.

PRACTICAL HINTS FOR HOUSEWIVES

As a good substitute for linoleum take building paper, paint it dark brown or any good color wanted, as blue or gray. Have it cut into several lengths to fit the kitchen or dining-room where it is wanted, and lay it down. It will give excellent wear and does not cost as much as linoleum.

Do not throw away your old colored and black stockings; cut them in strips about one inch wide; start at the top and cut them round and round until you get to the bottom, then crochet with a wooden needle. This makes a good rug for bedroom or bath-room.

Flavor cream before whipping.

Wash and save your old quilts to pad new ones.

Scalloped rice with eggs makes a good main dish.

Never let silver stand over night without washing.

All yellow flame on the gas range is practically wasted.

Mice will not trouble a hole filled with any mixture containing lye.

A hot shovel held over varnished furniture will remove white spots.

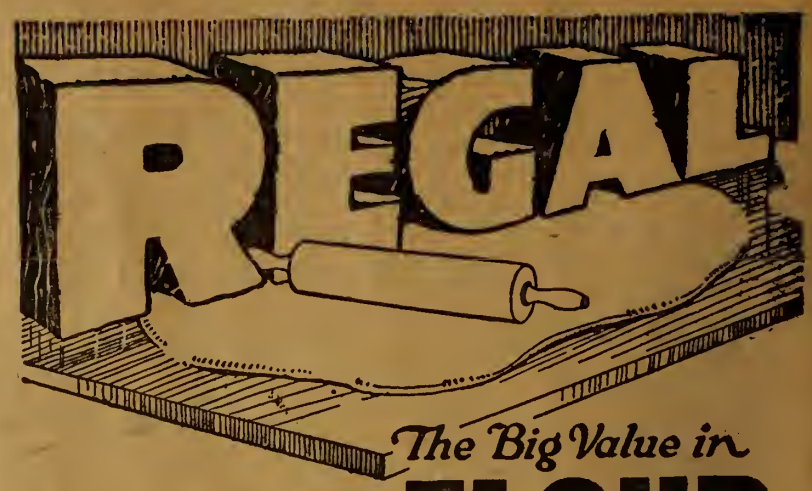
Turpentine put in corners of the wardrobe will do away with moths.

Peanut butter, creamed with lemon juice, may be used for cake filling.

If cut apples are placed in salt water for a few minutes they will not turn brown.

Pears baked and topped with raisins and marshmallow whip makes an excellent dessert.

Keep the table sugar in a large salt



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shaker and you will be surprised how much you save.

The use of bread and butter plates is economical, because every bit of unused butter can be saved this way.

Use sewing scraps or newspaper in the kitchen for wiping out greasy dishes, thereby saving soap and hot water.

Hang your towels on a flat white enamel curtain rod. This prevents rusting and the sliding of the towels to the floor.

A measuring cup which holds exactly a half pint, and which is marked to indicate the half, quarter or third, is almost indispensable to the housekeeper who likes to vary her cooking and to try the new recipes which are given in the papers and magaines which she reads. In nearly, if not quite all of these, a cup means a half pint, and if a tea-cup is used it is largely a matter of guessing when the half or third has been filled. The mixing spoon may seem of small moment, but the spoon with a handle which is comfortable to hold, which is strongly made, and which has slits or openings in the bowl, will help very materially in bringing the batter to a fine, creamy consistency without unnecessary exertion.

CHRISTMAS THOUGHTS BY MASTER MINDS

We live in deeds, not years; in thoughts, not breathe; in feelings, not in figures on a dial. We should count time by heart throbs. He lives most who thinks most, feels the noblest, acts the best.—Philip James Bailey.

Nothing 'gainst Time's scythe can make defence save friendship.—Shakespeare.

Many happy years, unbroken friendships and cheerful recollections.—Dickens .

'Tis sweet, as year by year we lose friends out of sight, in faith to muse how grows in Paradise our store.—Keble.

AT CHRISTMAS TIME

But Christmas is not only the milemark of another year, moving us to thoughts of self-examination—it is a season, from all its associations, whether domestic or religious, suggesting thoughts of joy. A man dissatisfied with his endeavors is a man tempted to sadness. And in the midst of winter, when his life runs lowest and he is reminded of the empty chairs of his beloved, it is well that he should be condemned to this fashion of the smiling face.—Robert Louis Stevenson.

HELP THE NEEDY TO ENJOY CHRISTMAS

Some years ago a good woman organized a little society consisting of her nine-year-old son and all the other little boys in the neighborhood. She planned it on the lines of other organizations, as follows: Name, "Santa's Helpers;" moto, "Do it now;" colors red and green; flower, mistletoe. Object, to take Christmas cheer to the poorer families of our country.

A week or ten days before Christmas the first meeting was held and all the preliminary plans were made, the corn popped, cranberries strung presents wrapped and all the other things done that go to make a successful tree.

The day before Christmas the tree was decorated. On Christmas morning it was put in a wagon or float, and, with a Santa Claus as driver and all the boys as attendants, taken out two miles to the Poor Farm. Here Santa clipped the presents from the tree and the boys distributed them. The good was two-fold: it appealed to the better nature of the boys, and brought much happiness into the lives of a class of people who otherwise would get no Christmas cheer.

"The "Flu" Coming Back Are You Prepared?"

"HERE is an article about the "Flu." It says that the general opinion among physicians is that it will return this winter."

"Have they found a cure?"

"No. It seems that at the annual meeting of the American Medical Association, papers were read by physicians who could speak from authority on this subject. There was such a diversity of opinion on the effects of vaccination and innoculation, that these methods cannot be considered a success."

"What is a person to do then?"

"Well, statistics show that about three persons out of four are immune to the "Flu" germs. Investigations of a large number of cases makes it clear that this immunity from attack is due to the healthful condition of the system."

"In some districts 24 persons out of 1000 developed pneumonia from the "Flu." The germs of these ailments seem to thrive under similar conditions. If you are tired out and run down you are an easy prey to pneumonia germs, and the same applies to the "Flu" and other germ diseases. The thing to do is to keep fit."

"In what way?"

"By living according to the best hygienic laws, giving attention to diet and exercise and keeping the blood pure and rich, for, after all, pure rich blood is the greatest of germicides."

"When your digestive system fails to keep the blood rich there is nothing that will help you so much as Dr. Chase's Nerve Food. This treatment is composed of the elements which nature provides for the building up of the red blood corpuscles. By its use you are enabled to get your vitality up to high water mark and to keep it there. For this reason it is a wonderful help in the fight against all germs which threaten the human system."

Dr. Chase's Nerve Food, 50c. a box, 6 for $2.75, all dealers, or Edmanson, Bates & Co., Limited, Toronto. Look for the portrait and signature of A. W. Chase, M.D., the famous Receipt Book author, on the box you buy.

DISTRIBUTING THE CHRISTMAS GIFTS

Elizabeth Jerome

In the place of the Christmas tree, which is not always obtainable, try the following way of distributing the Christmas gifts. It is particularly good in a family where some of the children are reaching the age when the tree and Santa do not interest them.

Have each member of the family choose beforehand a favorite color—Baby's may be white—then let the respective packages be wrapped in tissue paper, or tied with ribbon or twine of the chosen color, of course labeling them as usual to prevent mistakes.

Then have them all hidden, here, there, everywhere, anywhere—even in auto or garage, where Daddy or Brother might be expected to enter during the day.

After breakfast, for it is too long and exciting a game to start before the morning meal, on with the hunt. No one must divulge the hiding place or touch the package of another—except for Baby—all can serve Baby.

Such shouts of joy and delight as each bit of personal color is spied and pounced upon. A gift has been known to turn up most unexpectedly even later in the week, making the fun last right on until New Year's. Until you try this novel distributing game, you don't know how much it will add to the festivities of the holiday.

Beef Juice

One-half pound lean, juicy beef cut in small pieces. Put in a wide mouthed bottle or jar, cover and set on stove in a kettle of cold water. Heat gradually and keep simmering two hours until the meat is white. Strain, press out all the juice and season with salt to taste.

DO NOT DISMISS CONSTIPATION AS A TRIFLE. IT IS NOT.

Half the ills of life are caused by allowing the bowels to become constipated.

When the bowels become constipated the stomach gets out of order, the liver does not work properly, and then follows the violent sick and bilious headaches, sourness of the stomach, biliousness, heartburn, water brash, or the painful, irritating internal bleeding or protruding piles.

Keep your bowels regular with Milburn's Laxa-Liver Pills and you need never be constipated.

Mrs. C. Henderson, Trail, B.C., writes:—"I have been troubled with sick headaches and constipation most all my life. Have not now been troubled for a long time. I have great faith in Milburn's Laxa-Liver Pills since using them."

Milburn's Laxa-Liver Pills are 25c. a vial at all dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

NEW YEAR RESOLUTIONS

How monotonous it would be if there were no ending or beginning to the years. If time rolled on and on with no milestones to count off the days, weeks, and months which make the year, how we would miss the "grand round up" when December makes her exit. "The door is shut,
The shadows of the old year fade
dimly o'er the hill
As past the threshold the New Year
with a smile is standing still.
He sees the dusty hallwayy, the rumpled cushions tossed,
He hears the dying echoes of varied
purpose crossed."

January the first marks the beginning of a new period of time and very general are the greetings of good cheer for the New Year. There is something so cheery and hopeful in the "Happy New Year to You." It makes us resolve that we will try to make it a happy "new one" indeed, that we will do less grumbling—a terrible habit that the most of us have a touch of; that we will be more charitable to our fellow men, more given to expressions of love and sympathy and less to unkindly criticisms, and if luck does seem against us and things go hard, we will endeavor to keep a stout hear.

"Do not look for clouds and shadows,
Watch for the sunshine day by day,
Let your tone be full of courage
Scatter gladness on the way.
Up and down the teeming present
Learn the dear and previous art,
How to meet both haps and mishaps
Ever with a cheery heart."

Saying good-bye to the old year and welcoming the new year makes it easy to form resolutions. Many do not believe in these resolves. They say they are only made to be quickly broken. Be that as it may, 'tis better to have even a transient ambition to mend matters than to go on with no hope or desire to improve. But to people who think truly and feel keenly the opening of another year which bespeaks an opoprtunity for greater diligence in all lines of mental and physical employment. Let us look back on the past year and say with Whittier:

"Rich gift of God,
A year of time."

And as we face the new year let us do si with the query:

"New Year, what have you brought us. Gifts for good or ill?"
"Take your choice," he answers,
"Be it as you will."
"Tomorrow's horn with patience
Benisons impart.
But there are no blessings
For a thankless heart."

Again, there is an historic dignity about the opening of another year, that awakens the hopes and inspirations. It is a pause in the passage of time, which arrests our attention and reveals opportunities either neglected or unthought of.

As I have said before, many say that they do not believe in making New Year resolutions. They may be mostly true and yet the very thought or desire on our part to wish to do better, shows we have a conscience not dead to improvement. Do you know, ladies, the resolve I would like us all to make, one possible to each, can we not resolve to take more real enjoyment from living. Think what this would mean to ourselves and to those around us, to be cheerful and happy. Not to go seeking pleasure but to find pleasure in the path we tread every day.

It does seem to me that we fail to taste the sweet of this life because our conception of what constitutes real happiness is distorted and unreal. We are looking above and beyond for something great and fail to see the lovely flower we crush under our feet, Oh, for the art of enjoying common place things! Oh, for the mind of John Ruskin. Ever capable of seeing the beautiful in every day surroundings.

Let us resolve to take delight in what may seem the trivial things of the passing day; the beautiful blue of the sky, or the soft gray of the winter clouds; the wonderful symetry and variety of form of the delicate snow flakes as they fall to the ground; the chick-a-dee chirping his merry chirp in the apple tree; the kitten runing around after its tail on the kitchen floor; the man running down the road after his hat which ever eludes his grasp; the prattle of teh children; the cackle of the hens; the good dinner we have today or the better one looked for tomorrow.

How blessed is the person who can see the funny side as well as the sunny side of life. We can cultivate this habit if we will. Then let us resolve to be happy and bright, to have a smile as well as a nod for the passer by, a loving as well as encouraging

When She Could Not Turn in Bed

DODD'S KIDNEY PILLS CURED MRS. WEBERG'S ILLS

Manitoba Woman After a Year of Suffiering Proves One Again that Dodd's Kidney Pills Help All Kidney Ills.

Rennie, Man., Dec. 20th (Special.)—"Yes, I feel as well as ever I did in my life and I give Dodd's Kidney Pills all the credit." The speaker was Mrs. E. Weberg, a highly respected resident here, who for some time was a severe sufferer from rheumatism and kidney trouble.

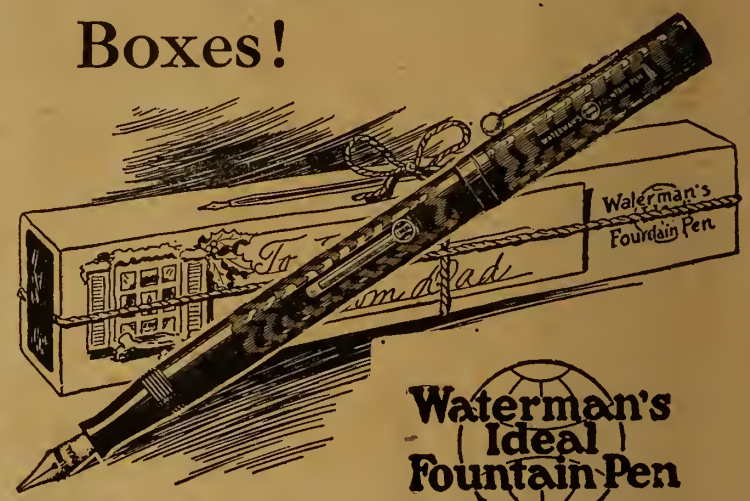
"My trouble started with a cold," Mrs. Weberg continued. "I could not throw off the after-effects. My sleep was broken, I felt heavy and sleepy after meals and I was always tired and nervous. Stiffness in the joints, cramps in the muscles and then headache, backache and heart flutterings followed.

"Then dropsy and rheumatism set in. I could not work on account of my sore back. I got so bad I could not turn myself in bed.

"I suffered for a year before I started to use Dodd's Kidney Pills. I used two boxes and now I feel as well as ever I did in my life."

Mrs. Weberg, wha looks the picture of health, struck at the root of all her troubles when she used oDdd's Kidney Pills. All her ills came from sick kidneys. Dodd's Kidney Pills are purely and simply a kidney remedy. Their record for the last twenty-five years is the cause of their popularity. Ask your neighbors about them.

The Very Best of Christmas Boxes!



Waterman's Ideal Fountain Pen

When in doubt, give a Waterman's Ideal Fountain Pen. It cannot fail to afford genuine satisfaction.

The price is what you please to pay—from $2.50 upwards; the pen is a recognized "quality" gift, and can be obtained in styles to suit all handwritings, from the best dealers everywhere

L. E. Waterman Co., Limited

179 St. James Street, Montreal

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LONDON PARIS

MARVEN'S

WHITE LILY BISCUITS

Manufactured under Most Sanitary Conditions in a Thoroughly Modern Factory THEY SURELY

Made of the Best Materials by Expert Workmen and Workwomen SATISFY.

SOLD IN BULK -- IN PACKAGES -- IN TIN PAILS.

J. A. MARVEN, LTD.
BISCUIT MANUFACTURERS
MONCTON HALIFAX ST. JOHN

For Meatless Days

WHEN you want to save Time and Trouble—serve Pancakes. When you want to save cooking a big meal—serve Pancakes or Griddle Cakes. When the appetite balks at fish—serve Pancakes, or Griddle Cakes, or Waffles. But, at all times, when you seek real nutrition in pancakes, dainty aroma and flavor, palatable richness and easy digestion—*then* serve FIVE ROSES pancakes or griddle cakes.

Not only does FIVE ROSES flour bring the wonderful food value so plentifully stored up in Manitoba's finest wheat, but it makes

Delightful and Digestible Pancakes

Fried in pan or baked on griddle, no cake can ever disturb the most delicate stomach, *if made from a FIVE ROSES batter.* Simply because FIVE ROSES is such a sturdy and glutinous flour that it resists the absorption of fat, merely taking enough to brown becomingly with a golden contrast, to crisp with crinkly, curly edges.

Serve this *economical* dish oftener, since FIVE ROSES makes it so palatable and nutritious.

FIVE ROSES FLOUR FOR BREADS, CAKES PUDDINGS, PASTRIES

Serve a Variety of Pancakes

Ten tested recipes for pancakes and a full chapter on griddle cakes and waffles in *the famous FIVE ROSES Cook Book. Already over 500,000 ambitious housewives are learning to bake without waste through this 144-page manual. Let it help YOU to better bread, puddings, cakes and pastries. Send 30c for your copy. Address Dept. "K" Lake of the Woods Milling Co. Limited, Montreal and Winnipeg.*

word as well as a thoughtful deed for the dear ones of the home circle. How often it seems easier to do a kindness than to say a kind word. But above all we must try to wear a smile as much as possible. How often a pleasant smile means success to a young man or a young woman. Some say it costs nothing, but we know better. It is not an easy matter to smile when one is tired, sick, or disappointed. Nevertheless I believe it pays to screw our courage to the "smiling" point.

"You may as well keep smilin'
For there ain't no sense in rilin'
An' a longin' too intense;
For most things worth the gettin'
Are sure to find their place
When you're peaceful and a sittin'
With a smile upon your face."

Then again I think the New Year generally brings what the old year promised, though there is a surprise ahead of us all along life's way. As a rule most people find that the New Year chooses its way and events from the record of the year gone by. Life is really a progress, not a number of disconnected happenings. So we find both those that believe and those who scoff at New Year resolutions. Yet, a great majority it is safe to say, consider resolutions a help and while the happenings of the old are still warm in our thoughts, we are better able to decide upon the moulding of the next twelve months.

In view of these things we look forward to at least the achievement of part of our plans and some things over which we have no control will be accomplished. And in what we can't control, we are responsible only for the way we meet them. Resolutions start up on the New Year with at least a goal ahead of us and we may be put off the road many times after having started and sometimes, when we may think ourselves farthest from our goal we find ourselves standing, joyfully, just where we would be, led there unawares over the patiently trodden, unchosen, round-about road. It is not all all our choosink and our willing that fulfills our New Year resolutions.

In ending I would say with the poet,—

"Fresh courage gives the New Year
To all who drink his health
In waters of his bottling
That stand upon his shelf.
His wine of gladness glistens
And drives away all care,
So drink ye of the nectar
And health to our New Year."

The most successful farmers invariably are those who work hand in hand with the agencies which are trying to improve agriculture.

PRIZE WINNERS AT THE MARITIME WINTER FAIR

(Continued from page 199)

SPECIAL PRIZES OFFERED BY THE LIVE STOCK BRANCH, FEDERAL DEPT. OF AGRICULTURE — DRESSED POULTRY

Best six chickens, all of one breed—1, John R. Harrison; 2, G. F. Denton; 3, Wm. Retson; 4, C. J. Cock; 5, W. L. Lowe.

Best 12 cockerels, packed in a suitable box for export, American breeds—1, E. J. Veysey; 2, Alex. Clegg; 3, C. J. Cock.

Best 3 dressed geese 1919—1, C. J. Cock.

Best 3 turkeys 1919 —1, C. J. Cock; 2, W. E. Harding; 3, Almon Boswall.

Best 3 ducks 1919—1, C. J. Cock; 2, E. J. Veysey.

SEED—SPRING

Spring Wheat, Red or White Fife or Marquis—1, R. A. Snowball; 2, Henry Gordon; 3, J. A. McFarlane; 4, John R. Harrison.

Spring Wheat, Any Other Variety—1, Henry Gordon; 2, John R. Harrison; 3, H. Poope Cook; 4, Frank Dunn; 5, J. W. Bradt.

Oats, Banner Type—1, Henry Gordon; 2, John R. Harrison; 3, Heath Vessey; 4, Edgar G. Giddings; 5, John A. Gillis.

Oats, Any Other Variety—1, Henry Gordon; 2, R. A. Snowball; 3, John R. Harrison; 4, Hugh McPherson; 5, E. J. Vessey.

Oats, any black variety—1, E. J. Vessey; 2, MacIntyre Bros.; 3, John E. Harrison.

Barley, 6 rowed—1, John R. Harrison; 2, R. A. Snowball; 3, E. J. Vessey; 4, Stanley Smith.

Barley, 2 rowed—1, H. Pope Cook; 2, Cornelius McLellan; 3, John R. Harrison.

Buckwheat, any smooth variety—1, Harvey B. Parlee; 2, Jas. E. Murphy; 3, E. J. Vessey; 4, W. A. Fillmore.

Buckwheat, any rough variety—1, Jas. E. Murphy; 2, MacIntyre Bros.; 3, R. A. Snowball.

Field Peas, any large and medium variety—1, John R. Harrison; 2, Henry Gordon.

Field Peas, any small variety—1, Henry Gordon.

Flax—1, E. J. Vessey.

Timothy Seed, bushel sample—1, Jas. E. Murphy; 2, John R. Harrison; 4, MacIntyre Bros.; 5, W. A. Fillmore.

Clover Seed, half bushel—1, George McLaughlin.

Turnip Seed, 5 pounds—1, Stanley Gray; 2, John Corning; 3, Chas. Patton; 4, Cann Bros.

Field Beans, any white variety—1, Miss Mabel Harrison; 2, John R. Harrison; 3, MacIntyre Bros.; 4, W. B. Ralston.

Field Beans, any colored variety1, John R. Harrison.

Potatoes, Irish Cobblers—1, Henry Gordon; 2, R. A. Snowball; 3, Fred Parsons; 4, George Retson.

Potatoes, Oval White Type—1, John R. Harrison; 2, Henry Gordon; 3, Peter Brodie; 4, G. W. West.

Potatoes, best half bushel long white type—1, John Retson; 2, George Retson; 3, John R. Harrison; 4, H. Pope Cooke.

Potatoes, Rose Type—1, John Retson; 2, George Retson; 3, John R. Harrison; 4, G. W. West.

Best half bushel red skinned variety—1, George Retson; 2, H. Pope Cooke; 3, Heath Vessey; 4, Gordon Henry.

Best half bushel MacIntyres—1, John R. Harrison; 2, Fred Parsons; 3, G. W. West; 4, Heath Vessey.

Best half bushel dark skinned variety—1, John Retson; 2, Peter Brodie; 3, Henry Gordon; 4, B. W. Ralston.

FIELD CROPS COMPETITION FOR NEW BRUNSWICK

Wheat—1, Henry Gordon; 2, 3, R. A. Snowball; 4, E. Lorne Hune; 5, Donald Innis; 6, W. F. Mosher; 7, W. E. B. Tait.

Oats.—1, Henry Gordon; 2, W. F. Mosher; 3, E. Lorne Hune; 4, R. A. Snowball; 5, W. E. B. Tait; 6, Donald Innis.

Potatoes.—1, Henry Gordon; 2, W. E. B. Tait.

FIELD CROPS COMPETITION FOR NOVA SCOTIA

Wheat.—1, J. L. Cunningham; 2, Jas. A. Dunn; 3, A. B. Cunningham; 4, Alex. Chisholm; 5, John MMullen; 6, J. R. Semple.

Oats.—1, J. L. Cunningham; 2, John A. Gillis; 3, Hugh McPherson; 4, Jas. A. Dunn; 5, Alex. Chisholm; 6, John A. McDonald; 7, A. B. Cunningham; 8, J. R. Semple; 9, John McMullen.

Potatoes.—John R. Harrison; 2, George Retson; 3, Jas. Mader; 4, Wallace Rhodeniser; 5, John McMullen.

FIELD CROPS COMPETITION FOR PRINCE EDWARD ISLAND

Wheat.—1, E. J. Veysey; 2, Cornelius McLellan; 3, Richard Creed.

Oats.—1, E. J. Veysey; 2, Cornelius McLellan; 3, Thos. Waugh; 4, Edgar Giddings; 5, Cornelius McLellan.

Potatoes.—1, E. J. Veysey.

Silver cup donated my Wm. Ewing, seedman, Montreal, for the best exhibit of seed grain, to consist of one variety of wheat, one variety of oats and one variety of braley. Open to those who are not members of the Maritime Seed Growers' Association. To be won three times not necessarily consecutively, before becoming the property of the exhibitor. Won by R. A. Snowball, Chatham, N. B.

C.S.G.A. MEMBERS COMPETITION

SHEAVES

Spring wheat, Red Fife, White Fife or Marquis—1, J. A. McFarlane; 2, Harvey B. Parlee; 3, John McMullen.

White oats sheaf A. O.V.—1, John McDonnell; 2, Peter Bodie.

Black oats, sheaf of any variety.—1, Heath Vessey.

Peas, 5 plants of any field variety.—1, J. A. McFarlane.

GROUP OF

Spring Wheat, Red or White Fife or Marquis.—1, W. L. McFarlane; 2, E. J. Veysey; 3, Donald Innis.

Spring Wheat, A.O.V.—1, Richard Creed; 2, Jas. E. Murphy; 3, Jas. E. Dunn; 4, J. L. Cunningham.

White Oats, A. V.—1, E. J. Veysey; 2, Jas. E. Murphy; 3, Thos. Waugh; 4, W. L. McGarlane; 5, Richard Creed; 6, J. L. Cunningham.

Barley, A.V.—1, Richard Creed; 2, Jas. E. Murphy; 3, W. L. McFarlane; 4, E. J. Veysey.

CORN

Flint.—1, Wallace Rhodeniser.

POTATOES

Best bushel from hand selected seed plot.—1, Fred Parsons; 2, Peter Brodie.

Round Red type.—1, Peter Brodie; 2, E. J. Vassie.

Long White type.—1, Peter Brodie; 2, E. J. Vessie.

Rose Type.—1, Peter Brodie; 2, E. J. Vessie.

Dark Skinned Type.—1, Harvey B. Parlee; 2, Peter Brodie; 3, E. J. Vessie.

The 1920 Short Course

AT THE

College of Agriculture, Truro, N. S.

WILL BE HELD

JAN. 6th to 16th, 1920

THE COURSE WILL BE DIVIDED INTO TWO DIVISIONS:

1.—The Big Four Days, Jan. 6-9. A course complete in itself brimful of valuable and interesting educational features.

2.—A Continuation Course, Jan. 10-16. Being a continuation of the Four Days Course, more detailed and complete.

THE FOLLOWING SUBJECTS WILL BE PRESENTED IN BOTH COURSES:—Judging Live Stock, Feeding Live Stock, Cultivation of the Soil, Seed Selection, Fertilizers and Their Uses, Dairying, Fruit Growing, Vegetable Gardening, Veterinary Science, Poultry, Gas Engines, Tractors, Farm Implements, Etc.

MOTION PICTURES WILL BE USED TO ILLUSTRATE VARIOUS FARM PRACTICES.

TUITION FREE TO STUDENTS FROM ALL THE MARITIME PROVINCES.

The Railways will grant 1 1/3 fare rate for the return trip on the Standard Certificate Plan from all points in the Maritime Provinces.

For full particulars write,
M. CUMMING,
Principal College of Agriculture,
Truro, N. S.

AWARDED BY THE STEEL BRIGGS CO., TORONTO

The member making the most creditable showing in not more than three varieties of selected seed will be awarded a special trophy in the form of a handsome silver cup, donated by the Steel Briggs Co., Toronto, Ont. This cup is not to be come the property of the grower until he has won it three times, not necessarily consecutively.

Wno by J. E. Murphy, 1919.

Silver cup, donated my S. J. Moore, Truro, N. S., for the best selected and best arranged exhibit of any variety of white oats.

Won by Jas. E. Murphy, 1919.

Special competition for boys and girls not less than 12 or more than 18 years of age, residents of the Maritime Provinces.

Wheat, any spring variety.—1, Norman Waugh; 2, Lloyd Waugh.

APARIAM PRODUCTS

Best dozen jars light—1, Julia Corbett; 2, Mrs. F. A. Jones; H. G. Miller.

Best dozen jars medium—1, H. G. Miller; 2, Julia Corbett.

Best dozen jars dark—1, Julia Corbett; 2, H. G. Miller.

Best dozen sections in comb, light—1, Mrs. T. A. Jones; 2, G. H. Weade; 3, P. J. Bett; 4, Julia Corbett.

Best dozen sections in comb, Medium—1, Julia Corbett.

Best three pounds of Bee's Wax—1, H. G. Miller; 2, Julia Corbett.

PEAS AND OATS FOR SILAGE

The results of six experiments at the Missouri Experiment Station in preserving field peas and oats in the silo show clearly that an excellent quality of silage may be secured from this crop. When the results are studied in connection with those from trials with other crops reported, there is no doubt as to the conditions necessary for making a good quality of silage.

Other than the usual precautions necessary for making silage of any crop, such as expelling the air by cutting the material into short lengths and by thorough tramping, it is necessary with peas and oats, as with legume crops also, to make sure that the water content is not too high. The best means of controlling this feature is to allow the crop to reach the proper stage of maturity, when the water content will naturally be such as to insure the proper preservation. The proper stage is when the oats are in the late dough stage or showing first signs of turning yellow. The pea pods should be showing indications of approaching maturity by a slight yellowness of the pods. At this stage the crop will contain between 30 and 40 per cent of dry matter, which is the condition necessary for making a good quality of silage.

If it is desirable to put the crop into the silo before it reaches the proper stage of maturity, good silage may be made by reducing the water content by allowing the cut crop to lie in the field for a few hours. A crop cut when the peas are in bloom and the oats in blossom will have only about 20 per cent of dry matter. This may be increased to between 30 and 40 per cent by exposure for five or six hours in the sun or until the plants appear wilted but not dry.—Missouri Bulletin 162.

GIRL WANTED

For general house work. Experienced girl preferred but will teach one who is willing to learn. Wages in keeping with capability

MRS. M. A. MacLEOD,
St. George St., Sussex.
P. O. Box 300.

Bank of Montreal Issues Special Trade and Crop Reports

In Connection With the Annual Meeting Bank Receives Reviews From Superintendents Covering all Provinces. Reports will be Closely Studied in Business Circles Throughout the Dominion

Montreal, Dec. 23rd.—The annual meeting of the Bank of Montreal this year proved of very special interest, owing to the important matters dealt with in the addresses of Sir Vincent Meredith, Bart., President and Sir Frederick Williams-Taylor, General Manager.

During the past year, Canada, along with the rest of the world, has been passing through very exceptional conditions and it is generally recognized that there are very many problems ahead that will have to be carefully worked out. Many of these problems are not confined entirely to Canada, as they relate to the exchange situation between this country and the United States. There is also the difficult undertaking of equitable taxation that must be worked out in Canada, and Sir Vincent Meredith made a suggestion in this connection which is sure to receive very careful consideration.

Sir Frederick Williams-Taylor made an interesting statement in connection with the policy followed by bankers during the war period, showing that there had been absolutely no profiteering whatever by the Banks of Canada, for the price of money had not been raised, and that alone of all commodities, the cost to the borrower of loanable funds of the banking institutions of this country remains unchanged. Sir Frederick also dealt particularly with the position of the Bank of Montreal and stated that it had never been in a healthier state than at present, and on this account was well prepared to meet any conditions and contingencies that might arise.

At the Annual Meeting of the Bank of Montreal, complete reports were submitted by the Superintendents of the Bank, dealing with trade and farming conditions in the various provinces of the Dominion. These reports cover the particular operations carried out in the various sections of the country, and on this account become of very special interest to the mercantile and farming communities desirous of keeping in touch with the important developments that are occurring throughout Canada.

We quote from the different reports as follows:—

Quebec.

The cut of lumber during the past season was not as large as usual. Practically all stocks have been sold and shipped out. Prices were high. Labour conditions show improvement and a larger cut is looked for this winter.

The demand for pulpwood from the United States was uneven, but stocks have been well disposed of and high prices are expected to be maintained.

The paper mills of the Province continue working to capacity, the demand for newsprint and better qualities of print papers exceeding the supply.

Manufacturing in nearly all lines has been generally satisfactory, although production is still limited by scarcity of skilled labour and raw materials.

Hay and cereal crops were average. Root crops were large, but potatoes suffered from rot. Pasturage was good, and dairy products will show an increase.

With the exception of asbestos, there is little mining done in the Province. Asbestos prices are good and shipments are well maintained.

The fur business has been good, and boot and shoe manufacturers find difficulty in supplying the demand.

Shipbuilding continues active, a number of large steel vessels having been launched from different yards during the year.

The wholesale and retail trade was most satisfactory; collections were good and failures show a decrease.

There have been no exceptional expenditures during the year by the Dominion or Provincial Govrnments and municipalities have limited disbursements to necessary works. Practically no railroad construction was undertaken.

There is very little speculation in real estate; values and rentals are both high.

General conditions, both in cities and rural districts, are good, with no apparent slackening in trade since the termination of the war. The housing problem is everywhere acute, and those dependent on a fixed nicome are seriously affected by the abnormal cost of all necessaries.

Ontario

Manufacturing in Ontario has been limited only by shortage of supplies and disturbances in labor. Government credits for goods sold to Europe have stimulated manufacturing, and domestic demands have been insistent. New industries have been started, and a number of successful manufacturing concerns in the United States have been making enquiries with the intention of locating in Ontario.

Ontaro farmers have been steadily bettering their position in recent years, installing modern equipment and improving their modes of living. The past year has been one of fair crops and high prices. A wet spring was followed by an exceptionally dry summer, and grain crops, with the exception of fall wheat, fell below the average. Root crops were good; corn and tomatoes were a record yield; the season was poor for all fruit except grapes. Cheese production showed a falling off. There is a shortage of hogs; sheep raising is on the increase. The cattle situation is somewhat unsettled, owing to the limited amount of feed available for carrying through the winter.

The production of lumber has been seriously reduced owing to shortage of labour. 1919 has been an excellent marketing year, with heavy sales to Great Britain and the United States, and a steady domestic demand for all classes of lumber. Prices have been unusually high, there is no accumulation of stocks on hand, and notwithstanding the scarcity of labour and increased costs of operating, the year has been a successful one. Pulp and paper have been in large and increasing demand, with soaring prices for the latter.

Mining production during the year has been curtailed. The demand for nickel fell off after the Armistice; strikes lessened the silver output. Both these situations are improving and larger production has taken place at the gold mines.

Both wholesalers and retailers report it easy to sell goods. Credits are shortened and bad debts negligible.

Larger expenditures ere generally made by municipalities this year in an effort to overtake works postponed during the war.

Population shows a general increase, with a tendency to drift to urban and manufacturing centres.

Values in real estate are steadily increasing. So little building took place during the war that there is now a general shortage, particularly in dwelling houses, and in consequence there is much activity in real estate and an improvement in the building trades.

There has been a continued extension in hydro-electric power during the past year, and works at Nipigon and Chippewa, as well as at other places less important, will, within the next two years add very largely to the available power for manufacturing and other purposes throughout Ontario.

Generally-speaking, the year has been one of great activity throughout the Province.

Maritime Provinces

The past fishing season has been successful, the catch being almost a record one. Prices are lower, however, and ocean transportation is still restricted. The American, West Indian and Southern Brazil markets will probably take most of the available supply.

The output of coal was below last year's figures, owing to a slackened demand, a shorter working day and labor unrest. Steel plants show a decreased output. The construction of the new plate mill at Sydney nears completion, and when in operation will be a factor of great importance commercially to the whole Dominion.

The lumber cut was above that of last year and has been largely sold to the British and French Governments at high prices. The demand is good from the United States, but sales have been curtailed owing to transportation difficulties. Labor is more plentiful and, notwithstanding high wages and the excessive cost of provisions, indications point to an average cut this coming winter.

The crop of hay and cereals was above the average. Root crops were again large, but potatoes were slightly damaged by rot. Fruit harvested in good condition was almost a record crop.

Manufacturing along conservative lines show steady progress.

Owing to continued excellent prices received for farm products, fish and lumber, and the high wage scale, both wholesale and retail trades have been good, with few and unimportant failures.

The Dominion Government expenditures have been largely confined to work on ocean terminals at Halifax and to the dry dock and breakwater at Courtenay Bay, St. John.

Provincial and municipal expenditures have been limited to necessary works.

A steel shipbuilding plant is being built at aHlifax, and four steamers are already in course of construction. Small wooden vessels continue to be built in Nova Scotia and New Brunswick, although the demand is not so good as a year ago.

Business in the Maritime Provinces has been little affected by the change from war conditions to those of peace and trade activity continues.

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Hamilton - Canada

SIXTH ANNUAL CONVENTION OF WOMEN'S INSTITUTES OF P. E. ISLAND

The Sixth Annual Convention of the Women's Institutes of P. E. I. was held in the Household Science Rooms of the Department of Agriculture, Charlottetown, Nov. 6th and 7th. There was a good attendance considering the very unfavorable weather. The Session opened with Miss Della Saunders, Supervisor of Women's Institutes for P. E. I. in the chair. After the singing of "O Canada" Hon. Walter M. Lea, Commission of Agriculture, welcomed the delegates to the city. He heartily congratulated the members of the Institutes for the splendid work accomplished by them during the war and said that if they had done nothing more thana this, their organizaztion had been well worth while. He then spoke of the marked improvements in the schools in all districts where the Institutes were operating . In closing Mr. Lea strongly urged the women to continue the good work for which the Women's Institutes were formed, to do all in their power to encourage education, to meet as often as possible and to make the most of the great opportunities which are before them.

The following reply to the Address of Welcome was given by Mrs. J. Lockhart, of New London.

The Hon. the Commissioner of Agriculture, Madam Chairman and Ladiees:

It is my privilege on behalf of the Women's Institutes of Prince Edward Island to reply to the address of welcome delivered by Hon. Walter M. Lea, and we thank him sincerely for his eloquent words of welcome and encouragement. We fear that owing to the lateness of the season at which the convention is beng held, that the attendance may not be as large as on former occasions, but we who are present mean to enjoy to the utmost the varied program provided for us, and hope to carry to our homes fresh inspiration, deeper enthusiasm and a fuller comprehension of the aims and ideals of which we are banded together.

Our last meeting in July 1918 was overshadowed by the awful war raging with an intensity unparalleled hitherto but now what a change. In a few days we celebrate the signing of the armistice when the thunder of the guns ceased, and although there is yet much fighting and bloodshed in war torn Europe and much unrest and turmoil in the home land, we pray God our beloved land may never again sound with the tramp of armed men, going forth to slay their fellow men. We rejoice that so many of our soldier lads have been spared to return to us, and for those who mourn young lives, who gave the fresh red wine of youth, that some small corner of a foreign land might be forever Canada," we can only commend them to Him who saith, "Greater love hath no man than this that a man lay down his life for his friends." Never before has such sorrow and sacrifice been borne and from the depths to which we have gone, may we rise in newness of life and go forward to nobler, better things. May we have a clearer conception of our duty and what the term Brotherhood stands for and a realization of the big things we can accomplish in unity of spirit.

During the four years when the war was raging, the women of our Institutes were wholly engrossed in war activities and Red Cross work and now that the war is over is there no further need for the Women's Institutes and kindred organizations? Apart from the money raised for patriotic purposes and knitting and other work accomplished for our soldier lads the Institutes have been a great help to our women, especially in isolated country districts. Our horizon has been broadened; women hitherto wholly engrossed in house work have begun to take an interest in something outside the home and in meeting together, motives and aims are better understood and each draws from the other support, encouragement and confidence, and although home interests will ever have first place in every true woman's heart, there are many interests touching the home that demand her attention. The school question is one of these, If the homes of the nation are her strongest forts, the schools of our country may be compared to training camps where young soldiers are trained for the battle of life, but one has only to drive through the country and note the dingy, neglected looking school buildings, in their unattractive surroundings, to realize how far short they are of what they should be, and see that there is work here that our women must take hold of. The school problem is the burning question in our province lately ,and we are gald to note that the government has granted the increase in salary asked for by the teachers' union but even with this increase, salary is still inadequate as the supplement in some districts is pitifully small, and we would urge on all Institute members to attend the annual meetings, and as women now have a vote in school matters, to see that a substantial increase is voted for teachers' supplements as well as for necessary improvements about the school.

We are glad to note that so many school fairs have been held during the year, and we hope that next year every district will be represented, thus deepening the interest of the parents as well as the children in the school, stimulating a healthy rivalry between the different districts and encouraging the pupils to take an interest in live stock and other forms of agriculture, so necessary in our province. Then we want compulsory education; medical inspection of schools, etc., but as these subjects may be discussed at this convention, we must close, thanking you again for the kind words you have spoken, and expressing the hope that confidence you have expressed ii us may not be misplaced.

Miss Saunders, Supervisor, then gave her report of the year's work. The following statistical statement was submitted:

Total receipts	$6,061.75
Spent for patriotic purposes	3,063.73
Spent for school improvements	343.68
Miscellaneous	1,046.76
Socks knit	2310 pairs
Mitts knit	250 pairs
Xmas boxes packed	225
Quilts made	15
Prioners of war supported	25
No. of Institutes organized	33
Total membership	750

Reports were then called for. These proved very interesting showing that the Societies have taken up many forms of community improvements since the need for Red Cross work is past. Pumps in the schools, new desks, hardwood floors, school room and outbuildings kept in a sanitary condition, school house painted, both inside and out, are some of the improvements noted. A number of the Societies have built and furnished a room in which to hold their meetings, while others have made improvements in the town hall, a few have even bought a piano for the public hall.

An interval of music followed and a paper was read by Mrs. Wm. Pendergast, of Hope River, on "Our Rural Schools and Communities."

At the close of the afternoon session the delegates were conveyed by autos to th Y. W. C. A., where they were the guests of the Board of Directors to Afternoon Tea and where a delightful social hour was spent.

The feature of the evening session was a splendid address by Capt. (Rev.) eGorge Taylor, on "Woman's Work in War and Peace," in which he paid a splendid tribute to the women of the Empire during the recent war. A song service of "Old Time Favorites" concluded the evening's programme.

At the Friday morning session, Mrs. J. H. MacDonald, of Souris West, presided. Miss Bona Mills, Secretary of the Y. W. C. A., Charlottetown, delivered an address on "Literature for Young People."

Mr. J. A. McFarlane of Napanee, Ont., had chilblains so bad that he couldn't wear boots. Egyptian Liniment relieved them. Don't suffer from chilblains this winter. This liniment is also for Frost Bites, Burns Scalds, Cuts, Bruises, Sore Chest and Throat, Neuralgia, etc.

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A MESSAGE TO WOMEN!!

Mrs. M. Summers, Box 309 Windsor, Ont.

Miss Mills said that the awakening of the girl in her teens to new phases of mental activity reveals itself in her passion for reading. The books which she has read have a tremendous influence on her mental life. Who helps the girls to satisfy their hunger for good reading? asked Miss Mills. With the exception of the old standards, comparatively few books are wholesome, fascinating, interesting and free from those problems, of which few women and no girls can dwell on with profit. Modern writers have given us few fine standard books. These, the older women should seek out and read and pass them on to the girls,, thus very definitely doing their part to protect and develop character. The books the girls read should be carefully chosen and adapted to real life. From fifteen to seventeen the girl's character is gradually being shaped. From this period emerges permanent personality. At this time the girl is responsive to any stimulus from the outside world. It is the period of greatest development of imagination. Girls in their teens are at the hero worshipping stage. Hence the literature she reads should be such as to give her a concrete ideal of womanhood. The world is full of noble, heroic, womanly women, and the girls need to know about them. It is very necessary that the girl should be able to choose both what is worth reading and what is not. To promote an interest in good reading, literary evenings might be arranged on such topics as "Making Books Your Friends," with favorite selecitons from books read and discussed. Miss Mills then dwelt on the place of poetry in the girl's life; the making of friends with famous women and other phases of her subject.

"Music as a Factor in the Home and Community" was the subject of an interesting paper read by Professor Watkis, Organist of St. James Presbyterian Church, Charlottetown.

In dealing with the outstanding characteristics of music, Professor Watkis pointed out that it is among other things educative. It is both an art and a science, although the greater majority of people do not think of music as being a science. After dwelling on the uplifting power of music an an aid to Divine worship, Professor Watkis spoke on its power to bring us into closer touch with God's creation. All nature is in harmony. It is full of melody and alive with divine rhythm.

Mr. Watkis then dwelt on music in the home, strongly denouncing the trashy music which is too often found there, and for which there is no excuse when good music can be so readily procured.

He then spoke of the need of musical instruction in the schools as part of the curriclum. To this end teachers should first be instructed in music at Prince of Wales College.

Mr. Campbell, Superintendent of Education, then spoke on "Better Rural Schools for P. E. I." Mr. Campbell said that the Educational problem in this Province, as well as in other provinces of Canada, is the problem of the Rural Schools. In cities, towns and villages where children are near the school where they are not required to work at home, and where graded schools are possible, conditions are more favorable for efficiently carrying on the work, than in the country. Out of 486 schools in P. E. I., 406 are one-room schools. These are in the rural districts. The teachers have many handicaps to contend with, such as unsanitary buildings, meagre equipment, irergularity of attendance, indifference of parents, etc. The securing of better schools is to some extent a question of money, but it is not wholly so.

Mr. Campbell pointed out that the parents can help by co- operating with the t eachers. They can assist in maintaining discipline by refraining from criticizing the teacher in the presence of the children. He also advocated emdical and dental inspection of the school children.

The Superintendent said he had a vision of what a Rural School should be. It should have at least two departments in charge of good teachers. There should be a good airy, well lighted basement which should be used by the pupils for a playroom in rainy weather. The building should contain a large, well furnished, Community Hall, also cloak rooms, a room fitted with a bench and a few tools for aMnual Training, a kitchenette for preparing hot lunches and teaching rudiments of Household Science. There should be a comfortable cottage for the teacher and a garden in which vegetables should be raised and the pupils receive instruction in Nature Study. Such a school would meet the needs of elementary education and should not be beyond our reach.

Our fathers and grandfathers, in the face of difficult conditions, organized school districts and built schools. We have been content to go on in the old way with little improvement over the old condition. In educational matters we have undoubtedly been a little slow but, "When a woman wills, she will" and if our women take up this subject for better schools and insist upon having them, Mr. Campbell was confident that in good time we would have tnem. Womens' Institutes are going to exercise a greater power than ever bfore in our schools, said Mr. Campbell. In closing he urged the womn to take advantage of the opportunities which are theirs and to make their Societies "Powers for Good" in their communities.

The closing session of the convention was held Friday afternoon. Miss McKenna, Assistant Supervisor, presided. The question box was first opene dand various questions asked brought forth interesting discussions.

The business of the convention was then dealt with. The program for the year and the work to be taken up by the Societies were discussd. Community Improvement and the Betterment of School Conditions were subjects much favored by the members.

Miss Saunders followed with a demonstration on "The School Lunch Box." She explained points as to the proper kinds of food for the school lunch, how to pack same and the best type of containers to use. The subject of "Hot Lunches" was also discussed and Miss Saunders expressed the hope that this work would be taken up by the Institutes.

The afternoon session was brought to a close by the serving of "Ideal School Lunches" to the delegates. This proved a very enjoyable part of the program and brought for many favorable comments.

The proceedings closed with the singing of the National Anthem.

In the evening the delegates were entertained at the Prince Edward Island Theatre.

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Jersey bull (registered) 1¼ years. Very fine stock, good size. Price $60.00.

Apply,

C. A. WEBSTER
YARMOUTH, N. S.

THE KEYSTONE DEHORNER

The Department of Agriculture has found that dehorning cows adds to their milking value. The KEYSTONE DEHORNER is mentioned in the 1915 report (page 131) as the most effective instrument for the purpose. Write for booklet.
R. H. McKenna, 219 Robert St., Toronto.

Advertise in the Farmer

WISH-TON-WISH STOCK FARM

Breeders of Big, Smooth, Heavy Producing Holsteins

The kind that fill big pails the year through. Can sell a few good bulls fit for service and some choice Bull Calves; also some Heifers and Cows due to freshen soon. Write or 'phone for description and prices.

HARDING BROS., Proprietors, WELSFORD, New Brunswick.

FOR SALE!

Our Shorthorns are about ready for the block. Parties wishing to start a herd can do so at reasonable prices from us. If not sold for breeding purposes, will go for beef. Both sexes, all ages. Come and see them before buying.

A few very nice Berks for sale.

L. M. ANDERSON, Sackville, N. B.

A VALUABLE SUGGESTION

Ellershouse, Dec. 19, 1919.
Maritime Farmer,
Sussex, N. B.

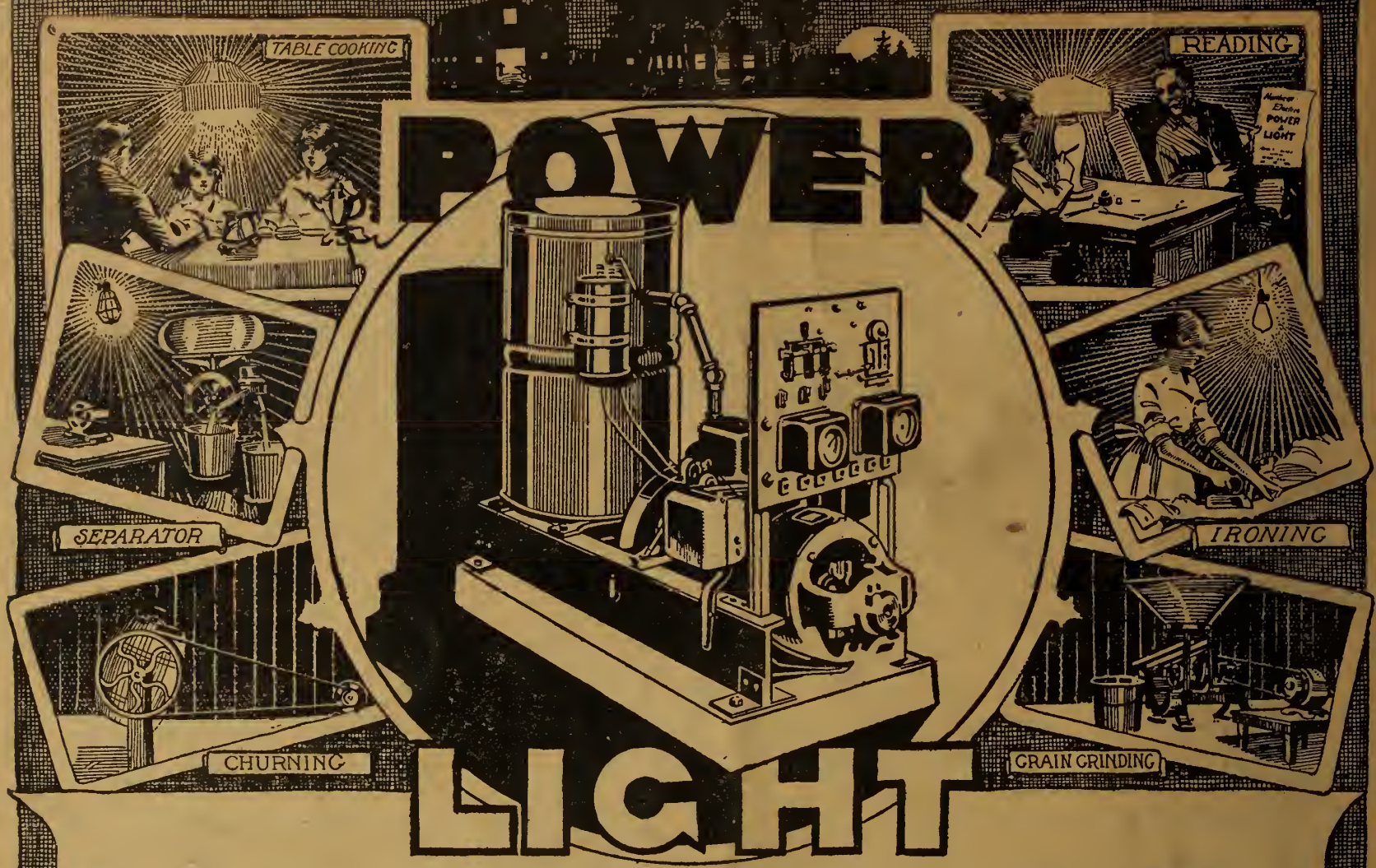
My Dear Sir:—One of the great losses of the country is the pure bred bull calves that go to the butcher for want of a sale; and the Society bulls also, to prevent in-breeding. What is needed, I think, is first, an "exchange" ad column in a farm paper, and second, that that paper should reach the officials of every agricultural society. I used to have some connection with the publicity business, and think that if you could get some sort of a bonus from the Nova Scotia Farmers Association, and some similar association in New Brunswick, and Prince Edward Island, you could send the Maritime Farmer to the Secretary or President of every Agricultural Society in Nova Scotia, New Brunswick and Prince Edward Island, at usual postage rates. Resultantly, it would make your advertising worth a great deal more because each of these societies are a potential buyer of registered stock.

Then, feature an "exchange" ad column, in which say the Lakeview Agricultural Society offers a registered Jersey bull, age, etc., stated in exchange for another bull of similar breed.

Second, you use your influence to get say the Provincial Farmers Associations to advertize for pure bred registered bull calves at 25% bonus above butcher's prices, plus cost of raising, and at the same time the Society offers to exchange through some local agent of theirs to supply to any farmer such a registered calf in exchange for a scrub bull calf, on a 25% bonus basis. That is, my $10.00 scrub calf is taken by the agent (and of course, sent at once to the butcher) and I pay a difference of $2.50 to him for a similar weight of registered bull calf.

Second—to any farmer that will undertake to keep her for six years, and breed to a registered same breed bull, and who has no pure bred registered cows or calves in his herd, a heifer calf in exchange; but perhaps at a bigger bonus. This to my mind is a much better way to get pure stock in the country than full grown bulls. With the Maritime Farmer going into every Society, and the Governments co-operating to provide pure stock, even if it has to breed some there could be made a mighty change in a few years.

Sincerely yours,
H. PERCY BLANCHARD.



As Sure as the Sun Sets in the West so Sure will you Need Electricity on the Farm

APART from altering international boundary lines, the war has shown farmers how to concentrate; how to devote their time and energy to big and important things. But what about the little jobs? Somebody has to do them; to turn the cream separator, churn, grindstone, grain grinder, saw wood, pump water, etc. These are the chores that the

Northern Electric POWER and LIGHT

will do for you. Jobs that take muscle and time from the big end of farm work. Then, too, there is the domestic side of farming. Electricity in the home means wholesome freedom from many daily drudgeries. It will run the washing machine, iron, vacuum cleaner, sewing machine, operate the toaster and many other electric household utensils. It will flood your house and outbuildings with a safe, bright, clean and economical light. No oil lamps or lanterns to bother with.

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NORTHERN ELECTRIC POWER and LIGHT is guaranteed absolutely reliable. Plenty of power; plenty of light. Progressive farmers all over Canada are buying the Northern Electric system because of its honest dollar-for-dollar value.

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May we send you some interesting illustrated leaflets? You are not obligated in any way. Fill in and return coupon today

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I want to know more about Northern Electric Power and Light. Please send me further particulars and literature, on the understanding that I in no way obligate myself to purchase.

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The MARITIME FARMER AND CO-OPERATIVE DAIRYMAN

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Published Twice-a-month in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., JANUARY 6, 1920 No 7.

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For better bread and more delicious pastry

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Your 180 page Cook Book, Postpaid, for which 20 cents is enclosed. .....

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A Very Valuable Book

THE VETERINARIAN

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The story of how treatment can best be administered is told in simple every day English that any person can understand and should be in the home of every farmer.

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The Maritime Farmer

Sussex, N. B.

CARBONATE OF LIME IN APPLE SYRUP; KEEPING CIDER

Why is powdered calcium carbonate or carbonate of lime used in making apple syrup? What is your idea of keeping apple cider? Is benzoate of soda or salicylic acid, one ounce to the barrel, 4 to 0 gal., advisable?5—W.M.

Carbonate of lime is added to the apple juice and the precipitate removed to reduce the acidity. It is a harmless addition, for, even if you get in too much, it is so insoluble that it is all filtered or strained out later, and you have a better syrup as a result.

Opinions differ as to the use of the preservatives you mention. We do not think they should be used if the cider is to be offered for sale, unless the fact is clearly stated to the buyer and even then there may be some local health regulation against it. But we are unable to share the prejudice against the preservatives when used in small amounts in cider or similar fruit juices for domestic use. The quantities which you quote are quite small, in fact rather too small to be much good unless the cider is very fresh indeed, and even if you doubled them you would not get as much of either acid in an ordinary drink of cider as you would if you ate a dish of cranberry sauce or chewed a few wintergreen leaves. It would be quite another matter if cider so preserved made up a large and regular portion of your daily diet. After all, the one sure preservative is heat, but the flavor of apple juice is so delicate that it is some what the worse for sterilization.

LIME AS A SOIL IMPROVER

Failure to produce good crops may result from a lack of the essential elements of plant food—nitrogen, phosphoric acid, potash, or because of unfavorable weather conditions disease or insects; but even with good culture, and with all requirements for a successful crop apparently met, the crop may be an economic failure because of the lack of limestone in the soil. More failures probably can be attributed to this lack than to any other single soil condition.

It is a well recognized fact that the basis of successful crop production centers around the clover plant. Failure to produce a good stand of clover may mean ultimate failure in farming operations. It is to insure a perfect stand of clover that lime is so important on very many farms.

Limestone wil not take the place of the essential elements furnished in stable manures and commercial fertilizers and it should be used in addition to these. Limestone corrects soil acidity so objectionable to the clover, furnishes a base essential for the development of food combinations suitable for the clover plant, supplies needed lime to the plants, and improevs the physical condition of the soil. That such is the case is amply demonstrated by many tests conducted at the Experimental Station, Kentville, where clover cannot be successfully grown without limestone, and where clover hay yields have been increased nearly 100 per cent. by an application of 2 tons per acre, all other conditions being similar, and subsequent crop yields increased nearly 25 per cent. because of this increased clover growth.

The clover plant benefits the soil for all future crops not only through improved mechanical soil condition resulting form the network of deep feeding roots decaying, but by furnishing nitrogen which has been extracted from the air in the soil by the nitrogen-fixing bacteria living on the roots of the clover plant which will flourish only on acid-free soils; not only will heavy soils be lightened and he made more drought-resistant, but light soils will be made more compact and rendered more retentive of moisture. Further, better aeration and more suitable soil condition for soil bacteria are brought about.

To illustrate the improvement, we may instance one series of plots where ground limestone was applied in 1914 aid 1917 at the rate of 2 tons per acre in the spring of these years and worked into the soil. Fertilizer was applied in 1914 and 1917 in equal amounts to each plot and, in the fall of 1916, 15 tons of good stable manure was applied evenly over both limed and unlimed areas. The area was rotated with potatoes, grain, clover. The soil was a sandy loam in a low state of fertility. The yield per acre was as follows:—

1914, potatoes, 76 bushels, 13 lbs.
1915, oats, 31 bushels, 24 lbs.
1916, hay, 666 lbs.
1917, potatoes, 302 bushels, 25 lbs.
1918, whteat, 23 bushels, 48 lbs.
1919, hay (largely timothy, first crop) 3,136 lbs.

The yield from the limed fertilized area was:

1914, potatoes, 86 bushels, 45 lbs..
1915, oats, 38 busels, 14 pounds.
1916, hay, 1,494, lbs.
1917, potatoes, 329 busels, 18 lbs.
1918, wheat, 30 bushels, 14 lbs.
1919, hay, (largely clover, first crop) 4,926 lbs.

There is a heavy stand of second growth clover on the limed area and a very light growth on the unlimed plots. The increase from liming was 38 bushels, 25 pounds potatoes, 7 bushels, 24 pounds oats, 6 bushels, 26 pounds wheat, and 2,618 pounds clover hay per acre.

From present indications more marked results will be obtained in future crops, as the physical condition of the soil has markedly improved.—W. S. Blair, Supt., Experimental Station, Kentville, N. S.

OUR APPLE FUTURE

The apple is king in the Annapolis Valley, and we are now gathering the fag end of the biggest crop we have ever had.

Our orchards have been taxed to the very limit, and our orchardists, will have to put back into their orchards vitality to replace what was used this season, or else the slump in the crop of 1920 will be enormous.

Orchards will have to be liberally fertilized, so as to ensure a vigorous an dhealthy growth, and nature will have to be assisted in the polination of the coming blossom.

The fact has been established that the Bee is our most efficient ally in that respect, and it is up to us to make uuse of all the Bees that can be secured, so that their work in our orchards may result in more fertility and consequently more thoroughly developed apples.

It has been established beyond question, that when the apple blossom is not sufficiently pollinized, the result is a poor dwarfed apple, that does not develop or mature; that is simply a useless incumbrance to the tree that bears, it, and that eventually lets it go in what is usually termed the June drop.

The Dominion Atlantic Railway is working hard to interest our growers in the value of the Bee, is showing films illustrating the matter, and showing them free all over our Valley, in fact in every community no matter how remote from the Railway, asking only that the people shall apply for them. They are also willing to assist the farmer to procure Bees so that it is all up to them, as to whether the present production increased from year to year, or whether we go back and accept just what nature gives us, while we fold our hands and look on.—Advertiser.

BORAX WITH POTASH INJURES CROPS

Many complaints regarding injury to crops apparently resulting from the use of potash from Searles Lake, Cal., recently have been received by the U. S. Department of Agriculture. The natural brine of this lake from which the potash salts are prepared contains a considerable amount of borax. Apparently one, at least, of the companies operating in the locality did not exercise sufficient care in the preparation of the potash and let out a considerable amount of potash salts in 1918 with a high percentage of borax, averaging probably 10 per cent. and in some samples going as high as 23 per cent. The department has been conducting investigations of the matter in the field whicr indicates the substantial corectness of many, at least, of the complaints. In some of the special fertilizer tests of the department where Searles Lake potash was used, injury, which apparntly was the direct result of the high percentage of borax, was clearly shown, while potash form some other sources showed beneficial effects upon the crops tested.

MAKE PLANS TO STORE AWAY SUPPLY OF ICE THIS WINTER

An ample supply of ice is of greater economic importance in the country home than in the city residence. Folks in the city can buy perishable supplies as needed, but the remoteness of many country homes from markets often makes it necessary to use canned, corned or smoked meats use canned, corned or smoked meat producs all through the seasons of the year when the table should be supplied with fresh meats.

In the country, ice is appreciated not only for its use in the preservation of fresh meats, butter and other table supplies, but it is well nigh invaluable in the production of high grade products.

Ice is a luxury which everywhere can be had almost for the gathering. The cost of harvesting and storing is not to be compared with the comfort that it brings. The cost of packed ice of course, varies in different localities, but on the average the total cost of harvesting, hauling, storing and packing is about $1 a ton.

With the natural advantages of abundant streams, lakes and ponds of clear, pure water and the cold winters there is little excuse for most farm homes not being equipped with facilitise for storing sufficient ice to last through every summer. The harvesting is done at a time of year when the men and teams are not too busy, and after the construction of a suitable ice house, the cost is insignificant.

Source of Supply

The stream or pond from which the ice is taken should be fed from a source free from contamination or pollution. If the stream is so sluggish that water weeds thrive in it, all vegetation must be removed to prevent its freezing in the ice. Decaying vegetation forzen in ice is objectionable because as the ice melts, the refuse is deposited in the ice box or refrigerator, making it dirty and dangerous to health. Ponds in which green spawn grows profusely can be rid of these pests by copper sulphate. The crystals can be placed in a cloth sack, hung to a pole and drained through the water until the salts are dissolved. One or two treatments at the rate of one pound to one hundred thousand gallons of water will keep down such growth and make the water clear and pure.

Cubic Formation Best

To keep well, ice must have a minimum surface exposed to air or to the packing material; it must have thorough insulation to protect it from heat and air; it must have good drainage and it must be packed to prevent as nearly as possible the circulation of air through the mass.

The more nearly the mass of ice approaches the solid cube, both in shape and texture, the easier with good drainage and insulation, will be the keeping problem. Experience has shown that the cube formation is the best. A mass of ice twelve by twelve by twelve exposes less surface than the same tonnage piled in any other form.

Farmers who have only a small quantity of ice to harvest will need only two saws, two ice tongs, two ice hooks and a pointed bar. In co-operating with neighbors to fill community houses, these tools may belong to individuals or the complete outfit might be bought by the community organization. The advisability of cutting square or oblong cakes must be decided by the harvester. Oblong cakes twenty-two by thirty-two inches have the advantage that they can be lapped so as to break joints as they are stored and thus reduce the possibility of air passages in the ice heap.

The function of an ice house is to prevent outside heat from passing into the interior and melting the ice; such passage by interposing in the walls a material which will resist its transfer from the outer to the inner side of the building. The best insulators appear to be those containing the greatest amount of entrapped air confined in the smallest possible spaces. No entrance should be allowed near the ground line as the cold currents of air at the bottom will filter through.

Insulation is Needed

If the foundation and walls are air tight at the bottom, an opening at the top has little effect as, when the warm air enters it will remain at the top of the room. A layer of insulating material should be placed on the floor and the ice stacked on it. There shoul also be a layer between the ice and the walls. Ice should never be stored directly on the ground which is a conductor of heat, especially when wet, as all ice house floors are sure to be. Planing mill shavings are better than sawdust for insulating. They are elastic, they do not settle rapidly and do not absorb moisture and most important, are free from dirt. There are several makes of commercial insulator which are better than either sawdust or shavings and cheaper in the end, but their initial cost is somewhat greater.

Thorough drainage is esstnial. If the floor is below the level of the ground, sufficent drainage usually can be obtained through the soil, especially if the soil is porous. With a clay soil, it may be necessary to excavate a foot or two and fill in with cinders or gravel and to place a three inch porous tile under the floor. This drain should be properly trapped or sealed to prevent warm air from enteing the floor. All floors should slope towards the centre of the floor to prevent the ice from falling against the walls of the building and in houses having water-tight floors, to carry the water to the drain.

There is bound to be some melting of ice, causing moisture to settle on the walls and ceiling. If the building is of wood, it absorbs the moisture and rot and decay follow, so wooden houses should have a ventilating system that can ve controlled. The ceiling should be sloped to the centre in order to carry the warm moisture laden air to the ventilator. In houses with some form of commercial insulation that will take a cement finish on the interior no ventilation is necessary. The building should be constructed so that there will be a circulation of air through the outer walls and at the eaves to the ventilator on the roof as these air currents tend to break up heat radiation through the walls and roof.

Quantity of Ice Needed

Owing to the different conditions under which ice is handled, the locations of the buildings and the quantity packed, there is a wide variation in shrinkage. Generally speaking it will take a ton and half of ice to cool the milk from each cow. From forty to fifty cubic feet of space are needed for a ton of packed ice. About 50 per cent. more ice should be packed than actually is needed. This amount will allow for a heavy shrinkage and for generous household use.

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTESED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 25. SUSSEX, NEW BRUNSWICK, JANUARY 6, 1920. Number 7.

Canadian Guernsey Breeders in Annual Convention

The annual meeting of The Canadian Guernsey Breeeders' Association was held in the Winter Fair Building, Amherst, N. S., on Wednesday, December 17th, at 2.30 p. m. T. D. Bates, Brookfield, N. S. president of the Association, occupied the chair and H.W. Corning, the energetic secretary of the Club was also on hand to boost the breed of which he is one of the foremost breeders in Canada. The Guernsey Breeders' Association is Domnion wide in character and the Maritime enuthsiasts were pleased to welcome to the convention their Honorary President, Hon. Sidney Fisher, of Quebec, who has been for many years an ardent admirer and breeder of good Guernseys. Mr. Eric Fisher, a nephew of the Honorary President, who is also a breeder of Guernseys, was warmly welcomed by the Maritime boys.

The minutes of the last annual meeting and financial statement were read and approved. The financial statement showed a credit balance of $491.75.

Dr. M. Cumming, who was the first speaker, told of the proposed establishment at Nappan Experimental Station of a herd of Guernseys and referred to the increasing popularity of the breed The demand for Guernseys as family cows was ever on the increase and as a consequence there should be many more breeders of Guernseys in Nova Scotia than there are at present. He was glad to note an increase in the inter-provincial trade in Guernseys. This should be encouraged, for the breders who wll make some good sales will surely progress and introduce new blood into their herds.

Capt. Hugh Dickson, who took up the discussion was pleased to know that a herd was to be established at Nappan, but he thought the Associa tion would be well advised to keep on calmoring for the establishing of a herd on the College Farm, Truro, where the merits of the breed could best be advertisd.

Hon. Sidney Fisher, the next speaker, said he was just as enthusiastic a breeder as when he first started with Guernseys. He had tried other breeds, one herd of which he had contrasted for ten years with his Guernseys with the result that the Guernsey herd had remained in sole possission of his dairy stables. He had been unfortunate in getting one or two imported animals that were the means of polluting his entire herd which had to be destroyed, thus causing inconvenience and loss. Not discouraged, however, he cleaned his stables, purchased disease free individuals and is again building up a herd with a clean bill of health.

His observation, after visiting many herds on the American side of the line is that the breeders to the south of Canada are going in for a bigger and stronger type. The pale fawn color is more fashionable than the darker shades. Canadian breeders should pay more attention to conformation and business capacity as indicated by the scale of points, generally recognized desirable in a good cow.

Production, he said, is dependent, to a great extent, on abundance of well balanced rations and good care. The ill nurtured cow can not be a vigorous cow nor can she produce profitably. Farmers must learn to feed judiciously of the best feeds available. The breeder who can grow turnips should feed them liberally as the cow that receives a fair share of roots can handle the heavier feeds most profitably.

There is a big boom on in the Guernsey circles of the United States and Canadian breeders should pattern after the sucessful breders over there by paying more attention to advertising, a feature that is of as much importance to the breeding business, as it is to the devottes and handlers of any other commodity.

Breeders should keep their advertisements continuously in the farmer journals and should aim to answer all correspondence promptly.

Many of the larger herds across the border are in the hands of wealthy owners, who look upon them as play things and who know little about them. This is not in the best interests of the breed and consequently prices range too high. The smaller breeders are the men who take the most interest in improvement lines and it is from men of this stamp that animals of merit may be purchased at comparatively reasonable prices. Canadian breeders, should not delay in patronizing breeders such as these and introduce new blood of the larger, stronger type into their herds.

Mr. Fisher has been a member of the American Guernsey Cattle Club for thirty years and at present has the distinction of being the Vice-President of that organization.

While the Canadian Guernsey Cattle Club recognizes the records of the American Guernsey Cattle Club, this recognition is not receprocated. A committee has, however, been recently appointed by the American Club to meet a committee from the Canadian Club re ways and means whereby the recognition may become mutual.

In conclusion Mr. Fisher referred to the benefits that will follow in the wake of international registration. He advised Maritime breeders to advertise, boom the breed, study records, import new blood by sending a delegation to purchase eight or ten good sires and finally to show their stock at the fairs further west.

The secretary referred to the support he had always found so willingly given by the Honorary president. The present system of National Live Stock Records he said was inaugurated while Mr. Fisher was Canada's Minister of Agriculture at Ottawa.

At this juncture a unanimous vote of thanks was tendered Mr. Fisher for his stimulating and timely advice..

Mr. Corning asked Mr. Fisher to give the meeting an idea of the work that is done in the Record of Performance work by his herd, in reply to which the following figures were given:

One cow had given 10,100 lbs. milk yielding 436 lbs. fat in 9 months Another cow gave 9,000 lbs milk; 415 lbs. fat in 9 months, and another 10,000 lbs. milk; 455 lbs. fat in 8 months, and they are still going strong. Mr. Fisher hinted in passing that these cows had been bred in Nova Scotia. These records and subsequent remarks were greeted with a hearty round af applause.

A telegram from Mr. McSloy, one of Ontario's foremost Guernsey breeders, expressing regrets for not being able to attend the Annual meeting was read by the Secretary.

A resolution was passed thanking the American Cattle Club for publicity work now being carried on by them in Canadian journals.

Another resolution, following Mr. Fisher's suggestion was that the Canadian Guernsey Club also inaugurate a publicity campaign by taking permanent space in farm magazines.

Hon. Sidney Fisher, H. W. Corning and the Club's representative at the National Live Stock Records office be a committee to meet the American Club's committee re mutual recognition of international registration.

Mr. Eric Fisher expressed his pleasure at being present. He had only recently started in the business of Guernsey breeding but he hoped to follow lines of progress with the breed he had so long admired.

In recognition of Capt. Hugh Dickson's services for his King and Country during which he has had the distinction of having a German bullet pass through his head and still live to again take up the breeding of Guernsey cattle, he was made an Honorary member of the Club.

The officers elected for the ensuing year are:

Hon. President—Hon. Sidney Fisher

President. — Capt. Hugh Dickson, Truro.

Vice-President—Jas. F. Roper, Charlottetown, P.E.I.

Directors—J. A. McSloy, St. Cathrines, Ont.; Wm. Bamford, Chilliwack, B. C.; Eric Fisher, Bolton Centre, P. Q.; Allie McKay, Scotsburn, N. S., and Barry Hill, Great Village, N. S.

Robert Robertson, a former superintendent of the Experimental Station at Nappan and a practical Guernsey judge emphasized the necessity of breeding for vigor, constitution and capacity. "Get the pretty big cow not the pretty little cow" was his parting advice.

Dr. L. H. Price, of Moncton, expressed his pleasure at hearing so many good things about the breed which he has recently chosen on which to centre his breeding operations.

H. R. Brown of the Dominion Cow Testing Association gave a short talk on the value of keeping records. Agricultural Societies and farmers are frequently inquiring where good bulls may be purchased. It is only the bulls offered for sale by breeders who keep records that can be recommended. He strongly advised breeders when making sales to advise the purchasers to keep records of the production of the individuual members of their herds.

Hon. Sidney Fisher heartily approved of the suggestions offered by Mr. Brown, as he believed The Cow Testing Association was responsible for more improvement in the dairy herds of Canada than any other agency. Cow Testing and the keeping of records lead to better business methods in the other branches of farm work. Cow Testing, he said, also creates markets for good pure bred stock.

Mr. Fisher strongly advised the breeders to dispose of inferior animals and in no case offer them as breeders.

Secretary Coring and Prof. M. Cumming also had words of commendation for Mr. Brown and the work he is doing.

Allie McKay was appointed to act with the President and Secretary as the Executive Board of the Association.

The Record Board Committee appointed consists of the President and the Secretary.

Hon. Sydney and Mr. Dawson of the National Live Stock Records office were appointed representatives to the Toronto and Ottawa Fairs' Boards.

Mr. Fisher intimated that a class for Guernseys had once again been placed in the Ottawa Fair prize list, and he advised Eastern breeders to make as good a showing as possible there next fall.

Mr. Fisher, Mr. McSloy and the Secretary were appointed a committee on full fairs circuits in Ontario and Quebec.

Notes of encouragement from Guernsey circles was the theme of a few remarks by the president elect, Hugh Dickson.

Among the encouraging features noted were:—

The purchase of a 17,000 lb. Guernsey cow by Mr. McSloy.

The splendid records being made by Hon. Sidney Fisher's herd.

The purchase of a new bull by the Secretary—an animal costing well into the four figures.

Allie McKay's herd header, imported from the Island of Guernsey, whose dam had a record of upwards of 14,000 lbs. milk.

The good work being done by Messrs. Milligan in Roy Island, Pictou County.

The purchase of a bull of high quality and producing ancestry by The South Berwick Agricultural Society from parties across the line, at a higher price than was ever paid for a bull by any Agricultural Society in Nova Scotia.

(Continued on page 231)

Result of the 72 Hour Dairy Test at the 1919 Maritime Winter Fair

Explanation of Terms:—Class and Section, Breed, Cow's Name, Registration Number, Days Milking, Total Score, Award, Owner's Name.

	Mkg.	Lbs. Milk	% Fat	Lbs. Fat	% S.N.F.	Lbs. S.N.F.
	1	8.7	3.3	.28	9.4	.81
Class 14—Sec. 1	2	9.3	3.7	.34	8.8	.81
Shorthorn	3	9.3	3.6	.33	8.6	.79
Miss Springvale 4th	4	9.3	4.0	.37	8.5	.79
104924..	5	9.1	4.0	.36	8.6	.78
	6	8.8	4.0	.35	8.6	.75
101.58	7	9.3	4.1	.38	8.6	.79
Second	8	9.6	4.0	.38	8.4	.80
Geo. M. Holmes	9	9.7	4.4	.42	8.2	.79
		83.1		3.21		7.11
	1	9.	2.9	.26	9.4	.84
Class 14—Sec. 1	2	9.5	3.5	.33	9.1	.86
Shorthorn	3	9.8	3.4	.33	8.7	.85
Miss Springvale 5th	4	9.8	3.4	.33	8.4	.82
115866	5	9.4	3.7	.34	8.5	.79
	6	9.5	3.6	.34	8.1	.76
92.98	7	9.3	3.3	.30	8.3	.77
Third	8	9.4	3.2	.30	8.0	.75
Geo. M. Holmes	9	9.0	3.7	.33	8.1	.72
		84.7		2.86		7.16
	1	21.5	4.2	.90	9.5	2.04
Class 15—Sec. 1	2	22.9	4.5	1.03	9.1	2.08
Ayrshire	3	21.8	5.0	1.09	9.0	1.96
Gardrum White Floss	4	21.7	4.5	.97	8.6	1.86
50306	5	21.8	4.1	.89	8.6	1.87
	6	22.5	4.2	.94	8.5	1.91
270.97	7	22.3	4.2	.93	8.6	1.91
First and Champion	8	22.2	4.3	.95	9.1	2.02
N. S. Agricultural College	9	21.4	4.9	1.04	8.6	1.84
		198.1		8.74		17.49
	1	17.9	3.7	.66	9.5	1.70
Class 15—Sec. 1	2	18.6	4.1	.76	9.1	1.69
Ayrshire	3	17.8	3.8	.67	9.3	1.65
Dot of Springvale	4	18.7	3.6	.67	9.3	1.62
	5	18.6	3.7	.68	8.7	1.65
	6	18.4	3.6	.66	8.9	1.68
199.17	7	19.5	3.7	.72	8.8	1.71
Second	8	18.6	3.5	.65	9.0	1.67
F. S. Black	9	18.9	3.8	.71	8.6	1.62
		167.0		6.18		14.89
	1	16.9	4.2	.70	8.8	1.48
Class 15—Sec. 1	2	16.6	4.0	.66	8.6	1.42
Ayrshire	3	16.3	4.2	.68	8.6	1.43
Princess	4	17.5	4.0	.70	8.2	1.43
35896	5	17.9	4.2	.75	8.5	1.52
	6	16.5	4.4	.72	8.4	1.38
195.11	7	16.4	4.1	.67	8.5	1.39
Third	8	16.6	4.0	.66	8.6	1.42
Bert R. Brown	9	16.5	4.4	.72	8.5	1.40
		151.2		6.26		12.87
	1	18.6	3.8	.70	9.0	1.67
Class 15—Sec. 1	2	17.2	3.2	.55	8.7	1.49
Ayrshire	3	17.4	4.3	.74	8.8	1.53
Fairview Queen 2nd	4	17.1	4.1	.70	8.1	1.38
43900	5	17.5	3.6	.63	8.3	1.45
49	6	17.5	3.9	.68	8.1	1.41
193.52	7	18.0	4.0	.72	8.2	1.47
Fourth	8	17.0	3.8	.64	8.7	1.47
A. McRae & Sons	9	17.4	4.1	.71	8.2	1.42
		157.7		6.07		13.29
	1	14.8	3.3	.48	8.9	1.31
Class 15—Sec. 1	2	15.4	3.2	.49	8.8	1.35
Ayrshire	3	15.9	3.6	.57	8.6	1.36
Morine	4	15.4	3.4	.52	8.3	1.27
40927	5	15.9	4.0	.63	8.6	1.36
83	6	15.2	4.1	.62	8.5	1.29
167.80	7	15.6	3.8	.59	8.6	1.34
Fifth	8	15.3	3.8	.58	8.6	1.31
McIntyre Bros.	9	14.7	4.2	.61	7.9	1.16
		138.2		5.09		11.75
	1	16.8	3.1	.52	9.0	1.51
Class 15—Sec. 1	2	16.7	2.9	.48	8.8	1.46
Ayrshire	3	16.9	3.0	.50	9.0	1.52
Eastcourt Primrose	4	17.8	3.1	.55	8.2	1.45
37620	5	16.9	3.3	.55	8.6	1.45
	6	17.1	3.2	.54	7.6	1.29
164.59	7	16.6	4.0	.66	8.4	1.39
Sixth	8	15.9	3.8	.60	8.4	1.33
John Retson	9	16.7	3.9	.65	8.3	1.38
		151.4		5.05		12.78

	Mkg.	Lbs. Milk	% Fat	Lbs. Fat	% S.N.F.	Lbs. S.N.F.
	1	13.2	3.8	.50	10.0	1.32
Class 15—Sec. 1	2	13.1	4.1	.53	9.5	1.24
Ayrshire	3	13.6	4.5	.61	10.5	1.42
Mita of S. V. 2nd	4	13.5	4.2	.56	9.4	1.26
48507	5	13.7	4.2	.57	9.4	1.28
	6	14.4	4.1	.59	8.9	1.28
162.93	7	14.5	4.0	.58	9.1	1.31
Seventh	8	14.4	3.8	.54	9.3	1.33
F. S. Black	9	16.0	3.9	.62	8.6	1.37
		126.4		5.10		11.81
	1	15.3	3.2	.48	8.2	1.25
Class 15—Sec. 1	2	15.2	3.5	,53	8.6	1.30
Ayrshire	3	15.4	3.7	.56	8.7	1.33
Bessie 4th	4	15.3	3.4	.52	8.0	1.22
41953	5	15.5	3.5	.54	8.2	1.27
90	6	15.7	3.7	.58	8.0	1.25
157.60	7	15.4	3.4	.52	8.1	1.24
	8	14.9	3.3	.49	8.1	1.20
McIntyre Bros.	9	14.9	3.4	.50	7.7	1.14
		137.6		4.72		11.20
	1	9.9	4.6	.45	9.1	.90
Class 15—Sec. 1	2	10.8	4.6	.49	8.8	.95
Ayrshire	3	10.0	5.0	.50	9.3	.93
Queen's Own	4	10.2	4.8	.48	8.6	.87
35898	5	11.4	4.8	.54	8.8	1.00
232	6	10.9	5.4	.58	8.9	.97
147.05	7	10.5	4.7	.49	8.8	.92
	8	10.4	5.2	.54	9.4	.97
Bert R. Brown	9	9.6	4.9	.47	8.8	.84
		93.7		4.48		8.35
	1	15.7	3.5	.54	9|0	1.41
Class 15—Sec. 1	2	16.1	3.6	.57	8.9	1.43
Ayrshire	3	15.4	3.6	.55	8.9	1.37
Gardrum Daisy Queen	4	14.2	3.6	.51	8.0	1.13
27202	5	9.8	4.6	.45	8.2	.80
37	6	10.2	4.2	.42	7.9	.80
135.17	7	9.4	4.3	.40	8.0	.75
	8	10.0	4.0	.40	8.2	.82
John Retson	9	8.7	5.0	.43	8.4	.73
		109.5		4.27		9.24
	1	16.0	4.2	.67	9.1	1.45
Class 15—Sec. 2	2	16.6	3.9	.64	8.8	1.46
Ayrshire	3	17.2	4.3	.73	9.0	1.54
Lady Huntley	4	16.1	4.4	.70	8.4	1.35
59090	5	15.3	3.6	.55	8.6	1.31
53	6	15.0	3.6	.54	8.5	1.27
182.01	7	16.8	3.7	.62	8.5	1.42
First	8	15.6	3.8	.59	8.4	1.31
Geo. L. Boswall	9	14.6	4.6	.67	8.3	1.21
		143.2		5.71		12.32
	1	12.5	3.7	.46	9.4	1.17
Class 15—Sec. 2	2	12.4	4.2	.52	9.2	1.14
Ayrshire	3	11.9	4.3	.51	9.3	1.10
Beauty of Brightside	4	13.1	3.7	.48	8.4	1.10
49252	5	13.0	3.7	.48	8.8	1.14
	6	13.0	3.8	.49	8.8	1.14
140.01	7	13.1	3.6	.47	8.9	1.16
Second	8	13.0	3.8	.49	8.9	1.15
Bert R. Brown	9	12.4	3.9	.48	8.7	1.07
		114.4		4.33		10.17
	1	12.0	3.4	.40	8.8	1.05
Class 15—Sec. 2	2	12.3	3.6	.44	8.9	1.09
Ayrshire	3	12.3	3.7	.45	9.1	1.11
Springbrook Daisy	4	12.6	3.8	.47	8.4	1.05
55909	5	12.5	3.6	.45	8.5	1.06
88	6	13.6	3.8	.51	8.4	1.14
138.79	7	13.4	3.6	.48	8.5	1.13
Third	8	13.3	3.6	.47	8.5	1.13
McIntyre Bros.	9	12.9	3.7	.47	8.3	1.07
		114.9		4.14		9.83
	1	13.2	3.7	.48	9.0	1.18
Class 15—Sec. 2	2	12.0	3.8	.45	9.0	1.08
Ayrshire	3	12.2	4.2	.51	9.2	1.12
White Heather	4	12.4	3.5	.43	8.5	1.05
57215	5	12.9	3.8	.49	8.9	1.14
36	6	12.9	4.0	.51	8.4	1.08
136.95	7	13.4	3.3	.44	8.6	1.15
Fourth	8	13.0	3.8	.49	8.7	1.13
Geo. Retson	9	12.2	3.8	.46	8.4	1.02
		114.2		4.26		9.95

	Mkg.	Lbs. Milk	% Fat	Lbs. Fat	% S.N.F.	Lbs. S.N.F.
	1	10.2	4.7	.47	9.7	.98
Class 15—Sec. 2	2	9.8	4.6	.45	9.3	.91
Ayrshire	3	10.0	5.0	.50	9.6	.96
Mapleburg Lady	4	10.3	4.5	.46	9.2	.94
50238	5	11.0	4.3	.47	9.3	1.02
	6	11.9	4.4	.52	9.1	1.08
136.92	7	12.1	4.6	.55	9.3	1.12
Fifth	8	11.1	4.4	.48	9.3	1.03
Roy W. Stephen	9	11.8	4.1	.48	9.4	1.10
		98.2		4.38		9.14
	1	9.9	4.4	.43	8.8	.87
Class 15—Sec. 2	2	9.7	4.3	.41	8.9	.86
Ayrshire	3	10.1	4.5	.45	8.9	.89
S. B. Nellie 3rd	4	10.3	4.1	.42	8.4	.86
48166	5	10.2	4.2	.42	8.4	.85
95	6	10.5	4.2	.44	8.5	.89
125.25	7	9.4	4.1	.38	8.7	.81
Sixth	8	10.1	4.5	.45	8.7	.87
McIntyre Bros.	9	10.0	4.2	.42	8.5	.85
		90.2		3.82		7.75
	1	8.9	4.0	.35	9.0	.80
Class 15—Sec. 2	2	8.9	4.1	.36	9.0	.80
Ayrshire	3	9.3	4.2	.39	9.0	.83
S. B. Orange Lily	4	9.5	4.0	.38	8.6	.81
59361	5	9.8	3.9	.38	8.4	.82
216	6	10.2	3.8	.38	8.3	.84
114.71	7	9.5	3.8	.36	8.6	.81
	8	9.7	3.7	.35	8.5	.82
McIntyre Bros.	9	9.6	3.8	.36	8.3	.79
		85.4		3.31		7.32
	1	11.1	3.1	.34	8.7	.96
Class 15—Sec. 3	2	11.5	3.0	.34	8.5	.97
Ayrshire	3	12.1	3.4	.41	8.6	1.04
Ruby of Melrose	4	12.8	3.7	.47	8.0	1.02
63675	5	11.8	3.6	.42	8.3	.97
47	6	13.0	3.5	.45	8.0	1.04
117.45	7	12.0	3.3	.39	8.2	.98
First	8	11.6	2.4	.27	8.4	.97
A. McRae & Sons	9	12.9	3.6	.46	8.2	1.05
		108.8		3.55		9.00
	1	11.2	4.4	.49	9.5	1.06
Class 15—Sec. 3	2	10.1	4.0	.40	9.5	.95
Ayrshire	3	11.0	4.4	.48	9.5	1.04
Flavia of Willow Farm	4	10.1	4.3	.43	8.6	.86
55662	5	9.4	4.1	.38	8.7	.81
	6	8.4	4.3	.36	8.9	.74
115.40	7	9.1	4.7	.42	8.8	.80
Second	8	8.0	3.8	.30	9.0	.72
John Retson	9	9.6	4.4	.42	8.6	.82
		86.9		3.68		7.80
	1	9.5	4.1	.38	9.4	.89
Class 15—Sec. 3.	2	9.4	4.2	.39	9.4	.88
Ayrshire	3	9.3	4.5	.41	9.5	.88
Spottie of S. V.	4	9.6	4.0	.38	8.5	.81
59101	5	9.0	4.0	.36	9.1	.81
34	6	9.4	4.2	.39	8.7	.81
112.29	7	9.7	4.0	.38	8.6	.83
Third	8	10.0	4.3	.43	8.7	.87
F. S. Black	9	9.9	4.5	.44	8.6	.85
		85.8		3.56		7.63
	1	10.5	3.5	.36	9.1	.95
Class 15—Sec. 3	2	10.7	3.4	.36	9.1	.97
Ayrshire	3	10.7	3.6	.38	9.2	.99
Over 100 Spots	4	11.1	3.4	.37	8.4	.93
61397	5	10.4	3.3	.34	8.6	.89
50	6	9.7	3.4	.32	8.6	.83
102.29	7	9.1	3.3	.30	8.9	.80
Fourth	8	9.2	3.4	.31	8.6	.79
John Retson	9	9.4	3.5	.32	8.4	.78
		90.8		3.06		7.93
	1	9.7	3.5	.33	9.6	.93
Class 15—Sec. 3	2	9.4	3.3	.31	9.3	.87
Ayrshire	3	9.5	3.6	.34	9.2	.87
Springbrook Mora	4	10.0	3.5	.35	8.5	.85
55910	5	9.8	3.7	.36	8.7	.85
	6	9.7	4.0	.38	8.6	.83
101.56	7	10.0	3.8	.38	8.8	.88
Fifth	8	9.2	3.7	.34	9.1	.83
McIntyre Bros.	9	9.9	3.5	.34	8.7	.86
		87.2		3.13		7.77
	1	10.5	4.0	.42	9.1	.95
Class 15—Sec. 4	2	9.8	4.1	.40	9.0	.88
Ayrshire	3	10.6	4.4	.46	8.9	.94
Brightside Bessie	4	11.0	4.6	.50	8.3	.91
6998i	5	10.7	4.4	.47	8.6	.92
	6	10.2	4.4	.44	8.6	.87
119.05	7	9.6	4.0	.38	8.5	.81
First	8	9.2	4.3	.39	8.7	.80
Bert R. Brown	9	9.2	4.0	.36	8.4	.77
		90.8		3.82		7.85

	Mkg.	Lbs. Milk	% Fat	Lbs. Fat	% S.N.F.	Lbs. S.N.F.
	1	10.2	3.4	.34	9.0	.91
Class 15—Sec. 4.	2	10.2	3.5	.35	9.1	.92
Ayrshire	3	10.1	3.8	.38	9.0	.90
Springbrook Fancy	4	10.5	3.5	.36	8.5	.89
65214	5	10.5	3.8	.39	8.6	.90
	6	10.6	3.7	.39	8.4	.89
106.16	7	10.5	3.5	.36	8.5	.89
Second	8	10.1	3.8	.38	8.6	.86
McIntyre Bros.	9	10.1	3.4	.34	8.1	.81
		92.8		3.29		7.97
	1	26.5	3.5	.92	9.0	2.38
Class 16—Sec. 1	2	25.8	3.1	.79	8.8	2.27
Holstein	3	25.3	3.4	.86	8.8	2.22
Cobequid Helbon Nellie	4	26.	3.2	.83	8.0	2.08
18471	5	27.1	3.0	.81	8.2	2.22
32	6	26.0	3.5	.91	8.4	2.18
257.07	7	26.4	3.6	.95	8.6	2.27
First	8	26.6	3.4	.90	8.1	2.15
Arthur Dickie	9	26.0	3.6	.93	7.8	2.02
		235.7		7.90		19.79
	1	25.3	3.4	.86	8.8	2.22
Class 16—Sec. 1	2	23.5	3.3	.77	8.9	2.09
Holstein	3	24.0	3.3	.79	9.0	2.16
Belle Dew Drop 7th	4	24.9	3.4	.84	8.4	2.09
22490	5	24.6	3.4	.83	8.4	2.06
	6	24.6	3.5	.86	8.1	1.99
244.37	7	21.5	3.5	.75	7.9	1.69
Second	8	22.0	3.9	.85	7.5	1.65
P. S. Bremner & Son	9	26.5	4.0	1.06	7.9	2.09
		216.9		7.61		18.04
	1	24.7	3.1	.76	8.4	2.07
Class 16—Sec. 1	2	24.0	3.0	.72	8.2	1.96
Holstein	3	25.1	3.2	.80	8.3	2.08
Princess Posch Colantha	4	24.	2.8	.67	7.6	1.82
37612	5	26.	2.9	.75	7.6	1.97
36	6	25.7	3.1	.79	7.0	1.79
218.47	7	25.5	2.8	.71	7.4	1.88
Third	8	24.4	3.0	.73	7.2	1.75
Fowler Bros.	9	24.0	3.1	.74	7.2	1.72
		223.4		6.67		17.04
	1	18.4	3.4	.62	9.2	1.69
Class 16—Sec. 1	2	18.6	3.5	.65	8.9	1.65
Holsteins	3	19.6	3.6	.70	8.6	1.68
Cobequid Mercena Fayne	4	19.5	3.5	.68	8.2	1.59
31750	5	20.	3.6	.72	8.6	1.72
	6	19.4	3.5	.67	7.9	1.53
199.53	7	19.8	3.5	.69	8.4	1.66
Fourth	8	20.9	3.4	.71	8.1	1.69
Dickie Bros.	9	20.5	3.8	.77	7.6	1.55
		176.7		6.21		14.76
	1	12.	3.8	.45	9.3	1.11
Class 16—Sec. 1	2	12.4	3.9	.48	8.9	1.10
Holstein	3	12.4	4.0	.49	9.0	1.11
Lady Belle Mercedes	4	12.1	3.9	.47	8.5	1.02
28243	5	12.5	4.0	.50	8.4	1.05
278	6	11.7	4.1	.47	8.5	.99
145.24	7	12.0	4.0	.48	8.2	.98
Fifth	8	12.4	4.1	.50	8.0	.99
R. L. Hicks	9	12.0	3.8	.45	8.2	.98
		109.5		4.29		9.33
	1	13.2	2.8	.36	8.7	1.14
Class 16—Sec. 1	2	12.4	2.7	.33	8.4	1.04
Holstein	3	12.5	3.0	.37	8.5	1.06
Pauline Hartog	4	13.1	2.8	.36	7.9	1.03
20879	5	12.7	2.7	.34	9.5	1.20
	6	12.0	3.0	.36	8.2	.98
107.23	7	12.5	3.1	.38	8.1	1.01
Sixth	8	11.8	2.7	.31	7.9	.93
Dickie Bros.	9	12.5	2.8	.35	8.2	1.02
		112.7		3.16		9.41
	1	28.	3.4	.95	8.6	2.40
Class 16—Sec. 2	2	26.8	3.0	.80	8.6	2.30
Holsteins	3	27.4	3.3	.90	8.5	2.32
Ruby Westboro Fayne	4	27.8	3.2	.88	7.9	2.19
44516	5	28.5	3.2	.91	8.2	2.33
48	6	28.4	3.2	.90	7.7	2.18
265.36	7	28.0	3.9	1.09	8.0	2.24
First & Reserve Champion	8	25.2	3.5	.88	7.9	1.99
Fowler Bros.	9	27.0	3.1	.83	7.7	2.07
		247.1		8.14		20.02
	1	24.5	3.5	.85	8.9	2.18
Class 16—Sec. 2	2	22.3	3.2	.71	8.9	1.98
Holstein	3	24.0	3.5	.84	8.8	2.11
Queen Abbekirk Rooker	4	24.5	3.7	.90	8.2	2.00
63288	5	23.5	3.2	.75	8.4	1.97
	6	24.5	3.6	.88	8.4	2.05
239.05	7	21.8	3.0	.65	8.2	1.78
Second	8	23.4	3.3	.77	7.8	1.82
R. L. Hicks	9	25.5	4.2	1.07	7.7	1.96
		214.0		7.42		17.85

	Mkg.	Lbs. Milk	% Fat	Lbs. Fat	% S.N.F.	Lbs. S.N.F.
	1	2.31	3.4	.78	9.5	2.19
Class 16—Sec. 2	2	21.6	3.3	.71	9.2	1.98
Holstein	3	22.3	4.1	.91	9.2	2.05
Mechthilde de Pride 3rd	4	22.9	3.5	.80	8.5	1.94
42501	5	22.3	3.4	.75	8.7	1.94
	6	23.1	3.8	.87	8.3	1.91
230.73	7	22.5	3.6	.81	8.8	1.98
	8	20.6	3.0	.61	8.6	1.77
N. S. Agricultural College	9	23.0	3.8	.87	8.3	1.90
		201.4		7.11		17.66
	1	18.8	3.7	.69	8.8	1.65
Class 16—Sec. 2	2	17.8	3.6	.64	8.7	1.54
Holstein	3	18.4	3.7	.68	8.8	1.61
Pearl Mercena Colantha	4	18.8	3.6	.67	8.0	1.50
44520	5	17.8	3.5	.62	8.3	1.47
63	6	17.6	3.2	.56	7.8	1.37
183.45	7	17.6	3.3	.58	7.7	1.35
Third	8	16.5	3.4	.56	7.7	1.27
Fowler Bros.	9	18.3	3.6	.65	7.9	1.44
		161.6		5.65		13.20
	1	22.9	2.4	.54	8.1	1.85
Class 16—Sec. 2	2	22.0	2.8	.61	8.1	1.78
Holstein	3	23.5	3.0	.70	8.9	2.09
Eloise De Kol Colantha	4	21.1	2.6	.54	7.3	1.54
54705	5	20.6	3.4	.70	7.5	1.54
	6	22.2	3.2	.71	7.4	1.64
182.08	7	22.0	2.5	.55	7.3	1.60
Fourth	8	21.5	2.5	.53	7.1	1.52
R. L. Hicks	9	22.2	2.7	.59	7.0	1.55
		198.0		5.47		15.11
	1	21.4	3.0	.64	8.5	1.81
Class 16—Sec. 3	2	21.1	2.9	.61	8.5	1.79
Holstein	3	22.8	3.6	.82	8.3	1.89
Eva Danforth	4	22.0	3.5	.77	7.7	1.69
67603	5	21.5	3.0	.64	7.8	1.67
	6	21.3	3.2	.64	7.9	1.68
198.62	7	21.2	3.1	.65	7.8	1.68
First	8	21.6	2.7	.58	7.9	1.70
Dickie Bros.	9	21 6	3.2	.69	7.7	1.66
		194.5		6.08		15.54
	1	18.8	3.0	.56	8.5	1.59
Class 16—Sec. 3	2	18.8	3.2	.60	8.4	1.57
Holstein	3	19.5	3.2	.62	8.2	1.59
Ruth Danforth	4	20.2	3.3	.66	7.7	1.55
67613	5	19.0	3.2	.60	7.9	1.50
48	6	10.1	3.0	.57	7.6	1.45
180.20	7	19.8	3.0	.59	7.8	1.54
Second	8	20.2	3.2	.64	7.3	1.47
Dickie Bros.	9	20.0	3.2	.64	7.7	1.54
		175.4		5.48		13.80
	1	18.	3.0	.54	8.9	1.60
Class 16—Sec. 3	2	18.3	3.4	.62	8.7	1.59
Holstein	3	17.4	3.7	.64	9.0	1.56
Cobequid Korndyke Miss	4	16.8	3.4	.57	8.3	1.39
52637	5	18.9	3.4	.64	8.5	1.60
45	6	18.0	3.4	.61	8.2	1.47
176.60	7	18.0	2.9	.52	8.5	1.53
Third	8	19.1	3.3	.63	8.1	1.54
Arthur Dickie	9	18.5	3.2	.59	7.7	1.42
		163.0		5.36		13.70
	1	16.6	3.3	.54	9.1	1.51
Class 16—Sec. 3	2	16.4	3.2	.52	8.9	1.45
Holstein	3	16.2	3.5	.56	9.0	1.45
Patsy B. Hartog	4	16.8	3.5	.58	8.5	1.42
52819	5	16.8	3.4	.57	8.5	1.42
52	6	16.5	3.6	.59	8.6	1.41
165.78	7	15.6	3.2	.49	8.7	1.35
Fourth	8	16.3	3.1	.56	8.7	1.41
Dickie Bros.	9	17.0	3.5	.59	8.5	1.44
		148.2		5.00		12.86
	1	11.8	3.8	.44	8.9	1.05
Class 16—Sec. 3	2	11.3	3.6	.40	9.0	1.01
Holstein	3	11.3	3.8	.42	8.6	.97
Milly Pontiac Sadie	4	10.9	3.7	.40	8.5	.92
63290	5	11.3	3.7	.41	8.6	.97
287	6	11.2	4.0	.44	8.4	.94
129.25	7	10.7	3.8	.40	8.6	.92
Fifth	8	11.0	3.9	.42	7.8	.85
R. L. Hicks	9	10.7	4.0	.42	8.2	.87
		100.2		3.75		8.50
	1	14.2	3.8	.53	8.6	1.22
Class 16—Sec. 4	2	15.5	3.6	.55	8.5	1.31
Holstein	3	13.9	4.1	.56	9.3	1.29
Bonnie View Helen	4	14.1	4.0	.56	8.5	1.19
64239	5	14.6	3.8	.55	8.6	1.25
42	6	1.36	3.6	.48	8.4	1.14
153.79	7	14.4	3.7	.53	8.8	1.26
First	8	14.5	3.5	.50	8.3	1.20
Arthur Dickie	9	14.3	3.7	.52	8.2	1.17
		129.1		4.78		11.03

	Mkg.	Lbs. Milk	% Fat	Lbs. Fat	% S.N.F.	Lbs. S.N.F.
	1	13.6	4.6	.62	9.3	1.26
Class 17—Sec. 1	2	13.1	4.5	.58	9.3	1.21
Guernsey	3	14.4	5.0	.72	9.5	1.36
Jennie of Spruce Grove	4	14.0	4.8	.67	8.9	1.24
889	5	14.0	4.8	.67	9.2	1.28
	6	15.1	4.9	.73	8.2	1.23
186.37	7	13.6	5.1	.69	9.0	1.22
First	8	13.8	4.7	.64	9.0	1.24
D. G. McKay & Son	9	14.6	5.4	.78	8.3	1.21
		126.2		6.10		11.25
	1	12.4	4.7	.58	9.6	1.19
Class 17—Sec. 1	2	11.6	4.4	.51	9.3	1.07
Guernsey	3	12.9	4.7	.60	9.4	1.21
Maud of Willow	4	11.3	4.6	.51	9.0	1.01
1219	5	12.6	4.8	.60	9.3	1.17
	6	11.5	4.7	.54	8.1	.93
156.29	7	11.7	5.0	.58	8.8	1.02
Second	8	11.9	4.7	.55	9.0	1.07
Roper Rros.	9	12.4	5.0	.62	8.2	1.01
		108.3		5.09		9.68
	1	8.6	5.4	.46	9.6	.82
Class 17—Sec. 1	2	8.1	4.8	.38	9.1	.73
Guernsey	3	9.6	5.3	.50	9.4	.90
Rose of the Villet, 4th	4	8.6	5.3	.45	9.2	.79
1114	5	9.8	5.2	.50	8.9	.87
199	6	8.8	5.3	.46	9.2	.80
137.98	7	9.0	5.5	.49	9.5	.85
Third	8	9.8	5.4	.52	9.1	.89
Roper Bros.	9	9.0	5.2	.46	9.0	.81
		81.3		4.22		7.46
	1	10.6	4.5	.47	9.2	.97
Class 17—Sec. 1	2	9.8	4.3	.42	9.2	.90
Guernsey	3	10.4	4.9	.50	9.3	.96
Flora of Spruce Grove	4	10.3	4.6	.47	8.8	.90
1108	5	9.9	4.5	.44	9.0	.89
88	6	10.4	4.8	.49	8.7	.90
134.63	7	10.2	4.4	.44	8.9	.90
Fourth	8	10.4	4.2	.43	8.5	.88
D. G. McKay & Son	9	10.7	4.7	.50	8.6	.92
		92.7		4.16		8.22
	1	9.9	4.0	.39	9.1	.90
Class 17—Sec. 3	2	9.9	4.2	.41	8.9	.88
Guernsey	3	9.8	4.4	.43	9.2	.90
Queen Bess' Dolly	4	10.1	4.3	.43	8.7	.87
1702	5	10.4	4.4	.45	8.7	.90
	6	10.1	4.3	.43	7.5	.75
117.36	7	9.4	4.4	.41	8.8	.82
First	8	9.8	4.2	.41	8.4	.82
D. G. McKay & Son	9	9.7	4.4	.42	8.1	.78
		89.1		3.78		7.62
	1	8.6	4.2	.36	9.2	.79
Class 17—Sec. 3	2	8.4	4.6	.38	9.1	.76
Guernsey	3	8.3	5.0	.41	9.6	.79
Pauline's Buttercup of S.G.	4	8.2	4.6	.37	8.9	.72
1701	5	8.2	4.5	.36	9.1	.74
	6	8.7	5.0	.43	8.4	.73
104.03	7	8.3	4.6	.38	9.0	.74
Second	8	8.3	4.5	.37	9.0	.74
D. G. McKay & Son	9	7.6	4.0	.30	8.8	.66
		74.6		3.36		6.67
	1	5.5	4.5	.24	9.6	.52
Class 17—Sec. 3	2	5.8	4.8	.27	9.4	.54
Guernsey	3	5.8	5.3	.30	9.6	.55
Beauty's Dimple	4	6.0	5.3	.31	9.1	.54
1940	5	5.8	5.0	.29	9.2	.53
138	6	5.5	5.4	.29	9.5	.52
91.92	7	5.7	5.3	.30	9.5	.54
Third	8	6.1	5.7	.34	9.6	.58
Roper Bros.	9	6.2	5.7	.35	9.2	.57
		52.4		2.69		4.89
	1	5.2	4.9	.25	9.7	.50
Class 17—Sec. 3	2	5.4	4.6	.24	9.1	.49
Guernsey	3	5.8	5.2	.30	9.5	.55
Foxy of Wlllow	4	5.5	4.8	.26	8.8	.48
1941	5	5.6	4.9	.27	9.8	.54
115	6	5.3	5.0	.26	9.1	.48
81.65	7	5.0	4.6	.23	9.4	.47
Fourth	8	5.9	5.1	.30	9.3	.54
Roper Bros.	9	5.1	5.3	.27	9.1	.46
		48.8		2.38		4.51
	1	6.8	4.2	.28	9.5	.64
Class 17—Sec. 4	2	7.2	4.4	.31	9.3	.66
Guernsey	3	6.8	4.4	.29	9.3	.63
Mira of Willow	4	7.4	4.6	.34	9.0	.66
1945	5	7.0	4.5	.31	9.4	.65
44	6	7.6	4.6	.34	8.9	.67
94.13	7	6.5	4.5	.29	9.7	.63
First	8	7.6	4.6	.34	9.2	.69
Roper Bros.	9	8.0	4.8	.38	8.6	.68
		63.9		2.88		5.91

	Mkg.	Lbs. Milk	% Fat	Lbs. Fat	% S.N.F.	Lbs. S.N.F
	1	10.5	4.1	.43	9.0	.94
Class 18—Sec. 1	2	10.8	4.4	.47	9.5	1.02
Jersey	3	10.3	4.5	.46	9.4	.96
Cream Ideal	4	11.5	4.8	.55	10.1	1.16
3732	5	10.9	4.6	.50	8.7	.94
43	6	11.5	5.0	.57	9.0	1.03
144.95	7	11.0	5.0	.55	9.4	1.03
First	8	11.1	4.8	.53	8.9	.98
H. S. Pipes & Son	9	11.0	5.5	.60	9.0	.99
		98.6		4.66		9.05
	1	13.3	4.3	.57	9.5	1.26
Class 18—Sec. 1	2	12.5	4.8	.60	9.2	1.15
Jersey	3	11.5	4.4	.50	8.8	1.01
	4	10.3	5.3	.54	8.4	.86
	5	10.0	3.4	.34	8.6	.86
	6	10.0	5.0	.50	8.7	.87
143.82	7	10.0	5.0	.50	8.6	.86
Second	8	11.4	5.4	.61	8.2	.93
R. A. Snowball	9	10.8	5.1	.55	8.3	.89
		99.8		4.71		8.69
	1	9.5	5.7	.54	9.7	.92
Class 18—Sec. 2	2	5.8	5.6	.32	9.5	.55
Jersey	3	7.0	6.1	.42	9.1	.63
H. R. Fix It	4	6.5	5.6	.36	8.8	.57
	5	5.9	5.6	.33	9.6	.56
136	6	6.8	5.6	.38	10.2	.69
111.88	7	1.6	3.6	.05	9.4	.15
First	8	11.2	4.8	.53	9.1	1.01
H. S. Pipes & Son	9	7.0	6.6	.46	9.1	.63
		61.3		3.39		5.71
	1	8.1	5.5	.44	9.4	.76
Class 18—Sec. 2	2	7.7	4.8	.36	9.3	.71
Jersey	3	7.4	4.8	.35	9.4	.69
Olive Rose	4	8.	5.1	.40	8.9	.71
91.50	5	7.5	5.2	.39	8.9	.66
77	6	7.7	5.0	.38	9.0	.69
110.14	7	7.3	5.0	.36	9.0	.65
Second	8	7.7	5.3	.40	9.2	.70
H. S. Pipes & Son	9	7.5	5.2	.39	8.8	.66
		68.9		3.47		6.23
	1	23.4	3.4	.79	8.8	2.05
Class 19—Sec. 1	2	24.1	2.9	.69	8.6	2.07
Grade	3	24.0	3.5	.84	9.0	2.16
Ruby	4	24.1	3.4	.81	8.1	1.95
	5	24.9	3.1	.77	8.3	2.06
42	6	23.8	3.3	.78	7.7	1.83
233.80	7	24.3	3.3	.80	8.1	1.96
First	8	24.0	3.5	.84	7.5	1.80
Fowler Bros.	9	23.4	3.7	.86	7.8	1.82
		216.0		7.18		17.70
	1	24.	3.2	.76	8.8	2.11
Class 19—Sec. 1	2	23.7	3.0	.71	8.5	2.01
Grade	3	24.8	3.0	.74	8.4	2.08
Lady	4	26.3	3.0	.78	7.8	2.05
	5	25.2	3.0	.75	7.9	1.99
	6	25.8	2.9	.74	7.8	2.01
222.38	7	24.7	3.3	.81	8.1	2.00
Second	8	22.0	3.1	.68	7.1	1.56
Fowler Bros.	9	22.0	3.5	.77	9.8	2.15
		218.5		6.74		17.96
	1	14.5	4.2	.60	9.0	1.30
Class 19—Sec. 1	2	14.2	4.1	.58	9.0	1.27
Grade	3	15.7	4.5	.70	9.3	1.46
Maggie	4	14.8	4.7	.69	8.5	1.25
	5	13.9	4.2	.58	8.8	1.22
	6	13.8	4.4	.60	8.8	1.21
176.48	7	13.8	4.5	.62	9.0	1.24
Third	8	14.4	4.4	.63	8.6	1.23
Roper Bros.	9	14.5	4.7	.68	8.6	1.24
		129.6		5.68		11.42
	1	17.7	3.4	.60	8.8	1.55
Class 19—Sec. 1	2	15.3	3.4	.52	8.5	1.30
Grade	3	18.3	3.2	.58	8.6	1.57
Bessie	4	19.1	3.4	.64	8.0	1.52
	5	19.4	3.3	.64	7.8	1.51
48	6	18.9	3.7	.69	7.7	1.45
174.86	7	18.8	3.4	.63	7.7	1.44
Fourth	8	16.7	3.3	.55	7.4	1.23
Courtenay Lusby	9	16.0	3.4	.54	7.4	1.20
		160.2		5.39		12.77
	1	12.6	4.1	.51	9.1	1.14
Class 19—Sec. 1	2	13.0	4.3	.55	8.9	1.15
Grade	3	13.8	4.2	.57	8.5	1.17
	4	14.9	4.1	.61	8.3	1.23
	5	14.5	4.0	.58	8.6	1.24
43	6	15.0	3.8	.57	8.3	1.24
163.85	7	15.0	3.8	.57	8.8	1.33
Fifth	8	15.6	4.1	.63	8.4	1.31
E. P. Anderson	9	15.0	3.9	.58	8.6	1.29
		129.4		5.17		11.10

	Mkg.	Lbs. Milk	% Fat	Lbs. Fat	% S.N.F.	Lbs. S.N.F.
	1	13.8	3.3	.45	8.5	1.77
Class 19—Sec. 1	2	14.6	3.4	.49	9.6	1.40
Grade	3	14.3	3.6	.51	9.6	1.37
Pearl	4	14.9	3.5	.52	9.1	1.35
	5	1.42	3.4	.48	9.4	1.33
	6	15.6	3.2	.49	8.2	1.27
151.69	7	16.8	3.4	.57	9.3	1.56
Sixth	8	16.3	3.4	.55	8.8	1.43
D. G.McKay & Son	9	16.4	3.3	.54	8.0	1.31
		136.9		4.60		12.19
	1	8.5	5.3	.45	10.3	.87
Class 19—Sec. 1	2	9.0	5.9	.53	9.2	.82
Grade	3	7.0	6.3	.44	9.1	.63
	4	8.2	4.8	.39	8.6	.70
	5	8.7	4.6	.40	8.8	.76
57	6	8.5	5.8	.49	9.7	.73
131.03	7	9.3	5.4	.50	8.9	.82
	8	9.5	5.8	.55	8.5	.80
Chas. Etter	9	8.6	6.6	.56	8.5	.73
		77.3		4.31		6.86
	1	8.8	3.5	.30	9.0	.79
Class 19—Sec. 1	2	9.6	3.7	.35	8.7	.83
Grade	3	9.8	3.6	.35	8.6	.84
	4	10.	4.0	.40	8.4	.84
	5	9.3	3.9	.36	8.5	.79
	6	9.4	3.6	.33	8.4	.78
103.93	7	10.2	4.0	.40	8.3	.84
	8	10.3	3.8	.39	8.0	.82
Geo. Holmes	9	10.0	4.0	.40	7.8	.78
		87.4		3.28		7.31
	1	18.	3.3	.59	8.3	1.49
Class 19—Sec. 2	2	16.8	3.2	.53	9.1	1.52
Grade	3	18.3	3.1	.56	8.5	1.55
Jewel	4	19.5	3.1	.60	7.5	1.46
	5	18.9	2.4	.45	7.7	1.45
	6	22.0	3.0	.66	7.5	1.65
171.50	7	20.9	3.0	.62	7.0	1.46
First	8	20.5	2.9	.59	7.5	1.53
T. W. Keillor	9	19.8	3.1	.61	8.3	1.64
		174.7		5.21		13.75
	1	9.8	4.8	.47	8.8	.86
Class 19—Sec. 2	2	10.4	5.1	.53	9.3	.96
Grade	3	9.6	5.4	.51	9.0	.86
	4	12.8	4.7	.60	8.1	1.03
	5	10.9	5.0	.54	8.9	.97
51	6	9.4	3.1	.29	8.4	.78
141.69	7	10.5	4.7	.49	8.9	.92
Second	8	12.0	5.0	.60	8.3	.99
Chas. Etter	9	10.3	5.5	.56	8.9	.91
		95.7		4.59		8.28
	1	12.4	4.0	.49	9.7	1.20
Class 19—Sec. 2	2	11.8	4.4	.51	9.7	1.14
Grade	3	10.7	4.4	.47	9.6	1.02
Joan	4	11.0	4.1	.45	8.8	.96
	5	10.5	4.3	.45	9.0	.94
	6	10.7	4.1	.43	8.6	.92
131.23	7	10.7	4.3	.46	8.7	.93
Third	8	11.3	4.5	.50	8.4	.94
H. S. Pipes & Son	9	10.5	4.0	.42	8.2	.86
		99.6		4.18		8.91
	1	9.1	4.0	.36	9.5	.86
Class 19—Sec. 2	2	9.1	4.5	.40	9.4.	.85
Grade	3	9.1	4.7	.42	9.4	.85
Carrie A.	4	9.3	4.5	.41	8.7	.80
	5	9.8	4.7	.46	9.1	.89
	6	10.0	4.6	.46	8.7	.87
120.95	7	10.2	4.5	.45	9.2	.93
Fourth	8	10.1	4.6	.46	9.2	.92
Roy W. Stephen	9	10.1	4.7	.47	9.3	.93
		86.8		3.89		7.90
	1	10.4	3.2	.33	8.8	.91
Class 19—Sec. 2	2	10.4	3.8	.39	8.7	.90
Grade	3	10.0	3.4	.34	8.6	.86
Biddy	4	11.0	3.3	.36	8.2	.90
	5	10.2	3.5	.35	8.4	.85
	6	10.1	3.7	.37	8.5	.85
105.44	7	11.5	3.7	.42	8.6	.98
Fifth	8	11.0	3.4	.37	8.7	.95
H. S. Pipes & Son	9	9.6	3.5	.33	8.2	.78
		94.2		3.26		7.98

LICE ON CALVES

What is the best preventative and cure for lice on calves?—C. B.

From a lengthened experience in using preventatives and cures for lice on cattle, the writer has not found anything to equal linseed oil. Go over the lice infested parts a brush saturated in the oil. It is effective, but gets the skin and hair into a dirty condition. Insect powder, if pure, are fairly effective, and pyrethrum powder is best. Mix with it flowers of sulphur and powdered tobacco leaves and, if possible, blanket the animal after treatment. Spray walls and woodwork with kerosene emulsion.

THE MARITIME FARMER

And Co-operative Dairyman
Registered Trade Mark
Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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JANUARY 6, 1920

SELECTING A HERD SIRE

Selectng a sire to head the herd is not a simple task. Too often, however, this all-important task is reduced to the simple basis of being determined altogether by the price at which the animal can be purchased. More people, when it coms to purchasing a herd sire are interested apparently in how cheaply they can buy, than in how much they get for their money.

This reverse method of buying new herd sires is really a costly one. It seldom reuslts in the purchase of a sire that affects improvement in the herd, and unless a bull or any other herd sire is capable of affecting such improvement, he is expensive at any price. Assuming that a sire remains in a herd two or three years and affects an improvement in each of his offspring to the value of $50 to $100, an investment of $500 in the sire would be profitable. On the other hand a sire that cost only $100 and affected no increased value in his offspring would not be profitable.

The only certain method of determining whether a sire possesses the power to affect improvement in his offspring is to compare the producing ability of his daughters with those of their dams. In the case of the dairy sire this, of course, means that records of production must be kept in the herd, and that the sire will be at least four years old before any degree of positive proof of his ability may be secured. In the case of the beef sire, or of the head of the sheep flock or the swine herd, however, much of the sire's ability may be determined by the individuality and general quality of the offspring.

One good method of selecting herd sires, therefore, is to choose from among those which have already seen herd service and proven their reproducing ability by the character or the ability displayed by their offspring. This method is not always practicable, however, and it is necessary, too, to keep up the stock of service sires, to draw upon the supply of younger ones still unproven by actual service and herd test.

Practically the only means for judging the ability of a young sire before he has performed any herd service is his individuality and pedigree. As an individual, he should possess the highest qualities and most improved type of his breed. Correct conformation and a high degree of quality and breed character are always highly desirable in any herd sire.

As to the pedigree, it is important to study the records of both the sire and dam. Have they been successful breeders and producers, and what have their other sons and daughters done? Also have their ancestors in turn been successful breeders? It is not enough that merely one side of the pedigree show strength in breeding ability. In selecting the herd sire it is important that both the sire and dam be of prepotent and high producing blood lines.

One thing to remember always in purchasing herd sires is this—that it is not so much what you pay as what you take home with you that counts.

THE CANNY SCOT

Every Scottish child in training for farm work is taught to obey the biblical injunction, "Whatsoever thy hand findeth to do, do it with thy might," and so he tries to do all of his work thoroughly. It was this principle of thoroughness that led the old, white-haired Scotch stone-setter to reply to a tourist who criticised the slowness and deliberateness of his work: "I am building slow, nae doot; but, mind ye, when I get through, she'll stand for a thoosand years." It is this spirit of doing things with one's might that induces the Scottish plowman to make each furrow as straight as a string, and in the gloaming, when the day's work is done, perhaps to go back to the field and spade the corners, so that not a foot of fertile soil may fail to bear a crop. It would be well to emulate this honest thoroughness in farming operations, accomplish more enduring results, and build better for posterity.

THE WORK DAY

New York Evening Sun says:—"The miners who prefer a six-hour work day five days a week may regard work as an enemy. Thoughtful men regard work as a friend. What men think of work, however, matters as little as what they think of the weather. Inexorable nature says "work or die."

"It is good for man to work. A man without work, whatever his income, is no man at all. Work is health, appetite, sound sleep. It is health to the mind also. And in deep sorrow the Great Physician's best prescription is work."

PROVIDE DUST BOXES FOR HENS

Chickens never wash, as many other birds do, but cleanse themselves of insects by wallowing in soil. Where board or cement floors are used, some means of dusting should be provided during the winter months. For a flock of 50 to 60 fowls a dust box 3 by 5 feet or 4 by 4 feet will be found large enough in most instances, and should be placed where it can be reached by sunlight during as much of the day as possible. Fine, light, dry dust is the best, but sandy loam is good. Road dust is recommended by many but it is apt to be filthy. Coal or wood ashes may be mixed with the soil if desired.

MILK AND BEER PRICES

Milk is fast becoming a more expensive beverage than the beer of other days.—Hamilton Spectator.

Inasmuch as milk costs more to produce and is infinitely higher in food value than beer ever was or ever will be, the Spectator pays a rare compliment to the producers of milk and the foster mothers of mankind.

* * *

The farmer who starts out to acquire a big bank account and sacrifices everything and everybody to accomplish his aim does not get much enjoyment out of life. He will not have much peace of mind and his money will do him little real good. It is better to live as you go along doing all the good you can in the world, giving happiness to others and being happy yourself, even though you die a poor man. The mere making of money is not so difficult, if that is one's entire ambition, but to live an honest and up-rght life, get and give enjoyment and at the same time acquire a fortune is not so easy. But the effort is a great deal more worth while.

* * *

More than any other person the farmer works direct with the creative forces of life. This produces a strong spiritual tie between him and his means of livelihood. Under his intelligent co-operation with nature new forms of plant life are brought into existence and old ones developed to the highest point of perfection. In like manner the farmer gains a certain creative dominion over the domestic animal, giving infinite variety to each species.

* * *

Work the mine of your own home. Dig deep into the affection of the wife and little ones. Spend more time in their company. Talk with them more. Read to them and listen while they read. Discuss the world's big questions with them. Precious metal here. And don't be too busy to get better acquainted with the neighbor young folks. The man who lives near to the heart of others, lives long, well and happily.

* * *

Before it can be shown that the dairy business is a paying venture it is not only necessary to know the productivity of the herd and the value of the product, but it is equally as necessary to know the cost of maintainance. Cows cost money buildings and equipment are expensive, and feed is high. These combined expenses, together with the labor, represents a good many dollars.

* * * * *

The road to success in breeding dairy cattle is the one that leads to the picking of the breed that one naturally likes, the picking of a good family in that breed and then the selection of the best individuals of the family. When this is expertly accomplished, persistency is the watchword and in breeding live stock the term line-breeding is almost synonymous with persistency.

* * *

The one who starts a business with an ambition to succeed honestly is worthy of praise, no matter what his ambition may be, but we believe there are not a great many ambitions superior to the one that leads to the breeding of the very best and most useful animals. Men by the thousands have such an ambition, and yet those who succeed in a large way are not numerous.

* * *

A recent issue of the Maine Farmer says:—"We have a few things to be thankful for, and one is that there are not many breeders who have forsaken the animal for the pedigree.

CANADIAN GUERNSEY BREEDERS IN ANNUAL CONVENTION

(Continued from page 225)

Mr. Barry Hill is also importing some Guernseys from the United States.

Mr. Banks of South Berwick said his Society had no regrets for buying the bull in question; he was hopeful that the new bull would help develop their herds in production and in vigor and conformation.

Mr. Milligan expressed his pleasure at being present. He had started Guernsey breeding only four years ago and now he owned 17 purebreds.

Mr. Robertson again urged the elimination of the scrub purebreds.

Mr. Corning introduced the question of having Guernsey pedigrees extended to contain more family history and Mr. Fisher was appointed to consult with the Records officials re this desirable feature.

Mr. Fisher advised the breeders to work for concerted efforts for the community centre breeding of Guernseys and cited several notable successes that had been achieved by breeders in other localities along this line.

MARITIME BEEKEEPERS

The re-organization meeting of The Maritime Beekeepers' Association was held in the Board Room of the Winter Fair Building, Amherst, on Tuesday, December 16th. L. T. Floyd, Provincial Apiarist for New Brunswick presided and was also elected president for the ensuing year.

Vice-Presidents elected are G. B. Baker, Amherst, N. S.; Harry Miller, Tracey Mills, N. B., and Harold Newsom, Charlottetown, P. E. I.

Sec.-Treas.—Evan Craig, Kentville, N. S.

Efforts will be put forth to get in touch with every beekeeper in the three provinces, in order to interest thm in the association, and to apprise them of the results that Mr. Floyd and Mr. Craig are accomplishing in New Brunswick and Nova Scotia, particularly with respect to the extermination of foul brood. The result of recent surveys re the foul brood situation in the provinces will be furnished the vice presidents for the respective provinces to pass on to the beekeepers. Every beekeeper should get this information. Ask for it.

THE DEVELOPMENT OF WHEAT GROWING IN NEW BRUNSWICK

Though popular attention has been attracted by the extent of New Brunswick's potato growing industry, very little is known of the quiet development taking place in wheat-growing.

The crop report for 1918 showed an increase for that year of nearly four times the acreage sown to wheat over the average of the preceding five years, while the estimate for 1919 shows the expansion to be well maintained. More than three times the acreage of the five-year average were sown, the area being 43,000 acres.

Certain parts of the Province are well adapted to wheat growing and despite the general idea that wheat does not pay so well as oats, its culture is steadily increasing. As a pastry-flour the local product is unsurpassed by that of western mills, while in many farm-homes bread-flour ground at these local mills is used the year round. A test made recently by the largest biscuit manufactory in the Province of home-grown wheat milled at a local roller-process mill, gave very gratifying results. The possibility of a large trade in the consumption of local flour is herein opened to our farmers. Some immense crops are grown, which, at the present price of flour and its bye-products return to the grower a handsome net profit on each acre. As an instance there has come to our notice what is believed to be the highest acre yield of spring wheat ever recorded in Eastern Canada. Mr. R. O'Leary produced on his farm at Richibucto, two hundred and twenty-five bushels of excellent White Fife wheat on four acres, an average yield of fifty-six bushels per acre. To make a barrel of flour only five bushels of such wheat is required, and the bye-product sells today for three cents a pound. That is, the returns after deducting the cost of milling, approximate two hundred dollars per acre for this crop.

An indication of the expansion of wheat-growing may also be inferred from the fact that four new grist-mills have begun operating this year. As a part of the production policy of the Department of Agriculture, assistance in the way of a bonus to wheat mills is granted to those that install and operate for a period of five years to the satisfaction of the Minister of Agriculture the Hungarian, or roller-system of extraction.

The plans of these four mills were approved of by the Minister, and in the construction they have been aided by the Government. These are equipped with modern roller flour mill machinery and are up-to-date in every respect. Electric motors furnish the power to at least three roller-process mills now operating in the Province. The latest mill to install electricity as the power source was built this year at Richibucto by Mr. B. J. Johnston.

Though there are now thirty-four mills equipped with machinery of the roller-process type operated in the Province, thirty of which received Government aid, there are yet good wheat-growing sections that have inadequate milling facilities. Generally speaking, this condition has come about because of one or more of the following conditions:

Some of the mills established several years ago have been burned or partly dismantled, and in consequence farmers are obliged to haul their wheat long distances to have it milled. In other localities, owing to changes in the type of farming carried on, wheat-growing gained in favor and is sown to a larger extent than formerly.

Frequently after bringing his wheat a long distance, the farmer finds the mill piled up with grain waiting to be ground and must make a second trip to procure his grist. On the other hand, the miller says that his machinery is idle a considerable part of the time.

Nevertheless, investigation shows that this idle period occurs in the summer months after the farmer's granary is emptied. Short periods of comparative idleness and irregularity of the amount of custom work being due to seasonal work of the farmers' teams.

The actual rendered service of a mill to a farm community is quite a different thing as compared with its rated capacity for a continuous 24 hour running. Consequently, an estimate of the extent of country served based upon the mills rated capacity is reduced two-thirds during the short days of autumn and winter when the bulk of the wheat crop is taken to the mill.

The economics of the policy for the encouragement to wheat growing suggests that an adjustment of differences lies in the steady expansion of the wheat-growing industry. The possibility is presented of a large trade in the consumption of home-grown wheat flour by our local manufactories such as biscuit works and pastry bakeries, and also of reducing the immense quantities of wheat bye-products now purchased from outside the Province, were the local millers supplied with enough wheat to keep their machinery busy.

The location and the rated capacity in barrel flour each 24 hours of the roller-process mills now operating is as follows:

Albert—Elgin (50).*

Carleton—Woodstock (50). Centerville (125). Bristol (50). Lakeville (50). Coldstream (50).

Gloucester—Riordon (35). Caraquet (35). Petit Rocher (75). Bathurst (50).

Kent—Buctouche—two mills (50-75). Richibucto (50)*. Cail's (25)*. South Branch (50). St. Anthony (50).

Madawaska—Power's Creek (35). Edmundston (35). The Ledges (50). Caron Brook (50).

Northumberland—Newcastle (50). Boiestown (35). Rogersville (25). Chatham (50)*.

Restigouche—Campbellton (25).

St. John—St. John (100).

Victoria—Four Falls (50).

Westmorland—Port Elgin (50). Moncton (50). Shediac (25).

York—Fredericton (25). Harvey (50). Monument Settlement (50). Pinder (50)*.

* Erected in 1919.

O .C. HICKS,
Department of Agriculture,
Fredericton, N. B.

BUY BREEDERS AT HOME

By Hon. Walter M. Lea

Applications are frequently made to the Department for assistance in importing breeding animals from the upper provinces, and when a scarcity actually exists, it is quite proper to have such importations brought here, but those in need of good males of a dairy or beef breed of cattle, should enquire of our breeders before arranging to make such purchase, as we have animals bred and raised here that may be secured very much below the cost of those of equal merit raised in the upper provinces. I have recently visited some of their most noted herds from which animals have been purchased for over $10,000, and I am convinced that most of the animals I saw there priced below from $300.00 to $500.00 would be considered in our best Island herds a cull. Many of these animals make their official seven days' tests under hot house conditions by expert feeders, and the records should go rather to the men than the cows making them. A yearly record of milk and fat is all that any intelligent breeder would care to purchase animals on.

I saw by an R. O. P. inspector's report quite recently where Mr. Howard Callbeck, of Tryon, has a heifer 25 months old that has produced in 30 days 1,600 lbs. milk, testing 4.5 per cent fat or 90 lbs. butter during this time at a cost of feed not exceeding 50 per cent of the value of this product. The ancestors of this animal were bred for four generation in this province, and we have many such that may be obtained here that the owner can inspect before purchasing, and see that they are getting a good individual as well as buying a pedigree on paper.

LAND CLEARING

Land clearing is not, under present conditions, a popular occupation amongst land owners. The high cost of labor, powder, and other equipment makes it almost prohibitive. Heavily timbered lands cost so much to clear that farmers prefer renting or purchasing cleared areas rather than undertaking the strenuous labor entailed in clearing. The only real inducement for expending this labor under present conditions is the ambition of home making and improving.

The first operation necessary is to clean up all undergrowth. This consists of cutting the brush and piling to dry. Then all the standing timber, except the large trees, should be cut and fuel made of the most desirable. The boughs should be then piled in windrows, along with the undergrowth around the old rotten logs, and fired when the heap is dry.

The next operation is to fell the large trees, and, if not to be uitilized for lumber, they should be spilt with powder and burned. While burning, the green boughs and remaining brush should be destroyed, when, with reasonable success, practically everything except the stumps will disappear. It is well to get the work thoroughly completed at this stage so that no small, rotten material remains, to be covered up when the stumps are blasted. Care should be taken during all burning to keep the fire on small areas so that the least possible amount of humus will be destroyed.

Removing stumps entails the major portion of the expense in connection with clearing. There are three general methods practised in carrying on this work, powder being used more or less in each case. Those who have considerable capital at their disposal and wish to clear a large tract favor the use of a donkey engine, employing powder to assist with the large stumps and the engine hauls them bodily from the ground and places them in huge piles. This method has a tendency to cover the surface soil and hence decreases the value of the land for a few years.

The second method is used to best advantage where a small tract is to be cleared rapidly. All the stumps are first blasted, then by the use of blocks, cables and horses the small stumps are pulled and piled in the holes left when the large one are blasted. By this means the fire is confined to subsoil burning and the fir stumps with so much pitch make it possible to burn all material that can be hauled and piled in these holes. If the blasting is properly done, the stumps are blown out without covering any great amount of surface soil. This work is best accomplished when the soil is damp. This method requires the most powerful powder and for this reason is expensive.

The third method employed is the least expensive. It consists of seeding down to grass and clover between the stumps and using the land for pasture for a number of years. This allows the stumps to rot, when they are more easily removed. Less labor and powder are required by this method but it is very slow and tedious.

After the stumps are disposed of all the remaining sticks and roots should be hauled and piled, the holes filled by the use of a team and scraper, keeping as much of the surface soil on top as posisble. Then the land may be ploughed, when more roots will appear and must be removed. Next the land may be disced and harrowed several times, when it should be in proper condition for seeding.—W. H. Hicks, Supt. Experimental Farm, Agassiz, B. C.

CUTTING BRUSH AND VINE PRUNING

What two months of the year can I cut brush so that it will not sprout?

What time of the year should I trim a grape vine?—J. L.

The readiness of sprouting after cutting depends more upon the varieties of trees that form the brush you wish to cut, than upon the time they the cut. Some varieties sprout more readily than others, and the time for one is not so well fitted for another. On the average the best time to cut brush is in the fall and early winter.

The early spring time, while the plant is dormant, is the best time to prune the grape vine, but before a grower can grow fruit successfully he must study his varieties and their methods of bearing and ripening. The fundamental principle of pruning grapes is based upon the fact that the fruit is borne in a few clusters near the base of the growing shoots of the season, which spring from wood of last year's growth. The usual practice throughout the Province of Ontario is to do most of the pruning during the months of January, February and March. Any time during these months will be quite satisfactory except on very cold days, when the vines are very brittle from heavy freezing.

An Iowa farmer is responsible for the statement that if a newly purchased rope is so kinky that it cannot be used, the twist may be removed by tying the rope to a wagon and dragging it about on the ground.

LIVE STOCK.

SALT ESSENTIAL TO ANIMALS' HEALTH

"Nae worth his saw't" is an old country saying meant to indicate the inferior capabilities of the individual it refers to. The maxim tells a story of abundance of salt, and the commonplace value that is placed upon it in Scottish farming circles. The country is surrounded by such immense volumes of ocean water that the air is permeated with its salty influence. A pinch of salt is not counted of the same value as it is with the Canadian farmer.

Scottish farms are in the "pickle" all the time, no farm being so far away from the effects of the briny breezes that periodically come up the valleys good and hard. When the wind blows in from the west, or points between that and north, you can "lick" the salt from your lips with the tongue.

I was only a week or two in Canada when I found that my experience in the pickled condition was valueless for the health of the live stock on this side, so far from the Atlantic ocean. I made mistakes in my first attempt to look after the welfare of three to four hundred cattle, but when I caught on to the idea of substituting the salt barrel for the salt laden air of former experience, the domestic quiet of well cared for and contented animals returned, and I made certain it would never leave them again. This is how I got educated to the necessity of adapting myself to new conditions and the necessity of liberal doses of salt to live stock was one of the early lessons.

The Saltless Farm

Since then I have always been on the outlook for the saltless farmer. I caught one unawares during the past summer while holidaying. One day I had occasion to pass through a neighbor's pasture where I was immediately surrounded by a wild-eyed herd of cattle. It was with difficulty I could get my way to the fence side. These animals weer poverty stricken for lack of salt and their gaunt, eager, craving look for something was very apparent. I discovered it was salt they were after. I had been assisting my host in storing some barrels of salt, and the high strung sense in the cattle discovered the meagre trail left by the barrels' contact with my hands and clothing.

Occasionally there came a visitor to that farm, and his mode of conveyance was by horse and buggy. I looked after his horse on these visits, and discovered that he also was another specimen of the "fresh" type of farmer that abound in some districts. That horse ate up all the stable furnishings within reach of the halter rope. He refused to look at water, oats, or hay; gave them the go by to gnaw at the barn furniture. They were salt soaked, and every spot on the woodwork that had come in direct contact with the regular salt ration given to all the animals on the farm, this stranger would eat a hole clean through the woodwork. Every farmer in the district owned a motor car to take them around in their visitations, the one exception was the owner of this horse. One could determine with remarkable accuracy the reason why. The farmer had not discovered that the way to a comfortable living on the farm was got by the comfort and contentment his management furnished for the animals he kept on it.

Help Yourself Method

Since I hit the salt problem of Canada, I have made some discoveries of my own. There seemed to be very little written about that topic, so that, for me, private investigation was necessary. Like all animals, human and otherwise, cattle, horses, sheep and pigs have individual likings and dislikes for some articles of food, and salt has its partisans in degree. They ought, therefore, to have the right to choose the amount they individually desire.

Salt should be placed where the stock can get what they want every day. Some of the cows that were giving the larger quantities of milk in the herd I had under my charge ate half a pound of salt daily while others giving an equal amount of milk consumed only a small fraction of this amount of salt. The cow that ate the half pound of salt daily did not give the heavy milk flow without the salt. There are cows and cows and it is up to the dairyman to study tastes and arrange the menu accordingly.

I have seen farmers dosing with salt every ration they set before their cows. But I prefer the idea of the purveyor at our own tables who sets the salt cellar on the table and let us please ourselves, according to individual tastes. Would you consider it the work of an expert cook to salt all that was set before you indiscriminately? I should think not. But this is what the farmer does who splashes salt recklessly over hay, ensilage, bran and concentrated foods he sets before his cows. In giving salt to cows, get the idea of the salt cellar, "help yourself human way," and place salt in a way that the cow can fulfill this idea.

Salt helps to keep down worms in the digestive tract of growing animals, and also promotes that laxative condition so desirable in milking cows. Scientists tell us that the basic element in it, sodium, offsets in some way the deleterious effects of a preponderance of its half brother, potassium, in cereals and grain preparations we eat every day.

See that the stock are having their "licking good," when they so desire. Get the habit of placing the salt before them and save your stock from having the unthrifty look that very visibly expresses the plaint "salt please."—By Jas. Henry.

SELECTING FOUNDATION SHEEP

To establish an individual type in a flock, is a matter of valuable importance to sheep breeders. In this branch of animal husbandry the greatest profit, either for market or breeding purposes, comes to those who produce the type and quality of stock most in demand. Unless sheep of uniform and superior quality are produced the greatest success can not be achieved Far too little attention is directed to sorting and selecting breeding stock to establish type in the flock.

In the selection of ewes to constitute the breeding flock, attention ought to be given to sorting out animals that give evidence of uniformity and of the type desired. There are a few individuals in every flock that more nearly approach the type desired to be established than others. These ewes should be picked out first and placed by themselves to serve in the capacity of an ideal. If a careful study is made of the ewes that most nearly approach the desired type, it is an easy matter to select others that show evidence of similar conformation. Many do not pay enough attention to the question of uniformity of type in selecting ewes to keep, gasing their judgment of the individuals more on size and thrift. These are excellent qualities and should, of course, be present to a marked degree in every animal selected, but uniformity is an equally important factor, even where the sheep are raised for market purposes only.

Quite often the condition of the ewes is made the guide for their disposition when selecting, and where this is the case it is likely to be the deepest milking ewes which are discarded, especially if they are thin in flesh. In such cases the ewes which become reduced in flesh through the feeding of one or two lusty lambs have not recuperated and do not look as well as the ewes which did not provide their lambs with as much nourishment, but have put a good layer of flesh on their backs. Thus the very best ewes in the flock may be sacrificed to make room for those of better appearance, but which compare unfavorably with them from the standpoint of profitable production. If one keeps watch of the flock and marks the ewes which brought poor, scrawny lambs, this danger may be minimized. Of course, in some instances there may be reasons for this other than the milking qualities of the ewes, but the time to judge of that point is before the ewes are mated.

There are, of course, other features entering into the selection of the ewes to be discarded. One of the most important of these is age. There is a strong tendency on the part of many to discard middle-aged ewes. The younger ewes will shear better fleeces and will add to the appearance of the flock somewhat, and, other things being equal, they should, of course, be given the preference. But it is a mistake to discard the middle-aged ewe that has given abundant evidence of her value as a producer for one whose powers in this direction are unknown because untried. Those who maintain grade flocks, and direct special attention to the production of wool and mutton, should make a careful study of market conditions and endeavor to determine the quality of stock that commands the highest price, and then concentrate their efforts on producing that which the market requires and which returns to the producer the largest net profit.

In selecting a ram a great deal can be accomplished in the way of establishing type in the flock. Each ewe influences establishing type the extent of transmitting to her progeny her desirable characteristics, while the ram exerts influence over every lamb produced in the flock. The ram should be selected with regard to strengthening the weaker qualities in the ewes. In general terms, the ram should possess much stronger evidence of the type to be established than is found in the ewes, that he may not only strengthen the weaker qualities in the latter, but permanently establish them in the progeny.

There are a few essential qualities that should be carefully considered in selecting a type of sheep for the production of wool and mutton for the market. In the first place, we want a sheep with strong constitution. Many are misled in selecting breeding stock thinking that strong constitution is confined to large framed animals. This, however, is not always true. Many times the most vigorous ewes are below the average in size. In general, the body should be well-proportioned. The ribs should be well-sprung, giving pleanty of space for the digestive and respiratory organs. A dense covering of fleece over the body is a prime requisite, and the wool should be of good quality and length. Every reader of The Maritime Farmer who raises sheep should strive to establish uniform type in the flock. If the lambs are grown for market, and are uniform in type, a better price can be realized for the entire crop. Wool buyers are always ready to pay the highest market price for a uniform grade of wool.

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SOME PIGS NEVER DO WELL.—WHAT CHECKS THEIR GROWTH?

One of the greatest known enemies of hogs is lice. This is especially true of the growing pig. A pig that is infested with the pests never does well, but is always a runt, consuming the maximu mof feed and putting on the maximum of feed and putting on kept off pigs, but if we neglect to rid the pigs of lice, we are almost certain to never try to keep lice off the grown hogs. Right now is a good time to start and kill the lice on every hog on the place, and then make a resolution never to tolerate lice again.

We can catch the pigs and rub axle grease on them about every fortnight, and this will keep the lice off them. For the large hogs a dipping vat is best, but vats are expensive, and not available to every farmer. For this reason, the writer uses a standard dip sprayed upon the hogs. This has to be repeated more frequently than dipping would have to be, as some of the lice are not reached. A standard dip, ready prepared for diluting with water, is best to use, and the cheapest in the long run because of its efficiency, but a kerosene emulsion may be used if you do not care to use the standard dip.

The method of preparing the emulsion is to dissolve in boiling water a pound of laundry soap. It will take from a half gallon to a gallon of water to properly dissolve the soap. When this has cooled, stir into it a pint of kerosene. When this is well emulsified, pour it in 10 gallons of water, making 11 gallons of the miture. This is not very strong and is very inexpensive, so may be used freely. It will kill lice immediately, but has to be repeated rather often, as it does to kill lice on other stock, though I t okill lice on other stock, though I do not assert that it will kill ticks. I once killed all the lice on a horse by this method, and from a thin, rough-coated, bad-looking nag he soon developed into a sleek-looking animal. Crude oil may be used instead of kerosene. In using the kerosene mixture you should remember that kerosene will blister if too much is used. So keep the hogs in the shade after the emulsion is sprayed on, until all the kerosene has evaporated. In greasing the pigs I have often used a mixture of one part kerosene and one part axle grease. This will not blister unless used excessively.

In all cases care must be used to get the remedy to the spot. Lice breed in the creases behind the ears and btween the legs, especially, and these parts must be reached if the remedy is to do its work.—A. G.

WHY USE A PURE BRED SIRE?—REASONS GIVEN BY EXPERIENCED BREEDER

1. A pure bred sire represents a pure breed originated and developed for a specific purpose, and possesses the prepotence of power of transmitting to his offspring the type, characteristis and specific purpose of his breed. Common or unimproved scrub animals have background of careful selection and breeding possessed by pure breds; the offspring of scrubs

inherit only the mediocrity of their parents.

2. The advantage of breed is that a pure bred sire representing it can be chosen for a specific purpose and with a view to his suitability for a particular purpose in a known environment, climate or class of farming.

3. Improvement of live stock by grading up can be done by persistent use of pure bred sires of a given breed only. Five consecutive top crosses of the purc blood of the same breed constitutes practical purity of blood, and this is all that is required by a majority of practical breeders.

4. A grade or scrub sire cannot be expected to transmit qualities which are not strongly present in his own makeup therefore the grade or scrub sire can only produce a scrub. Why not use pure bred sires and supply the demands of the market at an increased profit?

5. A grade sire possesses mixed blood, each strain warring for supremacy. When he is used there is no certainty as to the result. The progeny may "favor" any strain in the sire, good or bad, but the results of such breeding cannot be controlled. No upward progress can accrue from the use of grade sires.

6. Uniformity in farm products, as regards type and quality means attractiveness in the market and consequent popularity. Prime beef brings a high price because it is in great demand by a discriminating trade. The white eggs of the Leghorn are favored in many markets because of their uniformity in size and color. The pure bred sire by his breed and prepotency insures this uniformity.

7. The farmer or breeder knows and apreciates the value of a recognized advertised trade mark.

NEW BEGINNER IN STOCK BREEDING

In the breeding of pure bred live stock, the study of pedigrees not only gives interest and pleasure to the farmer, but also added profit. Philosophers tell us that self reliance is the basis of success, and the philosophy is true in stock breeding. To be self reliant one must be well informed, and to become expert in judging pedigrees, as in judging farm animals, requires must study and experience.

When the young breeder has made up his mind to take the initial step, he should be careful to see that the animal he buys is likely to suit his purpose. He cannot begin aright without making a careful study of the history of his chosen breed. He must become familiar with the individuals, and blood lines which have been instrumental in building up the breed. Then when he goes out to buy, he should be careful to buy only what he has set out to acquire. It is wonderful the amount of good advice one can get when he sets out on a mission of this kind. Everyone is more or less a fancier of some breed, many are willing to give advice, and many are the assurances that can be got "That this is the very animal to buy," so that to succeed, one has to work out his own salvation.

Much in regard to popular pedigrees can be learned at fairs and sales. A word of caution here, however, may be necessary, due to the fact that breeders frequently become over enthusiastic on "family" blood-lines, regardless of how remote they may be. A careful examination of the pictures of the breed's best specimens will help. The beginner must become familiar with the names of the breeders of noted individuals, both past and present, and look for these names in a pedigree. A thorough understanding of pedigrees requires constant study, and one becomes expert only after he has examined and analyzed dozens of tabulated pedigrees.

Sires contribute about seven-eighths of the heredity and in analyzing a pedigree the beginner must consider carefully the sires, grandsires and great grandsires. The names of famous individuals should be looked for in these first three generations, but what they are bred with should not be overlooked. An undesirable outcross will spoil them for the purpose if it happens in the line of the animal one has in mind to buy. Though sires, to a great extent, determine the value of a pedigree, the females appearing must not be overlooked. Certain bloodlines are known to blend well with one another, and a breeder should look for these in a pedigree. Family names, especially if derived from females, which appear as far back as the tenth or fifteenth generation are of little value. They are misleading, especially to the beginner. To be known to be the member of the "family" of which a particular female was the foundation, does not count for much; the tenth generation would contain less than one tenth of one per cent. of that female's bloodline. The same is true as regards the sire. Credit of the sire is fast becoming more popular with breeders; family connections on the female side are not counted of so much value. Credit should be given the greatest distinction in the founding or building up of a herd or stud, to sires that appear in the first two or three generations through performance in the herd or stud, in the show ring, or in official testing for milk production in dairy breeds.

The boy who has not had the chance to attend an agricultural college need not despair of his chance to get along as a breeder of the first order. The present day high schools where the breeders art can be learned are found in the show-ring and the sale-ring and opportunities to visit these should not be lost. The young aspirant to breeding fame, should occupy his time at the fair in doing some judging on his own account. He will do well to try his hand at examining and placing the entries in each class in his own mind, and see wherein he differs from the judge when his decision is made. The capable judge who fully realizes the full purport of his work in the show-ring, as an educative medium, will be quite willing to give opportunity to discuss wth him the reason of his placings if they differ from his effort. These explanations are of inestimable value to one who is new at the business and willing to learn.

There are many ways of gaining the knowledge necessary to the breeders art, not only to the fair and sale, but a visit to farms, run by progressive breeders, and a talk with the owners and herdsmen will help to give valuable lessons that cannot be got from books or agricultural papers. Genius in stock breeding, as in any other industry, is nothing more than deep interest in the work, accompanied by persistent effort.

Special Offering

Maple Green Farm Holsteins

On account of the great shortage in the supply of milk in our home town, we have decided (with regret) to dispose of our entire crop of Bull and heifer calves.

If taken inside of the next 30 days will price them away below their value.

The Dams of these calves are now running in the R. O. P., and the last official test conducted by the R. O. P. inspector showed an average test of 4.62% fat for the lot.

All are sired by our 32.32 lb. herd sire "King Korndyke Johanna", whose Dam is a full sister to Canada's Champion R. O. P. cow, "Jemima Johanna of Riverside". Milk in 365 days 30373; butter in 365 days, 1280 lbs.

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THE MARITIME SHEEP BREEDERS' ASSOCIATION MEETS WITH THE M. S. B. A.

A meeting of sheep men interested in the Maritime Breeders' Association was held in the Winter Fair Board Room, Amherst, on December 18th. The meeting was called to order by the Secretary, S. A. Logan, and J. M. Laird was appointed chairman.

The Secretary referred to the fact that there had not been a meeting of the Association sinc December, 1915, and suggested that the Association merge with the Maritime Stock Breeders Association, as the latter body included our most prominent members and the sheepmen's interests would be well looked after without the necessity of overlapping and conducting a multiplicity of organization.

Mr. Burdee Goodwin did not favor Mr. Logan's suggestion as he thought the sheepmen should reorganize and maintain their Association.

On motion it was unanimously agreed to merger as suggested by Mr. Logan and that the Association funds be paid into the treasury of the M. S. B. A.

SORES ON PIGS

Can you tell me what to do for pigs that haev a sort of itch? It comes in the form of small pimples, and these fill up yith pus and then break open and bleed and form a scab. One of my pigs had those on his ears. I used borax in powdered form and sores all went away, but are now returning.—C. W.

Reply.—Wet and filth are common causes for such a condition and in that case the disease is termed "pitch mange." Sunscald tends to start such a trouble, and then the sore places become infected with filth germs. We cannot say for suure that this is the case with your pigs, as some other disease may have somewhat similar symptoms; but not matter what may be the exact cause, it would be well to dip the pigs in a 1-100 solution of coal tar dip to which add enough crude oil to coat the surface. Scrub the affected skin with a brush when the pigs are in the tub. Reepat the treatment as required, and keep the pigs out of wet and filth.

SAND FATAL TO HOGS

It cost a Nebraska farmer $1,000 to learn that hogs must be supplied with mineral matter.

Hogs to this value were kept in feeding pens where they were neither supplied mineral foods nor given an opportunity to range for them. One day a wagon load of sand was dumped into the pens to be used for repair work. Shortly after, the animals were discovered dead and on post mortem examination the large intestines were found to be gorged with sand.

Swine growers should see to it that their animals have access to mineral foods. Where a considerable range is provided the animals are often able to find such foods for themselves but in any event it is a safe plan to give the hogs plenty of mineral matter in some form.

The following mixture is recommended by A. G. Skinner of the Extension Service of Connecticut Agricultural College at Storrs: Three bushels of charcoal, two quarts of air slaked lime, eight pounds of salt, one bushel of wood ashes.—Press Bulletin, Connecticut Agricultural College.

MINK 1,000 skins wanted. Will pay $12.00 to $15.00 average. Coon $3.00 to $10.00. Rats (lawfully taken) $2.00 to $2.50 average. Write for price list today.

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DAIRYING.

DAIRYMEN HOLD ROUND TABLE SMOKER AT AMHERST

The contestants in the Dairy Test at Amherst held a smoker on the evening of December 17th. Mr. Harvey Mitchell, of the Dairy Division, was master of ceremonies. The object of the smoker was to have a round table talk on the methods of conducting the Dairy Tests at Amherst and receive suggestions as to how improvements may be made to better conditions for future events. The contestants were unanimous in their aproval of the methods followed and cleriral work of the testing room staff.

Mr. John Retson mooted the idea that the system of locking the Dairy stables' doors as soon as the attendants had completed their chores and leaving the cows in quietness until the next chore period, with the door keeper paying a casual visit between times to watch for any trouble that might arise, was preferable to having so many attendants in the stables throughout the entire period. This practice he considered detrimental to the best results, owing to the commotion which prevails and which should be foreign to the dairy barn. While it was generally conceded that there was altogether too much commotion during the test period, the cow owners and attendants felt that they would not like to be shut out as by studying their cows' action after feeding they were better prepared to judge the quantity of food that should be given each individual at the following feeding period. It was suggested that in future it might me well to limit admission to the dairy stables between milking periods to the managing owner or attendant of each herd. The contestants realize that this is a matter that may easily be arranged with the Sock Breeders' Association to the satisfaction of all concerned.

The next question that came up for discussion was re the unsatisfactory condition of the dairy stables. It was thought, and rightly so, that no cow can do her best in the dark, unfloored stables as they now exist, with no control of temperature. Nor could the visitors see the cows to the best advantage.

A committee consisting of Bert R. Brown, R. L. Hicks, Arthur Dickie, W. A. MacKay and James Bremner was appointed to draft a resolution expressing the desires of the dairymen re improvements to the dairy stables, that might be presented to the Maritime Stock Breeders' Association. The committee retired and on their return presented a resolution asking that the present stables be torn down and that a new building be erected covering the site of the two old dairy stables and the intervening space. That the building be properly equipped with cement floors and fittings such as are found in well appointed barns with ample provision for control of temperature, abundance of light and if thought advisable, sleeping accommodation for the attendants. After some discussion the resolution was adopted. Some of the speakers who took part in the discussion referred to the fact that in the event of a new building being erected it would be well to locate along side the railway tracks where there would be ample provision for loading and unloading stock.

Another question dealt with dissatisfactions that frequently arise through seemingly unnecessary delay of stock in transit and careless shunting in terminal yards. A resolution was adpoted asking the management to bring this matter to the attention of the management of the Railways.

While the resolution committee were in session the dairymen were briefly addressed by W. F. Stephen, Secretary of the Canadian Ayrshire Breeders' Association, who in referring to the condition or the Winter Fair Dairy Stables observed that provision must be made for proper surroundings if individuals from accredited herds are to be shown at future shows. He advised his hearers to put forth their best efforts to maintain their herds free from tuberculosis. He advised every dairyman to have every animal in his herd tested for T. B. as soon as possible, for, if reacters are found in the herd the loss will not be so great as it will be if the testing is delayed until the whole herd is affected. Buyers are looking for and demanding disease free animals and it is well to cater to that demand. A herd with a clean record, he said, was worth at least fifty per cent. more than the herd that cannot show a clean bill of health.

Dairymen had done wonderful work during the war time conditions and have earned every cent they have received for their produce, despite the fact that one frequently hears them referred to as profiteers. This cry had practically disappeared when the Board of Commerce took the evidence of men who gave true statements of fact re the cost of milk production.

Dairymen, he said, should be better advertisers and breed and feed for larger production. The problem of the indifferent man is always with us and the dairymen are helping to overcome this indifference by progressive measures and good example.

Dairymen must not be content to rest on their oars.. "Good enough" is not good enough. The scrub bull must be assailed from every angle until his death knell is sounded. In conclusion Mr. Stephen expressed the hope that at next year's fair the cows would be quartered under more favorable conditions.

Dr. Hugh McPherson followed Mr. Stephen with an outline of the scrub bull control law in Nova Scotia, after which Prof .J. M. Trueman, on being called upon for a few remarks, referred to the educational features of the Fair and the splendid opportunity it affords our farmers to get acquainted. To do their best, he had no hesitancy in saying, the cows must be comfortably housed. The prices farmers are receiving for their produce now-a-days does not put them in the profiteering class, but conditions are of the character that omen well for the future of the industry and warrants a spirit of optimism for never again will the margin of profit between cost of production and cash received for the product be as narrow as it was in the past. The average farmer, he said, had no business to tamper with a pure bred herd. The great improvement must come from the progressive breeders who must continue to supply the pure bred bulls that should head the herd on every farm. He advised the breeders to do away with any pure bred scrubs they might locate in their herds.

Agricultural Societies are fast becoming cognizant of the wisdom of purchasing only the very best individuals available.

Among others who took part in the discussions were Hon. W. M. Lea, E. P. Bradt, A. E. Trites and Harvey Mitchell. Mr. Mitchell referred to the value of the dairy test and favorably contrasted the success of the Amherst test with those at Guelph and Ottawa.

PLANNING A SANITARY STABLE FOR INCREASED MILK PRODUCTION

..Does it matter what conditions are in the stable? Can we produce just as good milk and just as much of it, in barns that can be called unsanitary as in those in which conditions are more ideal?

A few moments thought will assuredly show uus the conditions in the stable make every possible difference, not only the quality of the milk produced, hut to the quantity also.

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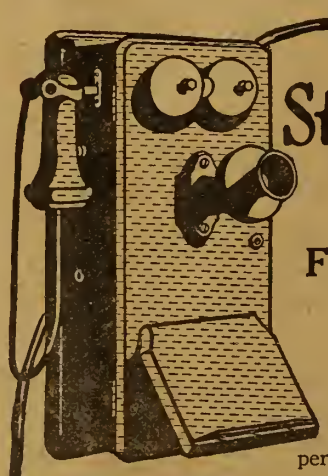

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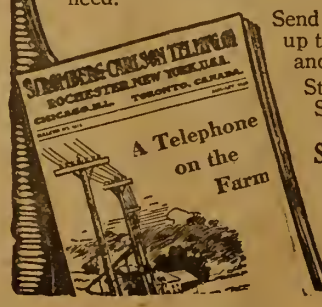

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poor, inconvenient and worn out tools? Can a manufacturer turn out an accurate product if his factory is badly arranged, his equipment out of date, and his planning of his work poorly thought out? Of course he cannot. If this is the case in other industries why should it be any different with us? Rather, let us say, it applies with particular force to us. The cow is not an unfeeling combination of steel and wood. She is highly strung and sensitive. She is engaged in one of the most complicated manufacturing processes known. She has to take into her system a great variety of raw materials, in the form of fresh air, water and food. She is surrounded by a great variety of influences, any one of which will affect her output. She turns out one of the most perfect products known to man; the one product, so scientists tell us which is capable of maintaining health without anything else added to it.

The more highly strung the cow and the greater her capacity for milk production, the more sensitive she will be to unsanitary quarters, discomfort, dirt, lack of fresh air, defective feeding and poor methods of watering.

Does the Average Cow Pay?

The average cow is a "boarder," pure and simple. If her owner breaks even on her, that is al lhe will ever do, unless he increases her production. Many attempts have been made to estimate the cost of producing milk, but such figures are almost sure to be misleading because of the wide variation in the circumstances under which it is produced and the difficulty of obtaining accurate figures which will apply to the ordinary farm.

It can be said, however, without any doubt in the matter, that the average cow, which produces only about 3800 lbs. of milk a year, does not pay. She does not pay for her keep, for the labor involved and for the interest on the investment. The essential point is that a 6,000 or 10,000 lb. cow will eat practically no more than her "boarder" sister—and she will produce dividends. (It is true that the higher producing cows drink a great deal more water than the poor ones, but water is cheap.)

Why then, we may well ask ourselves, should we go on handling cows which barely pay expenses? Why not put our dairy cattle on a profitable basis?

What Is Required to Increase Production?

Obviously good cows are needed. The boarders and scrubs should be sent to the butcher and the proceeds invested in a good bull which will grade up the herd.

Secondly, proper records should be kept to determne which cows are profitable and which are not. Those which fall short of at least 5,000 lbs. of milk a year should be disposed of. A record of this kind need not be elaborate and a few minutes a day are sufficient to enter up the figures.

But over and above these two factors, when we have at least moderately good cows and means of keeping tab on their records—we shall often find that our barns and stables must be rearranged if we are to make the most of the setock we have.

Conditions in the Stable

Only a really healthy cow will produce her best.

If our cows are to be healthy they must have: Plenty of fresh air; plenty of light; the right quantity of the right feed; good fresh water, at the right temperature, before them all the time; cmorfortable quarters and sanitary surroundings.

All these consideration are linked up wth the planning and equipment of our barns and stables.

Ventilation and Light

Plenty of fresh air for the stock necessitates some regular system of ventilation. It is not enough to open a door or a window at intervals and then heremetically seal the stable again. Fresh air should be introduced near the floor level by openings in the wall. Each full grown animal needs about 8 sq. inches of inlet area. The foul air should be taken off by means of a shaft running from the stable, through the mow to an opening in the peak. Each grown animal should be allowed about 15 square inches of outlet area for the foul air. Both inlets and outlets should be provided with dampers so that they can be controlled.

Sunlight is the best disinfectant known to science. Nothing else compares with it and yet it costs nothing. As a germ destroyer it stands supreme. By all means then, let us admit lots of it into our stables. A dark barn is not cosy and is necessarily warm. Cutting out the light of day does not add to the warmth of the stable. A dark barn is awkward to work in, difficult to keep clean, unsanitary and a breeding ground for germs. Let us put plenty of windows in our stables. Allow 4 square feet to each animal. A window 2′ 10″ wide and 4′ 6″ high is a good average size. These may safely be put in with 3′ of wal between them. The bottom of the window should be about 3′ 6″ to4′ 0″ above the stable floor.

Feed and Water

The correct feed for the cow is such a big study in itself that consideration of this point must be left for more detailed treatment. We may say this however: All cows do not eat the same amount. Their needs are different. What makes fat in one animal, produces milk in another and vice versa. It is well, when planning the stable, to make some arrangements for dividing the mangers. If this is done the fast eater cannot rob her neighbor—to their common hurt— and t is possible to arrange individaul rations for the different cows.

The importance of a good water supply for the dairy herd cannot be over estimated. Milk is 87 per cent. water. Seven-eights of the white fluid we call "milk" is just plain water. No cow will give her best if she cannot drink all she wants. It is out of the question to expect her to do this if she is driven out into the cold one or twice a day to gulp down her needs for the twenty-four hours at a semi-frozen creek or trough. The best way of keeping the water before the ciws is that provided by automatic water bowls attached to the stalls and fed from a regulating tank. These save time and disagreeable work and insure a supply of good fresh water at the right temperature, at any hour of the day.

Floors and Stabling

A number of reasons could be given for the growing unpopularity of wood floors and stabling. The increasing cost of lumber is certainly one factor. A growing realization of the superiority of cement and steel from a sanitary, durable and fireproof point of view, is another. Wood floors soak up manure and cannot be properly flushed and cleaned. Wood stabling harbors disease, germs and lice.

Cement floors are easily cleaned and are more durable than wood. Steel stable equipment takes up less room in the stable, allows sunlight and fresh air to circulate freely, never needs patching or repairing and offers no lodging place for germs and lice.

Modern inventions have added greatly to the comfort of the cow. There is no need nowadays to tie the cow with a chain in a dark gloomy stable in such a way that she cannot turn her head, cannot get up or down in comfort, has to stand or lie for hours with her head in one position. It pays to keep the cow in comfort. This has been proved time and again under every possible kind of test. Treat the cow and she will pay big returns in the milk pail.

A good gutter should be built and the cow lined up to it, so that droppings do not fall on the cattle stand. This saves much grooming and helps greatly in producing clean milk with a low bacteria count.

Manure should be cleaned out regularly and dumped at least forty or fifty feet from the stable. A manure pile near the stable, or under it, is nothing but a breeding ground for every kind of disease germ and flies. Even the best cows, fed the most balanced and most suitable rations, will only do their best and pay their biggest profits, when surrounding conditions are favorable. The requirements are simple but are too often overlooked. There is no factory in the world which answers more promptly or more profitably to improved methods of handling than the dairy cow. It is only good business to give her every chance.

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GIVE HORSES STABLE COMFORT

Barns cost like sixty in these days, and a farmer has good reason to think seriously over the economy of the floor area. In planning the buildings there is always the attempt made to accommodate as many animals as possible and cut down the available space to fit a desired number. In the accomplishing of this policy, the comfort and thrift of farm live stock is often violated, and much loss of horse power is the result where space economy is carried to extremes in the horse barn.

The Narrow Bed

Just what an inch or two extra in the width of the average horse stall will add to the comfort of the horse can well be illustrated by a six-foot farmer trying to stretch himself or derive comfort from a bed that is only five feet nine inches long. One night would be sufficient to convince him that bed extension would occupy his thoughts and actions next day. But what of his 16 or 17 hands horse trying to get well-earned rest after a strenuous day in a stall four feet six inches wide. Sixteen hands is five feet four inches. How can any horse lie on his side and stretch in a stall less than that in width?

Nothing will age anyone quicker than lack of rest, or cause stunted growth in young people, and the same holds good with the domestimated animals on the farm. Mature horses age quickly enough anyway from the strain and vicissitudes of work. There is no sense in aging them prematurely by not giving them room to stretch and lie at ease in the periods devoted to rest.

The Detestable Empty Stall

Horse barns are often cursed with an empty stall. There will be four horses on the farm with five stalls in the stable. One stall empty for a whole season, and four horses "cribbed cabined and confined." There is plenty of barn space, but too many stalls. It does not require an extra stall to hold straw forks, feed boxes, discarded harness and all sorts of things usually found in the spare tsall. They occupy the sleeping space of the horse. With movable partitions the space could be arranged to fit the size of the horse and so prevent heavy horses from being confined in pony stalls, where they often are at present, and at the same time expected to come fresh to work in the morning. The heavier the horse the more rest his legs require; pony legs will outwear a draft leg, other things being equal.

Narrow stalls are the cause of the highly harmful fault among horses, that of stall standing. There are not a few farm horses that have acquired the habit of not lying down by being forced to live in a narrow stall; they rest and sleep while standing. There is a legend that horses sleep standing, which is true when they suffer from some disability that makes lying and rising distressful, or when they are exhausted and cannot lie comfortably. But that does not alter the fact that the leg belongs to the horse and must have the best possible treatment, or it will wear out first.

Stall Standing a Harmful Fault

The horse though he has been with man from time immemorial, and has experienced man's domesticating influence for the same period, has yet not shaken off his pristine accomplishments. When in their native haunts they were ever on the watch for their natural enemies, and before they truste dtheir resting place they had it thoroughly examined. It is the same hereditary trait in their character that we see in them when they sniff the pasture for a few paces around them before they bend their knees to lie down, when at liberty on the field. When hitched by the head in a narrow stall this characteristic is checked and they, perforce, elect to stand it out. The two or three years liberty that some farm colts get after leaving their mothers, where they can run or lie as they choose in a yard or loose box, encourages the habit given them by their progenitors, then the sudden change of surroundings which the stall affords has its evil effects on their sensitive natures, and the standing horse is generally the result.

The first step in educating the horse to acquire the habit is the narrow, dark, isolated stall, that is so often assigned to the lonely and newly-weaned colt. It not infrequently happens that colts submitted to this treatment refuse to lie for the first few nights. When tied by the head in cramped quarters, they feel out of touch with their natural desires and what they have been accustomed to with their mothers. For a young horse to strike its head in feeling around in the dark for a suitable place or position, or to lie down too near the manger and have difficulty in rising the first time, would be quite sufficient reasons for it not to make the attempt to lie down again for some time. They are animals of extreme nervous temperament, and have very retentive memories, particularly for disagreeable things.

Stocky Legs and Swollen Joints

Narrow stalls are the adjuncts to stocky legs and deformed joints, and the animal with the listless air. They are doing a world of damage meantime to the horse power on all farms where such a stable arrangement exists, by preventing the horses from obtaining proper rest, and that tells adversely upon the animal's condition and upon its working capacities. The legs suffer very considerable harm when a horse gets into the habit of never lying down, since they are never relieved of the weight of the body, but have to support it during the night time, as well as during the day. Thus they are subjected to an unremitting strain, which tends to wear them out prematurely.

There are some horses that can take partial rest in a narrow stall, but their legs suffer just the same by the cramped position in which they have to lie. Watch the horse at night afield in the summertime when he is dead to the world, and preparing his organism for the efforts of the coming day. He is lying flat on his side with his legs stretched to the full, at rest. The horse does not require a long period of time in which to rest, but he must get the opportunity to get his natural way of taking it. One hour of repose, flat on his side, with outstretched legs is worth three or four hours with his legs tucked up beneath him in a narrow stall where he ventures to snatch some rest by lying down.

The Stable Spring Mattress

There is no end of ingenuity in operation in regard to providing a softbed for the horse owner, spring mattresses and those fitted with the softest material obtainable, and many other arrangements, all fitted to give the greatest ease to the sleeper are provided. The horse generally gets scant consideration in this matter. Damp beds are a fruitful source of illness and death to humanity, and the horse mortality is increased by the same cause. Narrow stalls are generally associated with bad ventilation, and lack of absorbents and damp beds is the result.

On the material to use in stall flooring, there is some discussion among those who take an interest in horse home comforts. A common floor in a horse stall is injurious to the horse and is uncomfortable, and is not conducive to the best sanitation. But if a cement floor is covered with planks it becomes comfortable and can be made sanitary. The stall floor will require to be eight feet from manger to gutter, and on this the cement should be laid with a fall of three inches. At the rear end a sill 2 in. x 4 in. should be laid across the stall but not fixed in the cement. Eight foot planks each eight inches wide, is next laid on, and spiked to the still, the other ends resting on the cement. This will keep bed level and give a runaway for the liquid that will pass through the half inch or more that must be left between the planks. The sill can be cut in the middle and this will make it easier to lift the floor in two pieces for cleaning below, which should be done every three weeks or oftener, if necessary. The floor will require no other support, and will have a springy motion when the horse steps on to it or lies down at night.

TYPE OF HORSE FITTED TO COMPETE WITH OTHER AGENCIES OF FARM POWER

There are quite a number of agricultural theorists as well as a few practical farmers who believe that horse breeding will no longer be profitable. This growing opinion is due to the popularity of the tractor and the widespread use of the automobile. It is a significant fact that those farmers who advocate the idea that tractors will do away with the draft horse on the farm, are those who have never given the horse power any fair chance to succeed on their farms, and base their comparisons between their own twe-necked broncos and the modern tractor. These are the men that tell you that the horse will not hold his own against the tractor or any other power devised to supplant him. The writer has heard it frequently expressed that on the average farm it does not pay to raise colts. But who wishes to be only an average farmer; he is the one fellow that is hard at the job of keeping down the values of horses, and keeping up the high cost of living in the horse barn, and accordingly the high cost of horse power on the farm. The tractor is credited by such farmers to do motive power on the farm more cheaply and efficiently than horses. Just how far the tractor can do this has not as yet been proven.

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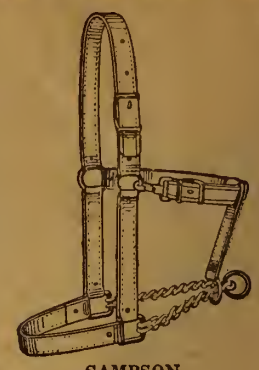

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But granting that the big farm finds the tractor an economical power, it cannot be said that horse production can be entirely cut out. It has been explained that heavy plowing in hot weather can be done more cheaply with tractors than with horses, and the truck does hauling so much quicker that the horse must take second place in long and short hauls. But rural Canada has not gotten to the point where roads are always passable for trucks, and there are wet seasons when the tractor cannot be taken to the field.

Cannot Dispose with the Horse

It is not at all probable that the market for big draft animals will ever be overstocked. The city streets are not nearly free from horse-drawn traffic, and the farm must keep a certain number of horses. However, the market for the poor type of draft horse is gone; but the market for big drafters is still good, and bids fair to remain so indefinitely. Horses must be kept on the farm as of old, even though the tractor may be found there also. There are certain farm operations that require horses, and the farmer cannot dispense with the horse entirely, even if he wished to do so. While the number of horses required can be reduced, it is only up to a certain point, for the tractor can encroach in a degree only on the domain of the horse.

A Financial Failure

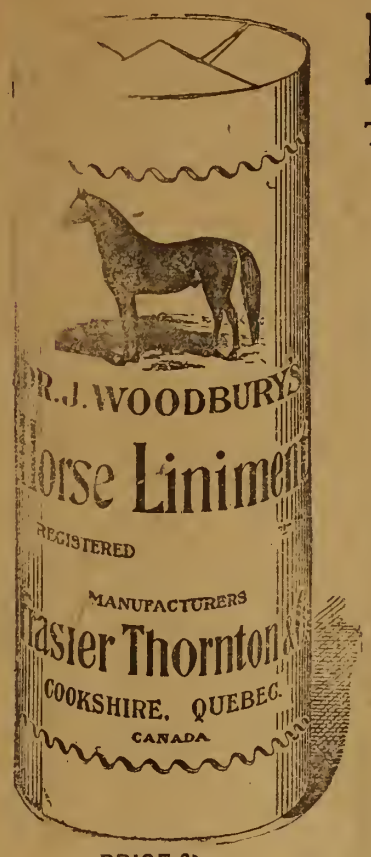
Of course there is no use for any farmer trying to stay in the draft horse business if he counts his horses as so much expense. If he does not know the value of good breeding, and thinks more of his feed bin than his colts, or is not willing to go to the expense and trouble of having well grown colts at two to three years of age, that are as sound as bullets, he might better go out of business. He is a financial failure, so far as the horse business is concerned, and the breed he represents would be a good deal better without him. This is the class of farmer who never studies the economic use of horse power, or of how horse power can be economically applied, while al lthe time its influence on farm profits is of first importance. Profits in farming are determined by expense involved in production, quite as much as by gross returns. Such profits can be increased only by increasing returns without a corresponding increase in expense, also by decerasing expense without a corresponding decrease in returns. In the work of a farm, the only items of expense which can be very much influenced, are those commonly known as operating costs, and from the standpoint of reducing expense, horse labor costs constitute the item of greatest importance.

Economic Horse Power

The horse that is to meet farm requirements must have weight; the methods of modern farming demand that the unit of horse power must be large. Correct conformation also must combine with weight if the greatest amount of power is to be had from a given weight. He must have the right conformation, if he is to be able not only to walk at a good rate, but also trot when necessary, regardless of whether he weighs 1600 lbs. or a ton. Quality and temperament is also of importance from the standpoint of developing a given amount of horse power per unit of weight. The horse must have these two characteristics if he is to wear and perform his work well.

There is very little known regarding the horse from the standpoint of his efficiency as a motor. To deal intelligently with the problem of economical horse power, whether furnished by machine or by horse, some more information must be gathered regarding the efficiency and lasting power of the various types of motors. The profitable type of horse has been well demonstrated. The horse with the right size, right conformation, quality and temperament, has proved the most economical producer of power as compared with the horse that is not up to the standard required. Thus there are horses and horses. The man who cannot produce a horse which meets the best requirements is playing a losing game. This is as it should be, and the sooner such a farmer finds it out the better it will be for his welfare on the farm.

The profitable horse for the farmer must be of the type that will give an economic source of farm power if he is to meet competition successfully. The future of the horse is in the hands of the farmer, and there is no reason why the horse of the right type should not continue to enjoy the premier place in furnishing power on the farm. In just so far as he falls short of delivering farm power economically, will the horse be displaced by other agencies. It is the farmer who can decide the problem, either by adopting mechanical horse power, or successfully carrying out the business of horse production.



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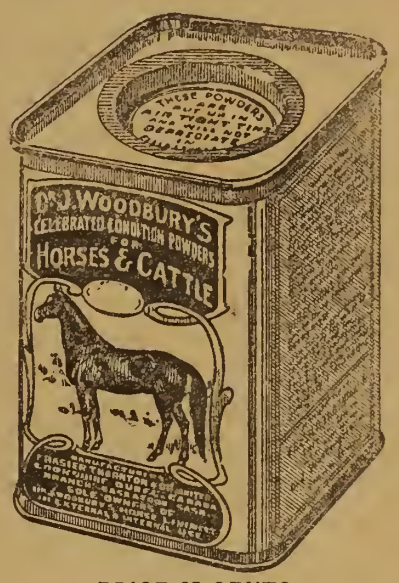

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FITTING STALLION FOR SHOW

The showing value to the stallion as an advertising medium should be got by his winning progeny, rather than by himself. Moreover, a stallion that has once demonstrated that he can throw offspring of unusual merit should never be fitted for the show-ring. His offspring should do the winning for him; they become his greatest and best advertisement, and therefore the best prize any stallion can win. Many a good sire, among live stock on the farm, has been sacrificed on the altar of high feeding and fitting for show purposes. The stallion, overfed for breeding, is the one that too often pleases the eye of most judges. Just as he stands before the judge is the limit of the judges' inquiries regarding the animal; his vitality as a stock getter is never questioned, though many horses are spoiled as breeders through feeding, by lack of that very necessary quality.

How Wm. Dunlop Regulates His Horse Breeding

Mr. Dunlop's farm is situated on the wind swept sea shore of the Ayrshire Coast of Scotland. Its pastures slope upward to the sea, and the soil is a sour tough clay exposed to the cold winds that sweeps in from the Atlantic ocean. This condition no doubt explains the ruggedness of the Dunure stock. From his late sale, Mr. Dunlop retained some 40 mares of all ages to serve as a nucleus of even broader Clydesdale operations than he has previously indulged in. The three stallions in his stud are "Dunure Footprint," "Auchenflower," and a big, rugged Sir Hugo stallion of six or seven years, that is used for outcrossing. These three stallions have 550 mares booked for them. "Auchenflower," the sire of "Dunure Ideal," which was the dam of "Dunure Footprint" at 17 years of age, has 100 mares booked. The Sir Hugo horse has another 100 females, while "Footprint" himself has 350. Mares come to Dunure mains from all over Britain, and Ireland, with a few from other lands, two having been sent from Canada. Most of these are sent to "Footprint," but "Auchenflower" draws many.

Between June 1 and June 27 "Footprint's" service per day was nine and one-third mares, and the marvelous feature was the small number of mares not settled at first service. In the month of June only eight mares had been re-bred. This included May and June service. Any horse reared under average show going treatment, that so many stallions get, would not accomplish such a breeding performance as the record of this stallion, or his to companions on the Dunure Farm. It is very unlikely that any breed reared under less rigorous conditions than the Clydesdale could withstand so much service a day.

Leads to Prepotency

The natural conditions under which the stud has all along been kept and selected, has induced prepotency. Not only in quality but in color as well is this distinctive prepotency seen in "Footprint's" progeny. His odd dark roan color with white spot on flank is to be seen in a number of his foals. About half his colts are good bays and browns, and about half are roans.

It is an interesting feature of his prepotency that the most successful of his progeny are of the same dark-bluish roan as himself. The winning mares at the Royal in England this year were of the same shade and markings, the champion "Rosalind" being almost a replica of her sire. It seems that on the average those colts possessing "Footprint's" color inherit more of his good qualities than the colts of less distinctive coloring.

Great sires are scarce and many owners have lost their stallions' usefulness through inattention to the conservation of their breeding qualities. Many a stallion colt is underfed in youth, and overfed when he is required for the show or sale. It is no use thinking that stallion colts can be carried along like stock cattle until prices increase, and then begin feeding to make horses out of them. It cannot be done. It takes feed and care to develop draft stallions, and if a breeder is not willing to go to the expense and trouble of having well-grown colts at twenty-four months of age he would be better to get out of business. He is a financial failure as a horse breeder, and is a class of breeder that will bring reproach to any breed of draft horses. The stallion colt reared in this manner is not saleable, and the owner therefore imagines the horse business has gone to pieces.

The Principles of Feeding

It should never be forgotten that stallions are to be used for breeding purposes, and that the pre-eminent principles of feeding are neither to feed too fast nor to use unsuitable feeds. It is well known that there are "dopes" and ways of feeding that some exhibitors and dealers in horses apply to get horses as quickly fed for show and sale as possible, but stallions so treated are rarely satisfactory breeders, especially for the following one or two seasons. All they need is good feed and water, and the best are oats, bran, clover and alfalfa hay. Oats are pre-eminently the horse's grain feed. A little linseed meal added once a day is beneficial, especially if timothy is the available hay, owing to its low protein content in the feed. A saving of 10 per cent. can be made by grinding or crushing the grain, so as to ensure thorough mastication.

It is essential that stallions should have plenty of good water. It has been proven by experiments that the

(Continued on page 249)

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With the ever increasing cost of production every possible source of revenue should be developed. The high class table egg—infertile—put up in neat packages to command a few cents per dozen over the ordinary new laids; the early hatched chicks to have well matured pullets for winter layers; the early hatched cockerels, other than those reuired for breeding purposes, properly finished and marketed as broilers; the later hatched chicks held for roasters, crate fattened and sold at a time when the market is not glutted; the hens, culled, fattened and sold early in the season at the time of high prices; besides these usual sources of revenue attention should be paid to the eggs for hatching and the day-old chick business. These branches, and particularly the latter, offer great fields for development.

The best of the hens that are not required for next year's breeding may be sold for breeders at a considerable advance over the price that could be obtained for table poultry.

It is by paying special attention to the putting of the product up in an attractive form that the profit is increased. The extra few cents per dozen for the eggs and the increase in price for stock is just so much more profit. In crate feeding not only is the weight being increased, but the quality, as well, so that a higher price per pound may be secured.

A little carelessness at any time of the year may prove disastrous to profits, the incubator lamp is not properly trimmed or the incubator regulator is knocked out of adjustment—Result—a poor hatch. The brooder stove is overlooked some night—Result—a lot of chilled chicks. The poultry house is not disinfected regularly in hot weather—Reusdt—a house infestel with mites—a flock without production. The hens are not culled and half of them are either low or non-producers—Result—the profit produced by the layers used to support the non-layers. There are one hundred and one ways in which the profit may be turned into loss and it is only by constant attention to the aparently little things that success is assured.—Geo. Robertson, Asst. Dominion Poultry Husbandman.

COMBS INDICATE LAYING POWERS

The ornamental appendage known as the comb is one of the chief considerations of the poultry fancier, but it is also an indicator of health and prolificness. Ailing fowls will quickly display a pale-colored and even an almost black-tinted comb whilst an unsightly covering of white spots is sometimes seen. A pleasing contrast is the blood-red comb which adorns the head upon well-ionditioned fowls. Lack of nutriment or anaemia is followed by pale comb and wattles, and is remedied by generous diet and an iron tonic, whilst ventilation or an increased supply of oxygen in the night house will soon improve matters. Disease of the liver or advanced cases of indigestion will alter the comb from red to purple or a dark red color. The cause is generally to be found in overfeeding on starchy food devoid of albuminoids and the omission to compel the birds to exercise. An exclusive corn diet will usually cure the trou-

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ble, and it cannot be too widely known that all poultry succeed best when fed in moderation on a spongy or bulky mash once daily. Epsom salts or Glauber salts (which are tasteless) will be of service, also green food (including finely chopped onion) and plenty of sharp flint grit. Empty grit boxes and ill-looking combs are usually closely associated, and unless the hen's gizzard is regularly supplied with grit the liver and digestive organs will quickly be impaired. In some flocks almost from the hatching day the tendency to liver troubles commences, the reason being that the chickens have been fed too soon after hatching with soft food, instead of small flint grit, which should be the first meal of all chickens.

Combs which show signs of scurvy are unsightly, whilst "favus," or white-comb, is very destructive in poultry yards, and, being highly contagious, spreads rapidly. Carbolic ointment will remedy mild cases, but if advanced mercury ointment should be used, made by mixing red oxide of mercury with eight parts lard, and rubbing in well. In all such cases great precaution is necessary, as the favus disease can be transmitted to human beings, especially if the skin or surface is abraded. Frosted combs may be prevented by anointing occasionally in winter weather with vaseline to which a little glycerine and turpentine (one part) has been added. That frosty weather affects not only the combs, but the ovarian organs, is beyond doubt, and for this reason small-combed and rose-combed fowls are usually the better winter layers. During the moult the comb shrinks often to half its normal size, whilst when the new plumage is complete and the fowl's vigor restored the comb increases. Breeders of non-sitting breeds (or those which lay a white-shelled egg) are advised that the combs may be increased in size by giving a daily feed of cooked meat, especially meat meal. This particularly refers to young stock. In such breeds, it may be added, many pin their faith to a hen or pullet with a large, good quality, well drooped comb, firmly set at the base, as indicative of its laying powers; in fact prominent utility poultry-keepers often adopt this plan of selection when making up their pens for producing good layers. In the male bird a well set comb, broad at base, will be found an excellent test of the bird's powers of fertility, for strong, vigorous chickens are seldom bred from pens headed by a male bird with small, dwarfed, thin comb. One of the chief attractions of a poultry show to the aspirant to knowledge is an inspection of the many varied styles of combs seen in the exhibit stages. No matter how some birds may excel in shape and color, if the critical eye of the judge espies a wry, malformed, or unhealthy comb, such specimens are considerably handicapped in the competition.

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THE MARITIME POULTRY ASSOCIATION

The organization meeting of the Maritime Poultry Association was held in the Fair Buliding, Amherst, N. S., on December 17th. The last meeting was held in 1916, when the Maritime Poultry Show was held in the city of Moncton. A. F. Houston, president of the Association, presided.

J. A. Clark, Superintendent of the Charlottetown Experimental Station, gave an outline of the work done in the egg laying contest at his Station last year. While White Leghorns predominated in point of numbers in the 1918-19 ocntest, Barred Rock had in the 1919-20 contest. Mr. Clark said he wished to see the plant extended so that there would be room for birds eligible for registration. Prospects, he said, were never brighter than at present for utilitp poultry keepers.

A. C. McCullough, Poultry Supt. for New Brunswick, outlined the progress that is being made in poultry circles in his province. Several New Brunswick poultry keepers had taken part in the Charlottetown egg laying contests. The establishing of boys' and girls' Poutry Clubs and the importation of the best eggs procurable from utility Barred Rocks, on which the Clubs are specializing, is making a marked improvement in the poultry of the Province. Mr. McCullough would not advise parties who do not know the business to go into poultry raising on a large scale. His advice to returned soldiers who purpose embarking in the poultry business is to begin in a small way and increase as knowledge of methods accrue. The speaker's closing remarks dealt with the advisability of standardizing poultry and poultry products for the market.

George Wilson, of the Dominion Poultry Divisioon, who is doing good work in the Porvince of New Brunswick, gave a short talk on several features of the work that is being done. Culling demonstrations have been held with a view to weed out the flocks retaining only the best. At Port Elgin, in the County of Westmorland, the poultry keepers sold their surplus stock co-operatively and realized top notch prices. This is a start in the right direction and while the offering this year was in the vicinity of eght and one-half tons, the success attained by the participants this year augur well for a much larger offering next season.

A. F. Houston outlined the work of the P. E. I. egg circles and the success of the more recent venture in the live and dressed poultry trade.

J. W. P. Clarke, one of the judges, referred to the R. O. P. work in poultry lore and welcomed its introduction as being of inestimable valuue to the future of the poultry business. He explained in detail some of the principal factors which the judge of poultry must consider and the preparation of birds for the show.

Prof. J. P. Landry told about the egg laying contest that is now in progress at Truro, there being 30 pens of 5 birds each. A large number of returned soldiers are taking the poultry course at the N. S. A. C. A Canadian expert on eggs, who inspected a lot of eggs reecntly assembled in Nova Scotia for export, said they were the best lot he had ever seen brought together, a fact which shows that Nova Scotia poultry men are progressing in their work. The eggs, in question were shipped to the English markets, the verdict of the consignees is expected in the course of a few days.

Prof. Landry said the time had arrived when, as a protection to the poultrymen who are placing good products on the markets, that the interprovincial trade in eggs and poultry be standardized.

The connection of the M. P. A. with the Maritime Stock Breeders' Association was also outlined by Mr. Landry.

The election of officers resulted as follows:

President—J. R. McMullen, Truro.

Vice-Presidents—Chas. Johnson, North Sydney; A. F. Houston, Charlottetown, P. E. I.; R. P. Allen, Fredericton, N. B.

Sec.-Treas —A. C. McCullough, Fredericton, N B.

Directors—T. C. Latham, Alma, N. S.; Ed. Jordan, Kentville, N. S.; W. E. B. Tait, Dorchester, N. B.; Vye Gibson, Moncton, N. B.; W. J. Cudmore, Charlottetown, P. E. I.; J. A. Clark, Charlottetown, P. E. I.

Prize List Committee—J. P. Landry, Truro, N. S.; A. C. McCullough and A. F. Houston.

Delegate to Maritime Stock Breeders' Assn.—J. R. McMullen.

Executive Committee—President, Secretary and J. A. Clark.

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Here is one of the best lines of the season—Note the contour—extra comfortable yet shapely in line and proportion.

This one type comprehends a very extensive range of about twenty-five models—in different Leathers and Colorings, the finest grades of Calfs and Side Leathers — made in Black and the Season's best Browns.

Complete lines in all lasts, styles and colorings stocked both at Amherst and at our Halifax Branch, 164-166 Granville St.

AMHERST BOOT & SHOE COMPANY, LIMITED.

Mr. J. A. McFarlane of Napanee, Ont., had chilblains so bad that he couldn't wear boots. Egyptian Liniment relieved them. Don't suffer from chilblains this winter. This liniment is also for Frost Bites, Burns Scalds, Cuts, Bruises, Sore Chest and Throat, Neuralgia, etc.

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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to houschold science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

"WATERS OF MARAH"

"I do believe," said Miss Jessup, looking straight into the other woman's eyes, "that you are the meanest woman in the world."

Mame Pool returned her look evenly. "I shouldn't wonder if I was," she replied. "And I've got a right to be."

"Nobody's got the right to do the things you do," Miss Jessup said, angrily.. "But you keep right on and get your come-uppance."

"Laura Jessup," said Mame Pool calmly, "you can't scare me with your talk about a come-uppance. I've had just about all the come-uppances that's coming to me. When things are just as bad as they can be they can't be worse. And I know it." She walked into the house anr shut the door in Miss Jessup's face with a slam that set the old building chattering. Then she stood with her back against the door. "She called me the meanest woman in the world," she said over and over again to herself. "The meanest woman in the world. She's right, I am."

But somehow—standing there, she did not look mean—only little and poor and piteous. Her clothes were a mere something to conceal the body and lend it warmth. She had worn them for over five years. Yet she had a way of wearing they that warded off ridicule. No one dreamed of offering her new clothes. It was generally understood she had money, but was too stingy to use it.

She knew how she was regarded, but so long as people ignored her she did not mind too much. It was only when they grew bold and sat in audible judgment upon her that she winced. When a few moments before Miss Jessup had overtaken her on the street she had never suspected from greeting how they were going to part.

"For a good while, Mame," Miss Jessup had begun, "I've had it in my mind to speak to you." And then she had spoken.

Miss Jessup had a relentless tongue. She began at the beginning and went through the whole list of Mame Poole's crimes against the community. She would not give to the church or charity so much as one penny. She never baked an ounce for the pastor's aid or the old folks' annual birthday dinner. She never sent a flower or a glass of jelly to the sick. Sne lived unto herself and according to the Bible no one had any right to do that. Moreover, she scattered candal as burdock scatters seeds. She seemed to delight in sking out other people's failings and hanging them on the line of public observation. She was full of bitterness and antagonism toward the whole world. It is true, she was not of much importance to wield a sword, but she used a pin that kept the community smarting. If there was any occasion for her attitude it might be forgiven, but there was none outside herself. It behooved her to mend her ways or take the consequences. "I'm going to say to you what everybody thinks," ended Miss Jessup. "I do believe you're the meanest woman in the world'.'

So at last Mame Pool heard in plain words what her neighbors thought of her. And she had shut the door in Miss Jessup's face. For a few moments she stood defiant and firm, then she collapsed and sank in a crumpled heap on the floor. "My God! My God!" she moaned.

Recovering, she looked around the place. It was hers, having come to her from her mother. Everything was worn, but still the room had the appearance of comfort. Through open doors she could see the other rooms. Women who give to the church and enjoyed society lived in worse places. No wonder people could not understand why she had never a penny for anything beyond her own needs. "And they never shall understand until the day I die. I'm tired of fighting and lying and sneering at other folks good deeds and airing their bad ones to shield myself. I'm the meanest woman in the world, but I'm sick of being mean."

She rose and began to take off her coat. Suddenly she remembered she had a letter she got out of the post office before she met Miss Jessup. Now she opened it and read:

"Dear Minnie:—You have been in my mind a good deal lately. Ever since that preacher got hold of me. He got hard and he won't let go. I don't want him to. I'm sick of bumming round and letting you take care of me. I guess you've seen some hard times trying to keep he going. I want to do something for you now. I've got a job and I'm sending you eight dollars. Use it for yourself.

"HARRY."

Mame Pool read the letter three times before she got its full meaning. As she regarded it her wan eyes filled with tears. Then thee old doubts returned. "It won't last," she said to herself. "He's reformed and got jobs before. I wish I could trust him, but I can't. There's nothing in his past performances to encourage me."

And so Mame Pool went on being the meanest woman in the world. Yet each week she received $8. The money spoke plainer than words, but she was hard to convince. She put it away sacredly. "He'll need it probably," she told herself.

Two or three months passed before she received a second letter.

"Mr. White is keeping hold of me, and besides I'm beginning to keep hold of myself. It pays to be a man. I'm sending you $20 extra. I want you to get some new clothes and come to see me. I want you to know Mr. White. I wish I'd started sooner, so I could be like him. Maybe it isn't too late. You tell me what you think when you come.

"HARRY."

That same day Mame Pool went down town and bought a dark blue suit, with blouse, hat, shoes, and gloves to go with it. The store management was amazed.

"Going to be married?" quizzed Lizzie Moore.

"Watch the Weekly Eagle and find out. That will give you some business of your own to attend. You don't seem to have any too much here," returned Mame.

"Ain't she mean " said the wrathful saleswoman, after Mame had gone out. "I was tempted to tell her so. But from what I hear, Miss Jessup did it good and proper."

Mame Pool was gone before anybody missed her. She was gone so long that people began to think she was never coming back. All winter the house stood coldly keeping the secret. Then spring came, the snows ran away in rills and the lilac bush beside the front door began to put on the airs and graces of new verdure. One morning Miss Jessup loitering by on some errand, saw Mame Pool coming round the corner of the house with very dirty hands. They caught each other's eye and Miss Jessup bowed coldly. But Mame called right out to her. "Oh," Miss Jessup, come here, I want to see you."

Miss Jessup obeyed, because there was a different sound to the woman's voice and a different look to her eyes.

"I'm thinning my jonquils and I want you to have some," Mame said. "I've taken some to Mrs. Pinchbeck and there's thousands left."

"Why, I'm much obliged." In her surprise Miss Jessup scarcely knew what to say.

"And if you're round getting things for the old folks' birthday dinner," Mame continued, "I want to tell you that I'll give you a dollar. I'd bake a cake, too, only I'm a poor hand to bake a cake."

Miss Jessup stared in amazement. "A dollar!" she gasped. "What in the world's happened to you Mame Pool, to make you do a thing like that?"

"I'll tell you, Miss Jessup," Mame answered. "It's Harry."

"My brother Harry. You never knew about him because he went wrong before mother and I ever came here and bought this house. It was on his account we came out of the city. It's cheaper living in the country. And we thought if we had more money to send him maybe he would keep out of scrapes. We never told anybody about him. Then mother died. I had this place and a small income. Harry got the income. Why I lived two days and a half on a pint of beans.' She paused. "Pshaw! What's the use of telling such things? I didn't mind much. But it was hard to be called mean and stingy when—" she paused again. "Of course I could have told you. But after a while I'd been cut to pieces rather than tell. I know I was mean and bitter and wicked. I felt as though God had played a trick on me and I couldn't bear to see other folks happy. For you see Harry was just about all there was in life to me. I was a big girl when he was a baby and I always had to mother him after mother got poorly. But, of Miss Jessup, you ought to see Harry now! He's splendid. He's got a dandy job, and he's straight as can be. I've been with him all winter and he's going to spend his vacation with me—he and his friend, Mr. White. Mr. White's a preacher, and Harry owes everything to him. I'm going to have the house all fixed up. And I've got money to give away. And, best of all, I've got hope and joy and encouragement to live. I'm not going to be the meanest woman in the world any more, Miss Jessup." Her eager voice failed.

Miss Jessup took her two earth-soiled hands in her immaculate white gloved ones. "Mame Pool," she said, "I take that back. I take back everything. And this town is going to do the same ,or Laura Jessup will know the reason why."

WHY GIRLS LEAVE THE FARM

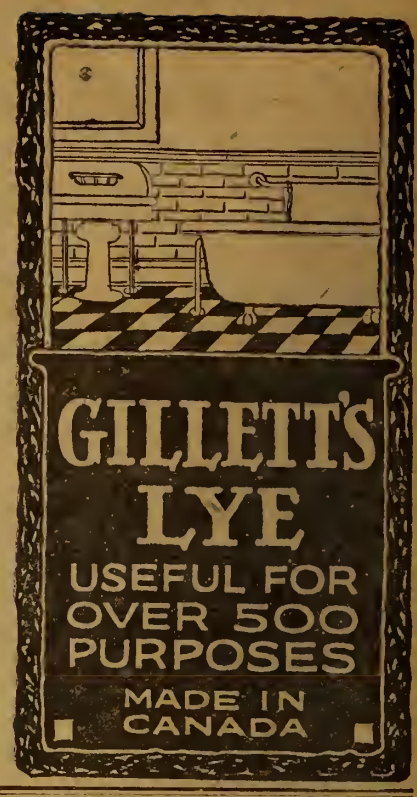
One of the greatest factors in driving girls away from the farm is the desire for economic independence. The majority of the girls of the present age are not found on the farms, but in large cities, where many profitable situations are open to them. But some people may ask, "Why can not the country offer some of the same advantages as the city?" Simply because country people have not become wide enough awake to realize of what value their girls are.

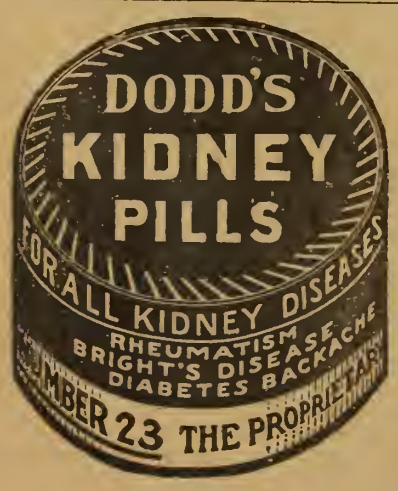
A girl on the farm is not well enough appreciated. When the opportunity of a situation comes, she generally takes it, thinking that she shall be able to earn her own livlihood and be independent of others. Many country girls (please note that there are exceptions to all rules) are expected to help with the house work and the barn and field work also. And by doing both she has no time for the little trifles so dear to the heart of the girl. If the country girl had not so much work to do she would be far more willing to stay on the farm.

All girls, I believe, like house work but not work which will tend to destroy their robust appearance. Why do country mothers not try and introduce new methods and ideas into their homes, instead of letting their daughters go to the large cities to find them? Why not give our girls more time to read and observe those things which help to beautify and make the home more home-like and less like a work shop where everything is done in the same way over and over again, and where there is only work. Bring into the home books which have the very newest and best ideas inside their covers.

Let the country girl take a vacation, the same as the city girl. When she returns we will find she is more willing to help with the work, also she brings many new suggestions, which will be most useful in the home if carried out.

Why not give the girls something on the farm which is their own and





Heart Pains So Bad

SAT UP MANY NIGHTS.

A large majority of the people are troubled more or less, with some form of heart trouble, and that distressed feeling that comes to those whose heart is in a weakened condition causes great anxiety and alarm.

On the first sign of any weakness of the heart Milburn's Heart and Nerve Pills should be taken, and thus secure prompt and permanent relief.

Mrs. Thomas Hopkins, Crowell, N.S., writes:—"I had heart trouble for several years, sometimes better and sometimes worse, but a year ago last fall I could not lie down in bed for that distressed feeling, and had to get up and sit up a great many nights, and when I did lie down it was with my head very high. I purchased two boxes of Milburn's Heart and Nerve Pills and feel a lot better. I can now lie down quite comfortably and the pains have gone too."

Milburn's Heart and Nerve Pills are 50c. a box at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

out of which they can make a little "pin money?" For example, there is often a motherless little pig or lamb. Give it to the girls and they will make money out of it, if money can be made.

Would it not be more profitable to get the girl in the country home a piano and other articles which she wants, such as nice clothes, rather than to let her go away from home? The farmer would have to hire some one to do the work she once did. The work would not be so well done, nor would the mother enjoy working as well with a stranger as with her own daughter.

Let us give our girls the joy of social life by bringing good company to our homes. Let us not keep our parlor as a store room in which to keep our laec curtains, oak rockers, and plush carpets, but have it for a living room. There are no parlors nowadays. The very name signifies that it is a place in which you must not touch or handle anything. Who could enjoy themselves in such a place? Keep the living room attractive and let in plenty of sunshine and air; have it ready to receive our friends and our own folks. Don't worry about keeping a grand room, into which we may look once in a while to see if the moths are eating the carpet.

A Driving Horse Essential

If the farmer would keep a good horse that the daughter might drive he would soon see how much good it would do. There are many times when the "women folk" wish to go some place, and often the men are "too busy" to take them, and the women are deprived of their outing. But let us not make the mistake of thinking that the farm girl will be satisfied with some old mule of a horse that the men would not drive. Give the girl a good spirited horse. Let her drive it to suit herself. She will soon have it so anyone can drive it. The harness and the buggy should be such that the driver will take an interest in them and keep them in good order.

We country mothers should see that our daughters get a good public school education also a couple of years at high school if possible. Then when the girls are out in good society, they are not at a loss to know what to talk about. At school they would meet with other boys and girls and would be able to study their characters and deportment. This would help them to classify their acquaintances in after life.

PILES Do not suffer another day with Itching, Bleeding, or Protruding Piles. No surgical operation required. Dr. Chase's Ointment will relieve you at once and as certainly cure you. 60c. a box; all dealers, or Edmanson, Bates & Co., Limited, Toronto. Sample box free if you mention this paper and enclose 2c. stamp to pay postage.

MAKING EVEN STEWS INTERESTING

When they had settled with the chauffer which way they had wanted to go, Mrs. Nixon leaned back in the seat and said, "Won't you tell me, Jennie Duncannon, how you make your family eat stews and things? I can't mine. John is always complaining these days, because I spend too much on the table, then neither he nor the children will eat anything but chicken, beefsteak and charlotte russe."

"I'll tell you what the secret is," replied Mrs. Duncannon. "You probably do what so many people do when they are serving cheap dishes, you fail to make them interesting. I know that you always garnish your steak with parsley and lemon cups; I have sen you take fifteen minutes to make cranberry strings for a turkey; and you always put candied cherries on your charlte russe. But do you ever bother that way with your stews and bread puddings?"

"Why, no, I don't supose I do. I never thought——"

"No, you never thought they were worth the trouble. Well that is my secret. I save my cherries and nuts for my bread and rice puddings. I always serve my bread pudding in my rock crystal sherbet cups instead of the dish in which it was baked, with a bit of whiped cream and a cherry on top. I put a row of tiny brown buttered biscuits around my lamb stew, eactly as if it was fricasseed chicken. I serve my nourishing soups in bullion-cups with golden brown croutons. I cream the left-over vegetables in china ramekins and often put a flower or a leaf on the saucer. I can put a brown stew with vegetables on the table that will look every bit as inviting as a planked steak and will taste as good. I have attractive little molds for my corn-starch puddings. I bake the simple one-egg cakes and gingerbreads in fancy pans. I try all the new dishes I find in my magazines so things won't get monotonous.

"Try baking your rice pudding some day in little individual custard cups, and sprinkle a few chopped nuts over each. Bake your cottage pudding in a Turk's head and fill the centre with the sauce and serve it on your pretties plate. Put a few almonds in your stewed apricots and serve them ice cold in glass dishes with ginger cakes and they won't say, "Oh, dear, there's that old stewed fruit again.' There are many things that you will think of yourself that will make your work more interesting. And, most important of all, you will both economize and delight all the family."—By Jane Gates.

A THRIFTY MISTRESS IN THE FARM HOME

Some people seem to think that saving money consists entirely in stopping expenses. But that is purely hoarding. Of course, the first step in saving is to cut out the foolish expenses, and one must have the common sense to discriminate between the foolish and wise expenditures.

The big thing is to know how to spend. The thrifty man knows how to spend as well as how to accumulate. He gets full value for his money and looks ahead. He may not take his family to the theatre often, but he sees that they have good books and music of sime kind at home. His wife and daughters may not set the fashion in their neighborhood, but no matter how successful the earner may be, it is too often the case that the spender gets rid of the money as fast or faster than it comes in.

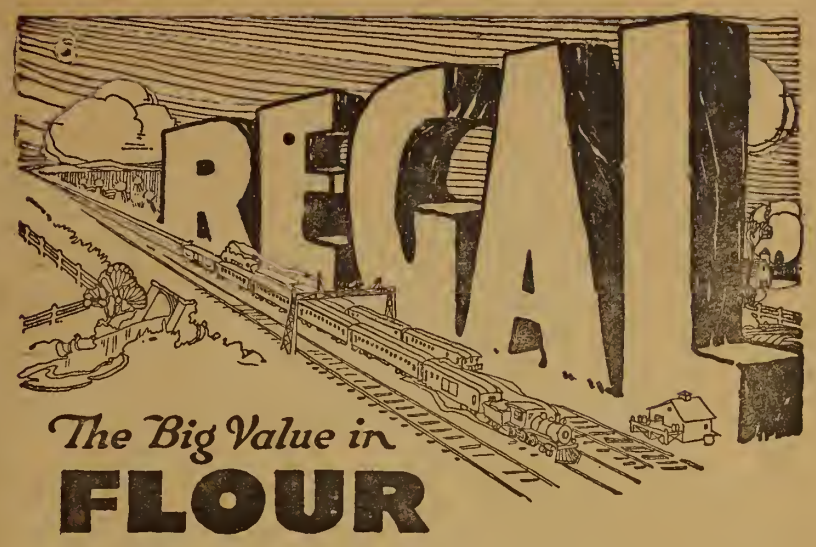
On the other hand, the successful mistress of the home fights half the battle and in some cases more than half. Once a woman gets the idea of saving, order and system into her work, she can beat a man at it in most cases. Women are usually more persistent savers than are men, and they are more apt to watch the small leaks.

The farmer's success or failure, his going up or his going down in his scale of accomplishments, depends upon his wife. A helpful, thrifty wife, one who is conserving her husband's capital, his health, his earning ability, not to mention his pocketbook, closes the avenue of waste and will make him succeed, while with a wasteful and careless wife, a man might as well give up success.

The housewife must feel the dignity and importance of her calling and should put as much energy into her job as her husband puts into his job. To be a sucecssful homemaker requires study, just as it does to become a successful teacher or lawyer. The pity of it that too many girls become homemakers with little or no preparation.

PEANUT COOKIES

Six tablespoonfuls fat, one-fourth cupful peanut butter, one cupful molasses, one-fourth cupful sour milk, one-half teaspoonful soda, one teaspoonful baking powder, three and one-half cupfuls rye flour or war flour, or enough to make a stiff dough. Mix in the order given. Bake in moderate oven.



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MONTREAL

I KNOW A WOMAN'S SUFFERINGS

I am a woman.

What I have suffered is a far better guide than any MAN'S experience gained second-hand.

I know your need for sympathy and health.

And the treatment that gave me health and strength, new interest in life, I want to pass on to you, that you, too, may enjoy the priceless boon of health.

Are you unhappy, unfit for your duties? Write and tell me how you feel and I will send you ten days' FREE trial of a home treatment to meet your individual needs, together with references to women in Canada who have passed through your troubles and regained health; or you can secure this FREE treatment for your daughter, sister or mother.

If you suffer from pain in the head, back, or bowels, feeling of weight and dragging down sensations, falling or displacement of internal organs, bladder irritation with frequent urination, obstinate constipation or piles, pain in the sides regularly or irregularly, bloating, dyspepsia, extreme nervousness, depressed spirits, melancholy, desire to cry, fear of something evil about to happen, creeping feeling up the spine, palpitation, hot flashes, weariness, sallow complexion, with dark circles under the eyes, pain in the left breast or a general feeling that life is not worth living, I invite you to send to-day for my complete ten days' treatment entirely free and postpaid, to prove to yourself that these ailments can be easily and surely overcome at your own home, without the expense of hospital treatment, or the dangers of an operation. Women everywhere are escaping the surgeon's knife by knowing of my simple method of home treatment, and when you have been benefited, my sister, I shall only ask you to pass the good word along to some other sufferer. My home treatment is for all,—young or old.

Read My FREE Offer:

To Mothers of Daughters, I will explain a simple home treatment which speedily and effectually dispels green-sickness (chlorosis), irregularities, headaches and lassitude in young women, and restores them to plumpness and health. Tell me if you are worried about your daughter. Remember it costs you nothing to give my method of home treatment a complete ten days' trial, and if you wish to continue, it costs only a few cents a week to do so, and it does not interfere with one's daily work. Is health worth asking for? Write for the free treatment suited to your needs, and I will send it in plain wrapper by return mail. Cut out this offer, mark the places that tell your feelings, and return to me. Write and ask for the free treatment to-day, as you may not see this offer again. Address:

MRS. M. SUMMERS, Box 309 Windsor, Ontario

Had Severe Cold

IT TURNED TO

BRONCHITIS.

Many people have bronchitis and don't know it.

Don't even know the danger of neglecting it.

Bronchitis starts with a dry, short, painful, hacking cough, accompanied with rapid wheezing, and a feeling of oppression or tightness through the chest.

At first the raised-up phlegm is of a light color, but as the trouble progresses it becomes of a yellowish or greenish color, and is very often of a sliny nature, streaked with blood.

Bronchitis should never be neglected. Pneumonia or Consumption may follow if it is.

Mr. E. E. Boyce, Edmonton, Alta., writes:—"Last winter I took a severe cold which turned to bronchitis. The doctor I had could not seem to relieve it, and I had been treated by him for eight weeks. Then, a friend came in and recommended me to try Dr. Wood's Norway Pine Syrup. After taking one bottle I was greatly relieved. I got two more bottles, and can say it has quite cured me. It has stopped my cough and my spitting up lots of phlegm. Have not had an attack since. I can assure you I would not be without a bottle of it in the house. It has helped my children also. I think it is a wonderful remedy for coughs or bronchitis."

Dr. Wood's Norway Pine Syrup is put up in a yellow wrapper; 3 pine trees the trade mark; price 25c. and 50c.

Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

THAT SHANK

By Lillian E. Andrews

Many women think of a shank only in connection with soup-making, but I have come to look upon it as the most desirable cut in the butcher's shop. I always buy the largest shank I can afford, trying, if possible, to get the upper cut of the fore leg. This is round and thick-meated, and the bone is filled with marrow, making very little waste.

I put it into cold water and gradually allow it to come to a boil, the long, slow cooking rendering it as soft and tender as the higher-priced cuts. When it is donel table out most of the meat and part of the stock which is set aside in a bowl separately from the meat.

Soup

To make the soup, add to the stock in the kettle, ground or dried sage and Summer savory (the sage may be omitted if the flavor is not liked), a small red pepper, chopped fine, or a very little cayenne pepper, salt to taste, one or two carrots and a turnip (a round turnip is better than the ordinary French turnip), and as many potatoes as the family can use in one or two meals.

If onions are liked, slice in one large o rtwo small ones. Thicken with rice or rice-flour. If the ordinary Summer savory is not at hand use a teaspoonful of poultry-seasoning. Any seasoned stock left from the soup should be saved.

Beef Fricassee

When the soup is gone, cut slices from the cold meat and put in a small saucepan, covering with about a cup and a half of water. Fry a few slices of an onion and add to the meat. Season with salt and pepper and, just before serving, thicken with a teaspoonful of corn-starch, dissolved in a little cold water. Serve with a double portion of boiled optatoes .

Meat Balls

The meat portion of another meal is made by chopping or grinding some of the shank until fine, and mixing with one or two well-beaten eggs. Season with a little poultry-seasoning and mold with the hands into tiny balls. Turn in a well-greased frying-pan until heated through thoroughly, and serve with a sprig of parsley on each ball. These little meat balls have been enthusiastically praised by visitors who had no idea they were eating fifteen-cents-a-pound shank.

Meat Pie

Cut some of the meat fine or in slices as desired, and put in a kettle with the unseasoned stock. Thin with hot water and add a sliced onion and sliced potatoes, either raw or leftovers from some other meal. As soon as thoroughly heated, or as soon as the potatoes are soft, pour into a deep pan. Add a handful of oatmeal or a teaspoonful of flour or corn-starch, cover with well-shortened pie-crust, and bake in a hot oven until brown.

If any of the meat remains at the end of the week, it goes into mince meat for pies or turnovers. The bone is burned until white and brittle, when I pound it up and my chickens greedily devour it.

Literally there is nothing left of the shank but satisfaction at the memory of so many good and inexpensive meals. Let any woman who has hitherto looked askance at the ungainly, awkward cut of meat, known as shank, try using it for something beside soup and become convinced of its adaptability.

LIGHT DIET

Beef Tea

1 lb. thin beef, 1 pt. cold water, ½ teaspoonful salt.

Cut the meat very fine and put into the cold salted water. Let stand 1 to 2 hours. Put in double boiler and cook 30 minutes. Press through a strainer. If too fat, remove with paper. This is very strong beef tea and may have more water added if needed.

Chicken Broth

Clean, skin and cut up the chicken, remove the fat; cover with cold water, adding a tablespoonful of salt and a little pepper. Simmer for three or four hours until the chicken is tender. Strain. Rice may be cooked with it, if desired.

Mutton Broth

Two pounds of lean mutton, without fat or skin, boiled in 3 pints of cold water, heated slowly for two hours; then add one teaspoonful salt and a little pepper. When meat is in shreds, strain and when cool remove the fat.

RELIEF AT LAST

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I promise to send you a FREE trial of the new absorption treatment, and references from your own locality if you will but write and ask. I assure you of immediate relief. Send no money, but tell others of this offer.
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Is a marvel of Beauty, Economy and Efficiency. It saves Time, Labor, Linings, Fuel and Worry. You can't beat it.

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As for Cooking and Baking, the Fawcett Imperial trims them all. Send for illustrated circular giving detailed description of the Imperial.

Ask your dealer to show you the Fawcett Line or write direct

CHARLES FAWCETT LIMITED
SACKVILLE · N · B · CANADA

Good Soup Stock

One quart of water to each pound of sound steak, cut fine, (bone but no fat). Boil slowly 8 to 10 hours. Skim when cold. Add salt and pepper when heating.

Oyster Stew

1 qt. Oysters, 1 tbsp. Butter, 1 pt. Milk, Pepper and salt to taste.

Smaller quantity made in proportion.

Put oysters in pan, simmer until plump and edges curl. Bring milk to a boil in another pan. Place butter, salt and pepper in bottom of dish in which you are going to serve. Put milk and oysters together and pour over these. Serve very hot.

Oatmeal Gruel

1 cup Oatmeal, 1 quart water, ½ teaspoonful salt.

Put oatmeal in a quart of cold salt-Strain, pressing through sieve. Simmer liquid in double boiler three-quarters of an hour. Thin with milk or cream, as you use.

Indian Meal Gruel

Mix a tablespoonful of flour, two tablespoons corn meal and a teaspoon of salt together. Make into a thin paste with cold water. Put into one quart of boiling water. Boil in double boiler for 1 hour. Thin with milk or cream.

Stewed Prunes

Wash carefully and if hard and dry soak one hour before cooking. Put in a pan and cover with boiling water. Simmer, closely covered until swollen and tender. Add 1 tablespoon of sugar for one quart of prunes. Cook five minutes longer and set away to cool.

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WHITE LILY BISCUITS

Are Crispy, Tasty Delicious

They Surely Satisfy

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BISCUIT MANUFACTURERS
MONCTON HALIFAX ST. JOHN

Egg Nog (No. 1)

Beat one egg well, add one tablespoon of sugar, 1 teaspoon vanilla, (or tablespoon of whiskey or brandy if ordered). Fill tumbler with milk and grate a little nutmeg over the top.

Egg Nog (No. 2)

Stir yolk of egg, milk and sugar together, with flavoring. Then beat white to light froth and stir into mixture.

Custard

1 cup milk, 1 tbsp. sugar, 1 egg, little vanilla, nutmeg.

Beat egg well, add to milk, sugar, and flavoring. Grate little nutmeg over top. Bake in moderate oven until firm.

Milk Toast

Toast bread to an even brown, pare edges, butter. Pour over it hot but not boiling milk.

Egg on Toast

Have a shallow pan nearly full of salted and boiling water. Break eggs carefully into water. Dip water over them with spoon and when a film has former on yolk and white is firm, take up with skimmer and place on toast.

Soft Boiled Egg

Put eggs in sauce pan, cover with boiling water and let stand six to ten minutes, where the water will keep hot, but not boiling. The white will be soft and jelly like and the yolk soft but not liquid.

Hard Boiled Eggs

Cook them twenty minutes in water just bubbling. The yolk of an egg cooked ten minutes in rapidly boiling water is tough and indigestible; cooked twenty minutes it is dry, mealy and easily digested.

Baked Apples

1 teaspoon sugar. 1 tablespoon water to each apple. Wipe apples, remove the core, put them in granite or earthen dish. Put sugar in centre of each apple and water in dish. Bake in hot oven from 20 to 30 minutes until soft, but not broken.

Steamed Apples

Wipe, core and pare the apples. Place in a steamer and cook until soft. Very nice with cream.

Other Articles used for Light Diet are:

Baked potatoes, Cereals. Beek steak Tapioca. Tea, cocoa, coffee, Jellies.

Tea should never be boiled. We pour boiling water on tea to draw out the flavor. Steep, not boil for five minutes. Have water freshly boiled.

Coffee is stimulating. Use 1 teaspoonful of coffee to each cup of boiling water. Place coffee grounds, clean egg shell, with enough cold water to cover in coffee pot. Let stand almost ten minutes. Now add proper amount of boiling water and let simmer (not boil) for twenty minutes. (Very good).

Arranged by Laura J. Winter.

Surprise Rolls

1 cup cooked chopped meat.
½ teaspoon salt.
3 teaspoons baking powder.
Milk to moisten dough.
¾ cup white sauce or tomato sauce.
3 cups flour.
¼ cup shortening.

Rub the fat into the flour, the baking powder, and salt . Mix into a soft dough with milk. Roll fairly thin and cut into rounds. Season the meat and mix with white sauce. Put a little onto one-half of each round, fold over the other half, press the edges together and bake for thirty minutes. Serves four.

Miss M. G. M., Manitoba.

Crumbed Chops

1 pound lean pork or veal chops.
1 egg.
1 cup fine bread crumbs.
Flour.
Salt.

Dredge chops in flour, dip in beaten egg, which has been diluted with one tablespoon water. Cover both sides of chops with crumbs and fry slowly in small amount of fat until well browned. Serves five.

Mrs. Z. P., Wisconsin.

Lemon Meringue Pie

2 tablespoons corn starch.
Pinch of salt.
1 cup boiling water.
¾ cup sugar.
1 lemon (juice and rind.)
3 tablespoons sugar.
3 eggs.

Put the corn starch, sugar and salt in a bowl and add the grated rind of half a lemon and add the juice of a whole one. Add the egg yolks well beaten. Pour on boiling water and cook until it thickens, stirring all the time to prevent lumping. Pour into baked crust and add meringue made of the whites of the eggs beaten stiff and sugar added and brown in a cool oven.

Teacher—Don't you know that punctuation means that you must pause?

Willie—'Course I do. An auto driver punctuated his tire in front of our house Sunday and he paused for half an hour.

Bigger Business From Better Health

"WHAT is this notion you have about the health of employes?"

"It is no notion, but a great big idea that I got when on military duty. It is one of the biggest benefits that is going to result from the war.

"Well?"

"What set me thinking was the report of the draft board. Forty per cent. of the men examined were turned down as medically unfit. These men were from all classes, and since they were mostly young men it stands to reason that a far larger proportion of our men would be in the 'unfit' class."

"We cannot help that."

"That is just it. We must help it if we are going to build bigger business and get the production we are after. What is the use of spending hundreds of thousands of dollars on the extension of buildings and then fill them with men who are not in a condition of health to do a day's work?

"That is true. What was wrong with most of those culled out?"

"Twenty-five per cent. were incapacitated because of nervous disorders. Malnutrition, the doctors said, was the cause of their condition. That way from childhood, perhaps. Their blood was thin and watery and their nervous system starved. As a result they were easily tired and had no reserve force. They would catch cold easily and in fact be easy prey to any germ disease.

"What can we do?

"We can see that they get half a day a week for outdoor recreation, and I am going to recommend the use of Dr. Chase's Nerve Food to these men. You know what the Nerve Food did for me when my nerves gave out. If I have my way it is going to have a good try-out among the men, for there is nothing I know of that will build them up so well."

"You certainly should know after the condition you were in, for I sometimes thought you would never get around."

"There are other ways we can help the men by better working conditions, but these are included in these building plans."

"Bigger business from better health" is my motto, and I know Dr. Chase's Nerve Food is going to help me carry out this program."

Dr. Chase's Nerve Food is so universally used that you can obtain it from any dealer at 50 cents a box, 6 for $2.75, or from Edmanson, Bates & Co., Limited, Toronto. The portrait and signature of A. W. Chase, M.D., the famous Receipt Book author, are on every box of the genuine.

NEW DRUG COMPANY IN ST. JOHN

PUTS "LIVE-RITE REMEDIES" ON MARKET—ALREADY HUGE SUCCESS FOR DIFFERENT AILMENTS.

Much interest will be aroused in the announcement of the formation of a new drug company in St. John, the "Maritime Drug Co." with offices at 108 Prince William street, where they have now opened for business. They have placed on the market their products known as "Live-rite Remedies" which have been specially prepared for them by a skilful chemist from carefully and well tried formulae. Prior to these remedies being offered for sale to the public they have been tested in genuine cases of illness, for various disorders of the internal organs, the liver and stomach particularly, and have been found of incalcuable value, invariably making a complete cure.

Reliable druggists throughout the province have been supplied with the company's "Live-rite Tonic," which is especially recommended to sufferers from liver and stomach trouble, but should it not be possible to secure this preparation from their druggist, an order enclosing the purchase price of one dollar sent to the company's office, 108 Prince William street, will cause it to be sent immediately to the address mentioned. It is a new blood food, a laxative, a body strengthener, which will work wonders in a run-down system—try it and be convinced.

Other "Live-rite Remedies" will soon be offered for sale, and will ensure relief to many who hav long been ailing. Ask your dealer for "Live-rite goods."

SHALL WE PUNISH OUR CHILDREN?

There are no little girls or little boys either, who do no need to be punished at times.

Some very learned folks say that this is the fault of the grown-ups, because children are born without habits and only acquire bad ones because of the bad influence of our training. Maybe that is so. We hope it is, because there may come a time when we will know enough about training of children to avoid bad habits altogether.

But that is not of much comfort to us now; for the fact remains that at the present time all children—even yours and mine—need to be punished. Moreover, the punishment that will make one child repent a wrong act will have absolutely no effect upon another who has been naughty in the same way.

Yet there is hope. For generations wise people have been trying to find the solution and today some are sure that they have it. They admit that their system is not always successful, but they say that it is a good general rule.

It is: Never to punish children at all, but to let them "take the consequences."

Here is an example of the way their system works:

The children of a cetrain family say that breakfast in their house is as good as a party. It is not what would be called a dignified meal tobe sure. There are guessing games with father and story telling, and there have even been songs.

Just Punishment is Proper.

But sometimes the children waken too early in the morning and begin to romp and make a noise and sometimes to quarrel when father and mother want to sleep a little longer. And then the children take the consequesnces.

For, of course, if father has had to listen to those loud little voices for hours before breakfast, he is tired, and needs a rest before his busy day begins. o the children sit through breakfast in silence, while father and mother discuss things quite over their heads.

Try something like that on the children you know and see if they do not say, as the little girle in this family did, "Consequences is the worst punishment I ever had."

A child seems to feel, almost instinctively, that the "consequences" are his own doing, and not—like a punishment— something that an older unkind, misunderstanding person does to him. That is what makes "taking the conseqeunces" so much more effective than any other form of punishment.

Take for example an instance that is familiar to all of us who have anything to do with children.

The Little Boy on the next block is a jolly, healthy, companable little fellow, but not particularly well brought up. So when the Little Girl comes out to the sand box and spoils the castle he is building, the Little Boy stamps his foot and clenches his fist and shouts "devil" at her.

At once the Little Boy's Nurse, who does not know about "taking the consequenes" jumps up and shakes the Little Boy and tells him he is very wicked and "he'll see what he'll get."

"I don't care if they do spank me," says the Little Boy defiantly, "It doesn't hurt—much. And anyway she is a devil."

For a moment the little girl wonders what this is all about. She has never before heard the word which created the trouble and she does not know what it means. But it sounds very strong and attractive, so the little girl puts the word away in her mind to use the next time she wishes to express disapproval.

She finds the occasion that very afternoon when her brother takes one of her toys.

"Devil!" she shouts, and snatches it away.

"Mary," says her mother, "What was that word you used just now?"

"Devil," says Mary, "Johnny Jones called me one."

"Never let me hear you say that again, Mary. A devil is a very wicked person, and when you call your little brother that. you are just as unkind to him as if you hit him. And little girls who are unkind to their little brothers cannot be trusted to play with them, or with anybody else. Remember that."

Teach children to reason.

But suppose Mary forgets her mother's warning and says the wicked word again?

"I can't trust you not to be unkind to your little friends," says Mary's mother, "and so you will have to take the consequences. You can't go to the party today."

Do you think Mary is apt to try the experiment again? No, indeed, for a child learns quickly by experience.

We all want pretty much the same thing for our children in the end. We want them to be healthy, honest, loyal and generous. We want them to have enough respect for authority to keep them obedient to the laws of the land and true to their faith. We want them to have enough strength of mind and independence of spirit to make them battle for what they know to be right. So we must give them all the experience they need to achieve this.

Now they will never gain this experience without "taking the consequences" each and every time for their acts, good or evil. It is the wise parent who understands this, who knows just when to shield a child from life's buffets and when to let him meet an experience unaided.

BUSINESS HINTS FOR WOMEN

This paper was written by Mrs. William W. Fawcett and read by her at a meeting of the Upper Sackville branch of the New Brunswick Women's Institute.

I think you will all agre with me, that this is rather a difficult question for a woman to write about. Though woman's mind and intellect are supposed to be inferior to man, yet she has been found in nearly all business offices of trade and commerce and in many professional lines, doing her tasks well. She is found at the bar conducting heavy cases. She has been found to be superior in the detective line. She has made good progress in the medical world, and in fact in what ever line her energies have been devoted she has taken no second place. As a rule, however, the average woman is not well acquainted with business methods of today and perhaps no line is so little understood and feared as affairs of the Bank. I have therefore gathered some information, chiefly along the line of banking.

Though banking cannot have been much required and in all likelihood did not arise till society had made considerable advances, yet its origin goes back to a remote period of antiquity. The practice of taking interest for money, called banking, is alluded to in the Mosiac law in Exodis and other places in the Old Testament, also in the New Testament. A highly interesting discovery has recently been made that there was a banking establishment in ancient Babaylon founded by a man called "Egibe," which lasted at least from the first year of Nebuchadnezzar 11 B. C., 604, to the end of the reign of Darius, 485 B. C., and conducted financial operations of a magnitude which would have done no discredit to the Bank of England.

Banking has been going on ever since, always widening the scope of its operations until at the present time conditions make it exceedingly inconvenient to do business without being in reach of a aBnk. This is largely so for two reasons—firstly, owing to the liability of loss of money from fire, thieves or accidental loss. All classes of persons deposit their money in Banks for safe keeping and when paying a bill issue a written order or cheque, directing the Bank to pay Mr. B. or his order, or bearer, so much cash; secondly, present day conditions demand that spot cash or its equivalent be paid the seller whenever a purchase or deal is made. A great many persons depend almost entirely upon the aBnks to supply them with the money. The Banks do this upon the written promise of the borrower to pay the money back upon a certain date, never exceeding four months with interest and bank charges.

People whose credit is not good cannot get this accommodation and, the Bank seldom loans money on notes unles two responsible parties agree to pay the amount. Thus we have an immense amount of business done through the bank, which is known as discounting. That is to say, the bank furnishes the money for a short time and charges 6 to 12 per cent. interest for the accommodation.

aBnks are very large borrowers of money themselves, for which they do not pay more than 3½ per cent. They therefore make very large profits in turning it over several times a year at the high rates I have just mentioned.

A cheque may be made payable to a specified person, or to their order, or to the bearer. In case it is made payable to the order of the person, the Bank will not pay it unless the name is written on the back, which is endorsing it, unless the person is a stranger to the teller, and in that case the teller wants to know if it is his signature and has him sign it in his presence. As a rule, in case of strangers, the teller will not cash a cheque unless the stranger is identified. If made payable to bearer or specified person, it does not have to be endorsed, but a teller will often ask to have it done as evidence of who gets the money.

It is often the case that a woman is sent to the bank to pay a note that is due. She would say to the teller, "I wish to pay a note for $100.00 due today in favor of Mr. I. made by Mr. C. Have you it there?" If he holds the note there is nothing for her to do but pay the money and take the note. In case she has not money enough to pay the full amount of the note she will ask the teller to endorse the amount on the back of the note with the date and the name of the person who paid it. That shows that so much has been paid by whom and when. If a note is not all paid the day it becomes due, it then becomes dishonored.

If the person's credit is good, notes can usually be renewed for part of the amount and sometimes the whole. If this cannot be done, the bank without delay will take steps to collect the balance and it is usually useless for the party thus dishonoring their note to try to affect another loan from the same bank. Bankers keep a very sharp eye on all transactions of this kind and the different patrons of the bank are classified as good, fair and no good. Bank managers are required to send a daily statement of the name

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Can't Say Enough in Their Favor

Why Mrs. F. Lagacey Recommends Dodd's Dyspepsia Tablets to all her friends who have Stomach Troubles.

"I cannot say enough in favor of Dodd's Dyspepsia Tablets," so says Mrs. Augustine F. Lagacey, Green Point, N.B. Of couruse she has reasons for making a statement like this, and here they are:

"When I commenced to take Dodd's Dyspepsia Tablets my food would not digest properly. They made me well."

The moral of this is that if you take your stomach trouble before it gets too firm a grip it is easily helped by Dodd's Dyspepsia Tablets.

But as in Mrs. Lagacey's case, stomach trouble, if neglected, always grows worse. In its worst stages it takes time to help it. But Dodd's Dyspepsia Tablets will do it.

Dodd's Dyspepsia Tablets, 50c a box, or six boxes for $2.50, at all dealers, or The Dodds Medicine Co., Limited, Toronto, Ont.

A MESSAGE TO WOMEN!!

LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid. and put you in touch with women in Canada who will gladly tell what my method has done for them.

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.

Mrs. M. Summers, Box 309 Windsor, Ont.

and amount of every note which that day has been dishonored or renewed. In that way managers and general managers become thoroughly acquainted with persons whom they care to do business with. It is, therefore, plain to see that it is very necessary for a firm or individual who wishes to loan money from the bank to keep their credit good.

To endorse cheque or note properly, write your name across the back of it, about 1½ inches from the top on what would be the left hand end of the cheque or note as it lies with its face towards you. If you endorse a note, you thereby agree to the payment of the amount mentioned in the note, but when you endorse a cheque you simply give evidence that you have received the amount of money mentioned in the cheque..

If you wish to make a deposit of money on acount in a bank it is necessary to make out an application. The forms are found on the desk for the use of bank patrons, stating the amount and the denomination of the bills, how many $5.00, how many $10.00, etc., and the total amount. This application is signed and passed in to the teller by the person making the application together with the money and the applicant's bank book. The teller counts it and if correct will enter the amount with the date and his own initials in your bank book. The entry is your receipt. As a rule it is not wise to mention what amount you hand a person in payment, watch them count it and let them tell you. If you in mistake handed them more than you thought you did, a dishonest person would keep it because you had told them there was only so much there. Unless you tell them they have no way of knowing how much you expect them to find. When receiving money from any one, always count it in their presence. A cashier in a bank will rectify no mistakes after a person has left the window.

A mortgage is a conveyance of real or personal property by way of pledge for the security of a debt, with the agreement attached to it that it become void if the debt is paid.

A deed is an absolute conveyance of real property. In this country a wife has a "right of dower" or one-third share of her husband's real property after debts are all paid. After marriage if he wishes to mortgage or deed a certain piece of land, he cannot do so unless his wife signs the deed or mortgage. The law also provides that she cannot be forced to sign any such document by threats or fear, only by her own free will. This gives her an opportunity to say she does it in fear, if it is so. She also has the right to have it read to her and explained carefully by the magistrate. It or any other paper should be signed with the person's given name and husband's surname. A seal is usually placed opposite each signature and the signer has to acknowledge that seal to be his for the purpose therein contained. The idea of the seal is that th person signing does still another act than sign to hold them to the agreement, they acknowledge before witnesses that they have also put on this seal to bind the bargain.

It is always unwise to sign any paper without fully understanding what it entails, as it is the legal way of conveying rights which can be transferred in no other way, and when done it is a most difficult matter to undo and practically impossible.

Keeping a strict account of the weekly expenses of the household is a proper part of the subject of this paper and one productive of great good and many surprises; surprises because of the small amounts spent sometimes foolishly, which in a year aggregate large sums; good, because it is a most particular way of learning to buy to better adavntage. Eaton's, Simpson's, Barker's, local merchants, including, of course, the Farmers' Ltd. can rightly all come in here for discussion, but my paper is already too long and I fear my listeners are weary.

HAPPINESS

There are milions of ways to be happy
and only one way to be rich,,
The king with his treasures may envy
the toiler who digs in the ditch,
For the king is a slave to his station,
but the toiler each evening is free
To follow his fancy of gladness whatever it hapens to be.

There's joy in the smile of a comrade,
and joy in the blue of the sky.
Who lives in the sunshine of friendship has joy that no money can buy.
There is peace to be found in the valleys and calm in the shelter of trees,
And millions of people are happy in claiming such pleasures as these.

The man that is proud of his children
owns more than the man with his gold,
And he that has chummed with the songbirds has found a delight he can hold;
There are millions of ways to be happy, too many by far to recall.
And who lives but for gold and for silver has chosen the poorest of all.

—Edgar A Guest.

CARE OF THE HAIR IN WINTER TIME.—COLD WEATHER IS PARTICULARLY TRYING ON THE HAIR

It is not a generally known fact that hair needs different treatment in winter than in summer, one reason for this being that it becomes twice as dry in cold weather as it does in the warm season.

Dry hair is unmanageable, it does not lay properly and detracts from your good looks. But there are worse things reulting from hair in that condition; dandruff follows, the hair becomes brittle and also becomes thin unless it is cared for and the scalp kept healthy.

Water affords only temporary relief for the hair and frequently does more harm than good as it increases the stiffness of the hair when it dries out.

For the cold weather apply some mixture containing good oils, and brush the hair frequently and thoroughly. The oil will neutralize the dry condition about the roots and scalp, make the hair easier to handle, and cause it to stay in place. Massage the mixture well into the scalp and it will prove a mild tonic which will benefit you.

One of the best mixtures for winter treatment of the hair consists of sixteen ounces of pure cologne and two ounces of refined castor oil. One would think this a rather greasy mixture to apply, but it is not. It is easy to apply, does not make the hair or scalp greasy or shiny and is agreeable in feeling and odor.

If you find you have neglected to keep your hair properly moist during the cold months and need a stronger tonic, use bay rum. To apply this, part the hair every few inches all over the scalp and dub the liquid in thoroughly with the finger tips or with a very soft brush. Use either of those mixtures three times a week unless the hair is excedingly dry, in which case, use it every other day for two weeks. It is best not to use it too frequently as it will make the hair too oily.

So many women complain that their hair seems to fall out only in the winter, that it is surprising they do not realize that the cold weather has something to do with it. If your hair is coming away in the comb during the cold months, you may be sure you have neglected it so much that continued dryness has caused this condition. To remedy this use alternately bay ru mand vaseline. Rub this into numerous partings of the hair every other night for a week.

Perhaps some may hesitate about going to this trouble, but nothing turns hair grey so speedily as continued dryness due to all absence of nourishing oils.

EVERY NURSE SHOULD KNOW

That the nerovus patient should have eight or nine hours of sleep.

That sleep will be slow in coming if the sick person is allowed to have company just before bedtime or listens to exciting reading.

That one should never ask a sick person, "What can I do for you?"

That dainty service often counts more than quality or variety in the invalid's meals.

That the nurse should never save steps when the patient's appetite is capriciouus. A small portion often tempts where a larger one nauuseates, An extra trip to the kitchen is better than heaped-up trays.

That a sick room should never be made a thoroughfare or the gathering place for the family.

That sponging with alcohol and watre will reduce fever several degrees.

That, if possible, a patient should be induced to give up tea and coffee during convalesence. In a weakened condition they are apt to induce nervousness and sleeplessness.

That having a patient hold her breath will often prevent a spasm of coughing.

That persons subject to rheumatism or weak heart should not take baths that are ice cold.

OATMEAL RECIPES

Oatmeal Macaroons.—Cream together 1 tablespoonful butter, 1 cup of brown sugar, 2 eggs, 1 teaspoonful vanilla, 2 large cups of rolled oats in which is mixed ½ a teaspoonful of soda, 1 teaspoonful cream of tartar. Bake in gem rings. If not wet enough add a drop of milk, also a pinch of salt.

Oatmeal Cookies.—Three cups of oatmeal, 2 cups flour, 1 cup of shortening, 1 cup of brown sugar, ¼ teaspoonful soda, pinch of salt, sour milk to wet.

Oatmeal Cookies II.—Two and a half cups oatmeal, 2¼ cups flour, 1 cup sugar, 1 cup shortening, flavor to taste, ½ teaspoonful soda, pinch salt, sour milk or cream to wet.

Bran Muffins.—1 egg, 1½ cups of sour cream or milk, 2½ cups of bran, 2½ cups of flour, ½ cup sugar, pinch of salt, small teaspoonful soda. Drop in rings.

Rolled Oat Bread.—3 cups rolled oats, 6 cups standard flour, 3 cups boiling water, 3 tablespoons molasses, 1 tablespoon lard. Scald rolled oats with hot water. Cover and let cool until lukewarm. Add ½ yeast cake dissolved in warm water. Add the flour (perhaps a little more than the 6 cups). Let rise over night. Put in pans. Let rise. Bake 1 hour.

QUICK GINGERBREAD

1 cupful molasses.
1 level teaspoonful bâking soda.
2 tablespoonfuls boiling water.
½ cupful thick, sour cream.
¼ cupful brown sugar, scant.
1½ cupful flour, about.
2 level teaspoonfuls ginger.
1/ level teaspoonful salt.

Time: Preparations, 10 minutes; baking, 30 minutes.

Number served: 6 persons.

Dissolve the soda in the boiling water. Heat the molasses slightly, and add the dissolved soda; pour this over the sour cream, add the sugar, mix and stir in gradually the flour. Beat well, pour int oa square greased pan, and bake in a moderate oven about 30 minutes. The batter should not be too stiff. Serve warm. With cream, plain or whipped, this makes an excellent luncheon or dinner.

THE CARE OF HOUSE PLANTS

House plants are of two classes: the first class including ferns, palms, rubber plant and others generall described as foilage plants, and the second class consisting of such plants as geraniums, tulpis, narcissi, cyclamen and other favorite. These are known as the flowering plants. The latter must be grown in that part of the house where the light is best. The foilage plants will do better in parts with less light.

Plants must receive thorough and constant attention to succeed well because they are not like bric-a brac and any injury they receive, if left without attention, may have serious results. The purpose of most house plants is to brighten the home during duil winter months, and when they do this they are worth considerable attention.

The fundamental condition for success is that relating to atmosphere. The atmosphere must not be too dry. If the house is heated with hot air, pans of water should be placed wherever possible to increase th humidity of the atmosphere. Soil is also important and should never be left to become thoroughly dry. Watering should be done regularly or whenever required. In the winter no plant should be allowed to go without water longer than two or thre days, and in summer probably daily watering is a better rule to follow.

Injury some times results from over-[illegible] pots should not be allowed to sand in water, otherwise the plants are liable to turn yellow and sickly, but more often plants become sickly owing to the fact that the atmosphere is not moist enough. This is generally indicated by the leaves withering from the tip towards the stem. Extreme changes in temperature are also undesirable. Plants do best when kept in a temperature which never goes much higher than 70° F. and does not ever fall below 50° F. even during the night.

One very good method of telling whether a plant needs watering is to tap the pot with the knuckle and if the pot rings hollow it is a sure sign that it needs watering. All pots should be supplied with good drainage. This is generally supplied in the form of broken crocks which are placed in the bottom of the pot. This allows any surplus water to run out through the hole in the bottom which is made for this purpose.

Fresh air is beneficial, but not in the form of direct draughts. Tender house plants are always susceptible to draughts. Palms and ferns are better for sponging once a month as this keeps them free from scale insects. Most plants are benefited by a yearly repotting.—F. E. Buck, Assitant in Ornamental Gardening.

SHARPENED SCISSORS

The average person usually opens and closes a pair of newly sharpened scissors several times, apparently to test their sharpness. Though this is done with good intent it invariably injures the finest edged blades and much of the result of careful sharpening is lost.

A trick well worth knowing, as soon as the blades are sharpened, is to close them with the fingers of one hand, at the same time springing the blades apart with the fingers of the other hand, not allowing them to touch until closed, then slowly open in the ordinary manner. This moves the barb in the right direction and will greatly fengthen the life of the scissors.—L. B. Robbins.

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PREPARATIONS FOR WINTER IN THE ORCHARD

Make allowances for surface drainage, if necessary, for standing water in an orchard during the winter and early spring will cause inestimable damage.

In many otherwise well-drained orchard areas, the conformation of the land is such that in localized spots of small extent a certain amount of surface water, which is always in abundance from melting snow and heavy rains, cannot find a ready exit. Preparations for coping with such a condition should be made ilate in the fall. It is simply accomplished by merely running a few furrows, preferably with a double mold board plough, or by turning two furrows, one on either side, in such amanner as to make an even ditch with a good fall to some convenient part of the orchard vicinity which can take care of excess of surface water.

Protection against the depredations of mice, especially on young trees, is one of the important points in the orchardist calendar. The first consideration in this regard is to remove all rubbish lying about the orchard which may serve as a refuge for rodents. As young trees may sometimes be completely girdled by mice or rabbits during a severe winter when their green food is scarce and they are obliged to eat the green bark of the trees, some sort of protection should be given annually. This may take the form of wrapping the trunk of the tree with ordinary building paper and tying with binder twine. This is generally considered the cheapest and most effective protection. Failing this, a mound of earth, eight to twelve inches high, may be tramed about the trees, or even a mound of snow may give some protection and prevent the mice from gnawing the bark close to the ground where the yeusually work. This protection, if either the paper or mound method is adopted, should be applied before winter sets in. The paper is by far the more satisfactory method, and will often pay for itself many times over. Nothing is more discouraging than to lose a large number of young trees ,about ready to bear, by the depredations of mice.—M. B. Davis, Assistant in Pomology.

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WINTER STORAGE OF SQUASH

(Experimental Farms Note.)

Squash to be carried successfully in storage must be well matured and free from bruises, broken stems, cuts or frost injury. If one disposes of the well colored, best matured squash and tries to keep those not well ripened, failure is likely to result under the most favorable storage conditions. A squash may be sufficiently matured for immediate use, but not be suitable for storage. In selecting for storage, therefore, pick out those which have had the longest period of growth, and just here it might be said that to get a large proportion of the crop for storage, due attention must be paid to having the plants started early. It is well also to burn the squash occasionally when growing in order to develop a hard shell on al sides. They should be handled carefully and placed imemdiately in a well ventilated, dry room with a temperature around 80 degrees until the shells are hard and dry and then removed to a cool but dry light and well ventilated room. Under such conditions we have been able to keep squash until spring in perfect condition.—W. S. Blair, Supt. Experimental Station, Kentville, N. S.

FREEZING INJURIES TO POTATOES

Three distinct types of injury occur during "cold snaps," all of which are very common:—

Freezing solid. If potatoes are actually frozen solid throughout or on each side they become soft and mushy when thawed and are easily detected and sorted out in storage lots. Freezing is often limited to one side of the potato which may have projected above the soil or may have been in contact with a cold wall.

Turning sweet. Tubers stored at low temperatures 29 degrees to 34 degrees Fahr., for a month of more, turn sweet. This turning sweet is popularly termed chilling, and is supposed to be due to slight freezing injury. This is incorrect. It is due to prolonged low temperatures but not to ice formation in the tissues, and hence is not a sign of freeing injury. Potatoes which have been slightly frozen do not necessarily turn sweet, and on the other hand,potatoes may be sweet because of prolonged cold storage without having been frozen or frost-bitten at all.

Internal freezing injury or frost necrosis. If potato tubers are exposed to severe frosts (temperatures below 28 degrees Fahr.) for a short time, many of them will, upon cutting, show dark discolorations in the interior flesh. These internal symptoms of freezing injury vary considerably in appearance, but they have certain characteristics in common. They are generally most marked at the stem end, and in cases of slight injury are limited to this. They cannot, as a rule, be detected by the external appearance of the tuber although upon storage such injured tubers wilt more than normal ones.

The discolorations most commonly appear as dark blotches scattered irregularly through the flesh, especially in the outer flesh. Very often, however, fine lines combine to make a netted or ring pattern. Sometimes these may be mistaken for certain tuber diseases unless the possibility of frost is understood.

Generally, during mild exposure, certain tubers succumb, while others nearby, under like conditions, are unharmed, an indication that certain tubers are more susceptible to frost injury than are others.

Do not plant potatoes which show freezing injuries. They may grow because the sprouts are more resistant than the body of the tuber, and there, fore, mild injury may not kill the eyes. Seed tubers which have been frosted usually sprout more slowly, however, and are liable to rot before the plants are well established on their own roots.

Can Control Freezing Injuries

Watch the temperature of your storage room in winter. A simple way to do this is to have a tub of water near the potatoes. Water begins to freeze at about 32 degrees Fahr., and potatoes at about 28 degrees Fahr. Ice formation in the water, therefore, serves to give timely warning of impending danger to the potatoes and at the same time, if there is sufficient bulk of water, it will, in freezing, actually release heat which retards the fall of air temperature. Actual freezing does not begin in potatoes until the temperature drops below 28 degrees Fahr. An oil stove or one or more lighted lanterns will often prevent potatoes from freezing in cellars.

If potatoes are shipped during cold weather in a heated car, provide for circulation of air from the stove to all parts of the car. This will prevent black heart in potatoes near the stove and frost injury in those in the outer parts of the car.

ROTS OF POTATOES IN STORAGE

The keeping quality of potatoes is mainly determined by the treatment of the growing crop. The commonest source of loss in storage is the late blight rot (the so-called dry rot, which, however, is sometimes anything but dry), which is carried from blighted leaves to the tubers by rain. A comparatively small number of infected potatoes may destroy a large proportion of the crop in storage if conditions are favorable to the rot to spread.

The blight may be largely controlled by spraying the foilage thoroughly with Bordeaux mixture. The crop is thereby largely increased, an addition equivalent to one quarter of the crop being usual in districts where blight is prevalent. Furthermore, the loss from the blight rot is reduced to small proportions . Cases have been recorded by growers in which nine-tenths of the unsprayed portion of their crop rotted after being stored, while there was practically no rot in the sprayed

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portion.

At the same time spraying has to be backed up by other precautions to get the best results. Potatoes do best on light, well-drained soil, while heavy soil favors the rot. High hilling helps to protect the tubers by giving them a good covering of soil, and the practice will not be found harmful in the moister sections in which late blight is prevalent. It is better not to dig a partly blighted crop until the tops have become entirely dead unless conditions are very moist. The crop should be harvested with as little injury as possible, injured potataoes being very susceptible to decay.

After the rotted potatoes have been picked out, th crop is best stored in a cool, dry, dark cellar with an earth floor. When rot is feared, however, the potatoes should be separated from walls and floor by closely slatted wooden frames. Teh cooler the crop is kept, sort of freezing, the better the crop will keep.

Other less common storage troubles are the Fusarium dry rot and bacterial soft rot. The former is generally found in spring, the potatoes being more susceptible at that time. It is agravated by high temperature and wounded tubers, and may be held in check by attention to these points. The bacterial rot is generally found after an attack of black leg in the field. The source of infection should be eliminated another year by using disease-free seed.

For information on spraying consult circular No. 10; on black leg, circular No. 11; on general treatment of the potato crop, Bulletin No. 90. All are free on request from the Publications Branch, Department of Agriculture, Ottawa.—Division of Botany.

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FORCING BULBS IN THE HOUSE

(Experimental Farms Note.)

Bulbs when properly forced make splendid house plants and come into bloom during two of the winter months which most need the brightening effects of their rich colors. "Bulbs" is a general term which includes Narcissi, Early Tulpis and the more recent Darwin Tulips noted for their elegance of form and range of rich colors.

After the bulbs have been potted the next essential is to induce an abundance of root growth as quickly as possible. The proper root development will determine the subsequent size, vigor and lasting qualities of the flowers. Explicit advice in this connection is, first, choose as the storage place for the pots the coolest, darkest and dampest part of the cellar —or the vegetable storage room is very suitable. Second, provide a condition which approximates as nearly as possible the condition they would have if planted in the ground outside. One thorough watering at the time of potting may be sufficient, but in most cases it is not, therefore water regularly is often as the top soil shows signs of dryness. Another method is to plunge the pots into damp sand and keep the sand moist. Provided the place is not too cold, or they are not kept exceptionally wet, rooting will proceed satisfactorily and toward the end of December the roots should begin to fill the pots. Third, after two months or ten weeks has elapsed bring the pots into a lighter place and water even more regularly and frequently. Allow them to make about three inches of growth and the growth to change to a good green color then bring some of the pots into the full light and warmth. Very rapid and healthy growth should soon result.

A few words of advice as to what not to do. First, do not on any occasion place the pots too near the furnace or near the hot air outlets; dry warm air is disastrous to healthy plant growth. It drys out the soil and hardens the roots; it stnuts the foilage and shrivels up the blossoms. Second, do not over-water at any period; the soil should be kept always moist but never soggy and cold, and do not allow the pots to stand in pans of water. Third, do not allow the plants to experience too violent temperature changes. At the time of rooting the temperature may range from 35° to 45° and after the plants are brought into the light it should range from 50° to 70°. Higher temperatures during the day, due to combined furnace and sun heat, may not hurt the plants but they are apt to be materially injured if forced to experience several hours of dry, high temperature during the evening when they should enjoy the resting period always provided for them under natural conditions.

Flowers with little or no stem and plants with a stunted growth are due to improper forcing methods. Bulbs appreciate the sunshine and when in the flowering stage also respond to and should have abundance of water. —F. E. Buck, Assistant Horticulturist.

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"MORE BEES, MORE FRUIT"

Without an exception experts on orchard fruits are recommending the keeping of bees in or near an orchard, to assist in pollination. This course is recommended in addition to the planting of a certain number of trees of other varieties that are known to be pollinators, in large orchard blocks of one particular variety. It has come to be recognized that bees are one of the most valuable assets that the orchardist can have, and that the bee-keeping industry should be stimulated and protected in orchard districts in every way possible. In fact, it will pay the orchardist to make a study of the bee-keeping industry, and to place as many hives as he believes will secure the necessary food in or near his orchard, regardless of the income he may secure from the honey.

This course has been advised by many prominent fruit growers in the Northwest. In Washington a campaign is being conducted to raise more bees and to protect them. In California the same action is being urged, while the matter is also receiving the endorsement and aprpoval of a large number of growers in Oregon.

A good slogan in waging this campaign for increasing the number of these valuable insects would be "More Bees, More Fruit", and every orchardist should bear this in mind.

The coleletion and study of insects provide both recreation and education and will result in the extension of our knowledge of Canadian insects. From a practical standpoint it is important that there should be a wider knowledge of entomology especially among the teachers in our schools. In order that such knowledge may be applied to the control of these insects, whose destructive or annoying habits make their supression necessary, Entomological Circular No. 12 entitled, "Directions for Collecting and Preserving Insects" by J. H. McDunnough, M. A., Ph. D., may be obtained free upon application to the Publications Branch, Department of Agriculture, Ottawa. The object of this circular is to indicate as concisely as possible some of the most essential features in connection with the collection of insects. It is intended largely as a first aid to those anxious to learn the elementary principles of insect collecting in order that they may profitably occupy leisure moments.

Stiffness

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Mrs. A. R. Calcott, 26 Park Ave., Guelph, Ont., writes—"My husband has used Minard's Liniment frequently, always with good results. Frieods of mine use it for rheumatism and tell me that it gives great relief."

Mrs. Fred Johnston, Box 735, Thorold, Ont.—"I suffered very much with neuralgia in my face last winter, was advised to try Minard's Liniment, and was relieved immediately after first application. I persevered in using it and it has entirely gone. This winter I can go out without tying up my face and give the credit to Minard's Liniment. Have told several people about Minard's, and others are using it."

MINARD'S
King of Pain
LINIMENT
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Gleanings From the N. S. Agricultural College

N. S. DAIRY COWS

The records made at Amherst by cows from the College herd, Truro, following as they do other championship records made by Nova Scotia cows, demonstrate again possibilities of this Province in the breeding of dairy herds. The simple fact is that we can produce here as good cows as can be bred anywhere in America. It is worth noting, by the way, that this year's champion scored considerably higher than any on exhibition at Guelph.

It would not be in any sense an unreasonable aim, in the circumstances, for dairymen to make Nova Scotia a Mecca for ambitious buyers from outside. The College has already fancy offers for Gardrum White Floss, the beautiful Ayrshire which carried off this year's honors at the Winter Fair. Certainly from the point of view of sale prices it pays to breed the best.

This, however, is only one of the advantages of good breeding. As an asset on the farm the difference is at least equally great. When one states that the milk production of the average N. S. cow is about ,500 lbs. per year, while that of pure bred herds runs as high as 14,000 lbs., no further argument need be added.

DEMONSTRATION CREAMERY AT THE WINTER FAIR

Our always wide-awake Dairy Division operated a demonstration creamery throughout the period of the Winter Fair at Amherst. A complete equipment was installed and a churning demonstration carried on each afternoon from 2 to 5 p. m. Wholesome products were on sale daily at the counter.

A double purpose was served by this arrangement. 1. A good illustration was given of the way a creamery is operated. 2. A market was created for the products of the cows in the various dairy tests. Associated with the creamery was an exhibit o fup-to-date equipment for the handling of milk and cream. The management is tao be congratulated on the success of the undertaking, and in turn they were pleased with the interest shown by the public who visited the booth in large numbers.

N. S. FARMERS' ASSOCIATION

The farmers' Parliament of Nova Scotia, in other words, the Nova Scotia Farmers' Association, meets this year at Kentville, January 27th to 29th. This promises to be a particularly interesting session, coming as it does at a time when farmers are taking a prominent place, not only in their own established lines, but also in matters of Government administration.

THE MARITIME DAIRY SCHOOL

The committees appointed by the different Dairy Associations of the three provinces, looking toward the establishment of larger quarters for the Maritime Dairy School, met in Amherst during the Winter Fair. Plans were laid for the development of this work, and a sub-committee consisting of Hon. Walter M. Lee, of P.E.I., E. P. Bradt, of New Brunswick, and Dr. M. Cumming of Nova Scotia, was appointed to take the matter up with the authorities at Ottawa. When this project is realized a long step will have been taken toward better dairying condition in Eastern Canada.

SWAT THE SCRUB BULL

A notable article appeared in the last issue of aFrm and Dairy, a Canadian Agricultural Magazine published in Ontario, in which the writer highly congratulates the province of Nova Scotia, for the legislation passed last year aiming at the elimination of the scrub bull. To put it in a word, the Act referred to makes it illegal to keep a scrub sire for service within the boundaries occupied by any Agricultural Society. There are 275 Agricultural Societies in Nova Scotia. The chief difficulty in the way of the enforcement of this Act is that up to the present only a few Societies have properly defined their aras. However, this difficulty will soon disappear, as they are now falling into line and so placing themselves in a position to profit by the Act.

In the Province of Ontario vigorous propaganda work is being carried on to the same end. Public meeings are being held and every effort is beind put forth to develop a policy to exterminate once and for all this miserable and persistent obstacle to live stock improvement. If Agricultural Societies in this Province will now hasten the work of defining their areas, they will place Nova Scotia in the forefront of the Dominion so far as live stock legislations is concerned.

CLOVER SEED FOR 1920

It is not necessary to argue at any length at this date how essential it is for the man who wishes to improve his land to sow the largest possible area to clover. All that need be said is summed up in two propositions: 1. Clover is the most nutritious bulky food for live stock that can be grown on our farms. 2. It enriches the field on which it is grown.

From the standpoint of its more general use, it is unfortunate that the price of clover seed is this year advancing considerably over the high prices of last year. One result of this advance will be to make dealers wary in buying. No merchant wants to hold over an expensive stock that is deteriorating in quality with age, and that is only in demand during a few months of the year. If seed merchants and co-operative societies buy lightly, there will be many farmers who will find it impossible next Spring to secure a supply of clover seed.

The obvious remedy for this situation is that farmers put in their orders now for next Spring's supply. This will assure the merchants and enable them to buy in sufficient quantities.

It is worth noting that the real way out of the present shortage and high prices for clover seed is to grow much more at home. A considerable number of communities have this year taken advantage of the facilities provided for hulling the clover crop, and will realize well on their efforts. There is room for a big increase yet and few measures that can be taken would yiled so good an all round return.

RED CLOVER VERSUS ALSIKE

With the pricevs of clover seed at their present level, and still going up, it is well worth while to consider the relative value of Red Clover and Alsike. The price of Alsike is lower, and, the seed being smaller will go much farther. It is the hardier crop, and will give better results on poorly drained land than red clover. It is also a richer fodder, one pound of Alsike containing as much food for dairy cows as one and one-third pounrs of the other.

Red Clover is, of course, the heavier yielder on dry, well drained land, and the superior nutritive qualities of Alsike will not balance this difference in yield. Nevertheless, the man who is determined to cut down his outlay for seed, and the man who has wet land tot sow in clover would do well to tuurn to Alsike.

N. S. POULTRY ASSOCIATION

The Annual Meeting of the Nova Scotia Poultry Association will be held in the Agricultural College, Truro, Tuesday, aJnuary 13th, at 10 a. m.

Each County Poultry Club which is properly organized is entitled to send one delegate for the first fifty members or less, and an aditional delegate for every additional fifty. These will be entitled to transportation by railway and hotel expenses at Truro.

Delegates should secure standard certificates when buying their tickets to Truro. Without the standard certificate the railways will give no special rate. Each delegate should also obtain a receipt for hotel account, and a refund of these expenses will be made on their presentation at the College.

Every organized Poultry Club should call a meeting to select a delegate or delegates to this Annual Meeting, as some very important matters concerning the future of the poultry industry will be considered. The delegates so appointed should bring a report for the year from the club they represent.

An opportunity will be given all the delegates who attend the meeting to look over the birds, pens, etc., of the First Nova Scotia Egg Laying Contest now being conducted at the College Poultry Plant.

N. S. DAIRYMEN'S ASSOCIATION

Arrangements are being completed for the Seventh Annual Convention of the Nova Scotia Dairymen's Association. It will be held at the College of Agriculture, January 22nd and 23rd. The usual ehibits of creamery butter will be on hand. There will also be exhibits from the Dominion Educational Butter Scoring contest. Mr. Geo. H. Barr, chief of the Dairy Division at Ottawa, and other prominent men high up in dairy circles will be present at this convention, which promises to be the best yet held.

GOVERNMENT CREAMERIES IN CAPE BRETON

Several years ago the Nova Scotia Department of Agriculture began in a systematic manner to encourage the dairy industry in Cape Breton. This was done because it was evident to any trained observer that certain districts could never hope to make a great success of any other branch of farming, and they were comparatively promising along dairying lines. In 1914 the Department opened a creamery at Baddeck, and, two years later, one at Margaree Forks.

The natural conditions were not favorable to a rapid growth, and development at first was very slow. The efforts of the Department, however, were directed rather to the laying of a good foundation than to spectacular results at the beginning. The present year has witnessed a notable advance, and the wisdom of the undertaking is now well established. The following tables give a brief summary of two yearh' business at these creameries.

Baddeck—

1918 — Butter manufactured 37,309 lbs., valued at $17,78.

1919 — Butter manufactured 59,443 lbs., valued at $32,968.

Margaree—

1918 — Butter manufactured 31,334 lbs., valued at $14.225.

1919 — Butter manufactured 52,977 lbs., valued at $28,945.

The statement of business by no means tells the whole story. The influence of these creamries has been felt in th rural life of these communities in many ways. Many young men about Margaree who had decided to quit farming and go into other occupations, have recently acquired farms of their own, and are in a fair way to develope fine dairy herds that will turn in good profits. Farm lands have greatly increased in value. There is a keen demand for the higher classes of breeding stock, and the scrub bull has been eliminated in a number of sections where a few years ago he was the rule. Social, educational and religious institutions all feel the benefit of increased prosperity.

The outlook is bright for the future. Next year it is proposed to gather the major quantity of cream by motor truck. This method will be an advantage particularly to outlying sections. The work is still only in its initial stage, and development should be very rapid when the peole generally take earnest hold of it.

PRIZE WINNERS AT THE FAIR

Gardrum White Floss, an Ayrshire from the College herd, won in the three days' Dairy Contest over all herds. She made a score of 270.97, averaging 66 lbs. milk per day, with an average test of 4.41.

The 3 year old Holstein, Mechthilda De Pride, was third in her class with a score of 230.73.

Gardrum White Floss has a sister called Gardrum Floss, which has had only one lactation period, freshening Oct. 28th, 1918. In tbe next twelve months she gave 10,682 lbs. of milk, testing 4.23 of butter fat. This is not a phenomenal record, but it is a fine beginning.

Both Gardrums are out of Scottie's White Floss. This cow has a milk record of 12,529 lbs., testing 3.94, and equal to 618.66 lbs. butter. These three cows are still in the College herd.

It will be remembered that this year's highest score has been excelled by others in past years, notably by a cow owned by Mesrs. S. Dickie and Sons, of Onslow, which scored some 332 points, the highest record ever made in Canada by a Holstein.

THE COLEGE OAT CROP

This year's oat crop at the College was a very heavy one. The following statement will show that there was considerable variation in the yield of different varieties.

"Early Blossom" yielded 71.7 bus. per acre.

O. A. C. No. 72 yielded 79.8 bus. per acre.

Banner P. E. I. yielded 81.5 bus per acre.

Banner N. B. yielded 68.5 bus. per acre.

Maine 340 yielded 61.7 bus. per acre.

A nine acre field, Banner yielded 65.1 bus. per acre.

These yields are above the average, and the College will have some seed for sale. For information regarding price and varieties write to the Agricultural College, Truro.

WHEN PIGS ARE FIT FOR SERVICE

The age at which to breed young sows will naturally depend somewhat on the growth they have made. Seldom is it advisable to breed them until they are eight months old, and many breeders prefer to wait until they are ten or twelve months old.

If the boar should be put to service too immature, he cannot be expected to get vigorous pigs. He should not be used before eight months of age, and it will be more profitable in the long run to defer using him until one year of age.

FITTING STALLION FOR SHOW

(Continued from page 237)

drinking of copious quantities of water increases the assimilation of food. Plenty of salt and free access to water is the way to accomplish this end.

To keep a horse in healthy breeding vitality it is also necessary to pay close attention to his feet and coat, and plenty of exercise is an absolute necessity.

There is no other way in handling stallion colts from start to finish than by keeping them in vitality fit for service. Stallion colts handled any other way will prove failures though they may be prize-getters. To help towards getting the best out of breeding operations with the stallion, the breeder must equip his barons with proper stabling and the right kind of grass paddock. Hundreds of good stallion colts are ruined every year because the owners are not equipped to handle them. When not rightly handled or properly fed, it will be found far better to turn them out as geldings. Pure breeding or show feeding is of little avail to the utility of the breed if the horse is pampered for any other special feature. This is where many awards at exhibition give a false value to the animal, and the reputation he gets in the showing is not the last word in horse breeding, though many owners have no other apparent ambition.

ICE SUPPLY ON THE FARM

In the temperature and in many cases extreme climate of Canada, ice is as much required in the summer as it is easily procured in the winter. In some parts, it is true, while climatic conditions are favorable, streams, lakes, ponds, etc., are far apart. In the majority of cases, however, the failure to take advantage of a naturally supplied commodity that is at once a luxury and a necessary adjunct to success in several lines of farm work —is clearly the result of shiftlessness or laziness.

Source of Supply.—The source of the ice supply should be reasonably clear, free from current, and as pure as possible. The area to be utilized should be kept free from snow during the early part of the winter so that the ice may be free from slush or surface ice.

Quantity Required.—If any estimate may be made of the daily requirement for say four months, the amount to be harvested may be roughly calculated. A cubic foot of ice weighs 57½ pounds approximately. A daily consumption of ice of 115 pounds (2 cu. ft.) would amount to about 7 tons during the season of use. Allowing for wastage, a building 10′ x 10′ x 10′ would supply ample space, with careful packing. Another method of estimating, used by dairymen, is that approximately 1½ tons of ice will be required to cool the milk of the average cow.

Storage.—The ordinary storage of ice is a simple matter provided certain essential features are included.

1. The buildings should have no floor other than a foot or two of stone —boulders at the bottom grading up to small stone or cinders at the top. On top of this should be placed one foot of sawdust.

2. The walls may be single boarded, but are best sheathed inside and out leaving an air space the width of the studding. At least a foot of sawdust should be placed between the ice and the walls.

3. The roof should contain a ventilator and two windows to draw off the heat from the ice.

4. The opening for filling should either be continuous or consist of a series of doors one above the other. By using a wooden slide or gangway incline from the ground to the ice-level, filling it easily accomplished with a horse, a block and a length of rope with a noose at one end.

Note.—For detailed description of small ice-houses, cold storages, etc., procure bulletins Nos. 20 and 49 from Publications Branch, Dept. of Agriculture, Ottawa.

General Advice Regarding Storing Handling.—1. Keep each tier of blocks level. Try to cut or obtain all blocks as nearly one size as possible. Fill all crevices and cracks with crushed ice or snow. Make the mass as nearly a solid block as possible.

2. Use fresh sawdust as a filler. Planer shavings, while a substitute, are too coarse. Cut straw, or hay, chaff, etc., may be used, but are not so good as sawdust. Where such material is used leave a space of two feet between the walls and ice.

3. Place no sawdust between the tiers of ice, but see that it is well supplied elsewhere. Leave no spaces unfilled. Place one foot to eighteen inches over the top.

4. From the time the ice is covered, and during the summer, inspect the ice-house carefully from time to time. Fill all holes caused by settling and wastage and rake over the top of the sawdust to form a mulch of 3 inches or so of dry sawdust. A little care in this regard will be responsible for hundreds of pounds of ice saved.

Utilization.—As to the utilization of ice little need be said. Suffice it to mention that **many of the gravest defects in our dairy products to-day would largely disappear with the prompt cooling of the fresh milk.** For the proper maintenance of household economy ice may seem a luxury at first. Once used, it becomes a necessity. One of the most satisfactory buildings on the farm is the ice-house, or better, the automatic refrigerator or cooling room in conjunction therewith.

G. B. ROTHWELL,
Acting Dominion Animal Husbandman.

COW'S AGE BY THE RINGS ON HORN

How can one know the age of a cow by the rings on the horns? A. G.

Most people "read" the rings of the horns incorrectly. At about two years of age a small ring appears at the base of the horn and another at three years. Then these two preliminary rings fuse and almost disappear; but a deep ring soon forms and indicates the fourth year. Correctly to judge age from the horns one should count the smooth tip and the first slightly marked ring as representing three years, and add one year for each additional ring. In the aged animal there is a marked depression or lessening in circumference at the base of the horn which, together with loss of the broad parts of the incisors or great wear of those teeth, may be accounted unmistakable evidence of advanced age .

FIRE DON'TS

Don't put hay in mow until properly cured. Be careful also with damp fodder and straw, and bins of moist grain and seeds. Don't put new hay or fodder on old hay, straw or fodder —danger of spontaneous combustion. Clean floors thoroughly before storing hay.

Don't neglect to have ladder, buckets and water handy at all times, and to keep each in its proper place.

Don't smoke meat except in buildings removed a safe distance from other buildings, unless properly equipped to prevent fire.

Don't neglect to have all flues cleaned, examined and repaired at least once each year.

Don't pass stovepipes through ceilings, roofs or wooden partitions.

Don't allow children to play with matches. Keep matches in closed metal box.

"Making two blades grow where only one grew before."

1920 Fertilizer production will be an uncertain proposition

"Shur-Gain Fertilizer buyers should order a full supply at once and arrange for deliveries in January or February at latest. Strikes at the phosphate mines, railway car shortages and soft coal strikes have delayed raw material shipments to us and will affect the consumer too.

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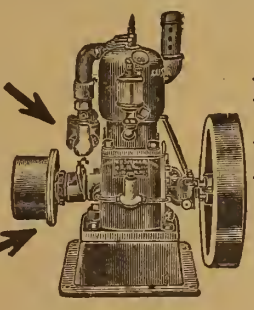

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Orders now booked for EWE and RAM LAMBS for fall delivery, several extra good animals for sale out of Ewes clipping 10 to 12 lbs. and sired by an Imported Ram weighing about 400 lbs. with a clip of 18 lbs.

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For Sale—Registered stock. Male or female.

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Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $2.00 per 15.

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OFFERS FOR SALE:

Two choice young Holstein Bulls, 15 and 19 months old, sired by Dutchland Pieterje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad, "the world's greatest hull," 101 A.R.O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

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Pure Bred Shorthorns For Sale !

Am offering for sale my herd of pure bred registered Shorthorn cattle. These cattle range in age from 7 years to 3 years, or a little less, with one hull calf two weeks old, and are all fine in type and color.

I have also exceptionally good grade cattle of various ages for sale. All will he sold at a reasonable price and offer an unusual opportunity to anyone desiring to start a herd of choice stock or to renew an old herd.

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Females, all ages. Also a number of bull calves ranging from one month to eight months. Sired by the prize winning bulls "Morton Mains Amanth" Imp. and "Cherry Bank Cicero."

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We are offering two Ayrshire Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

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For particulars and prices write

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A few registered mature cows due to freshen the coming fall and winter.

Several yearlings, bred and not bred, registered and grades.

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Two yearling heifers, very thrifty.

Several pure hred calves, male and female, by Imported English dual purpose Shorthorn hull, out of splendid producing dams.

We can supply intending purchasers a choice list of either Jerseys or Shorthorns to select from.

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Holstein Cattle.

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F. W. C. Nase, Nerepis Station, Kings Co., N. B

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C. A. Archibald, Truro N. S.
John H. Hughes, Petitcodiac, N. B.
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Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHOSYLVIA, the world's record cow. Only one other 41-lb. hull in Canada.

We have young hulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. hutter in seven days; another whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lb. sire and an 18,000-lh. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

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We are offering for sale calves of both sexes, sired by Dutchland Pieterje Count, a hull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of hutter in seven days. His dam is a daughter of Colantha Johanna Lad, who has 101 A. R. O. daughters, 4 over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice, come and see these calves or write for further particulars.

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Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

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EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. hutter each in seven days. These cows have in turn heen hred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lhs. hutter each in seven days. Am offering young hull calves of this remarkable combination of hreeding and will sell a heifer calf or two. Get your orders in quick, they won't he here long.

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We have for sale a number of Cows due to freshen in Sept. & Oct. also yearling Heifers & a few Heifer Calves. We still have a few Bull Calves 8 & 9 months old.

Our herd bull Homestead Hengrueld Rooker is also for sale after September. These cattle are all from stock hacked by official records,

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One Oxford grown Ram and a number of grade Ewe Lambs.

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From good milking strain. All fit for service.

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Side Wheel Reversible knife. Root-pulper for pulping and slicing. Roller bearing. A convenient, strong, easy running Pulper.

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Stoves of heavy sheet steel Made in 3 sizes:

No. 30 cap. 1 bbl.
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FOR SALE—Pure bred White Wyandotte and White Leghorn cockerels from Guild's bred-to-lay stock, $2.50 each; also eggs in season, $2.00 per 13. EDSON EAGLES, Windsor, N. S.

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Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

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Calves of either sex, eight mos. of age and younger, from well bred and Tuberculin-tested Dams. Write for further particulars or come and see them.

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Superb breeding qualities. Exhibition or utility stock. All birds shipped on approval. Prices $4.00 to $25.00.

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A few very nice Berks for sale.

L. M. ANDERSON, Sackville, N. B.

COW CHEWING STICKS AND STONES

I have a cow that is very restless and bellows occasionaly, also has a habit of chewing sticks and any rubbish she finds lying around that she can take into her mouth. What is the cause of this, and could you recommend a treatment —D. F.

It is generally believed that some condition of the soil and water, and of local vegetation is responsible for the trouble. It is more prevalent some years than others, and is most common where the soil is more or less depleted. Cattle pastures on low, swampy land become predisposed to it. It occasionally happens, however, that one individual in a herd suffers though all are fed alike; in such cases the disease must arise from an imperfect assimilation by the affected animal of the nutritive elements of the food which is supplied to it.

The aim in such cases must be to improve the process of digestion and to supply the animal with a sufficiency of sound and wholesome food. Give your cow a tablespoonful of the following mixture three times a day: Carbonate of iron, four ounces; finely ground bone or "bone flour" 1 pound powdered fennygreek, four ounces. Mix these together and in addition, three table spoonfuls of powdered charcoal may be mixed with the cow's feed three times a doy. A piece of rock salt should be placed where the cow can lick it at will.

IRON CEMENT

A permanent iron cement for filling cracks, and the like, may be made by simply mixing oxide of manganese and raw linseed oil, using enough oil with the manganese to make a thick paste. Apply this mixture to the pipe joint or leak. Remove the pressure from the pipe and keep it sufficiently warm to absorb the oil from the manganese in the paste cement mixture.

In about a day the cement will be as hard as the pipe or the iron tto which it is applied.—P. T. Hines.

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Some random selections from our British List

BAGPIPES

The Cock O' The North, March, and Jennia's Bawbee, Medley March by Piper Major Ross, H.M. Scots Guards. *R1192*

VIOLIN SOLOS

Quadrilles, Figures 1 and 2, and Quadrilles, Figure 3, by J. Scott Skinner. *R1292*

The Flower of Edinburgh, and Highland Schottische, No. 2. Sandy Cameron, Miller O'Hirn, and The Glenlivet, by J. Scott Skinner. *R1284*

BANDS

Scottish Quadrilles, Figure 4, and Scottish Quadrilles, Figure 5, by Scots Guards Band. *R1332*

Scottish Quadrilles, Figure 6 and The Belfry Serenade, with Chimes, by Scots Guards Band. *R1333*

Conqueror March, and Death or Glory March, St. Hilda Colliery Band. *R2130*

Third Dragoon Guards March, and Military Church Parade, Wingate Temperance Prize Band. *R2949*

Entry of the Gladiator's March, and The Gladiators' Farewell March, Scots Guards Band. *R2078*

COMIC and PATTER SELECTIONS

Here We Are Again, and When Father Papered the Parlor, by Billy Williams. *R1564*

Why Can't We Have The Sea In London, and My Lass From Glasgow Toon, by Billy Williams, *R1728*

I Never Heard Father Laugh So Much Before, and I Keep On Toddling Along, by Billy Williams. *R1858*

Where Does Daddy Go When He Goes Out, and Wait Till I'm As Old As Father, by Billy Williams *R1978*

ORCHESTRA

Kiss of Spring Waltz, Rolfe, and Scented Roses Waltz, Daly, by Casino Orchestra. *R1718*

ACCORDION

Blackthorn Stick Quadrilles, (Jig Time) and Tight Little Island, Laird O'Cockpen, and the Braw Young man, by Peter Wyper. *R1948*

BELL SOLOS

The Only Girl I Love, Bell Solo, and Bell Gavotte, Bell Solo, by W. H. Ross band accompaniment. *R1747*

Khaki Boys March, Whitlock, and Navel Cadets March, Whitlock, band accompaniment. *R2945*

CONCERTINA SOLOS

Henry's Barn Dance, and Woodland Flowers Barn Dance, by Alexander Prince. *R2013*

National Emblem March, E. E. Bagley, and Liberty Bell March, Sousa, by Alexander Prince *R2288*

VOCAL SELECTIONS

In The Valley Where The Blue Birds Sing, and Beautiful Bird, Sing on, with Bird Whistling effects, by Charles Holland, baritone. *R1711*

TRIOS and QUARTETTES

Old Rustic Bridge By The Mill, and Beautiful Bird, Sing On, sung by Wm. Thomas, tenor, with the Excelsior Quartette, *R2961*

MASSED BANDS of the GUARDS

The British Army Quadrilles, Introduction, Julien. The British Army Quadrilles, Nos. 1 and 2, Julien. *R366*

The British Army Quadrilles, Nos. 3 and 4, Julien. The British Army Quadrilles, No. 5, Julien. *R367*

CORNET SOLOS

Miserere, from "Il Trovatore" (Verdi). The Flight of Ages, (Bevan) by Sergeant Leggett *R264*

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FEB -3 1920

The
MARITIME FARMER
AND CO-OPERATIVE DAIRYMAN

REGISTERED TRADEMARK

Published Fortnightly in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., JANUARY 20, 1920 No 8.

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Ask your dealer for "Invincibles" and get double wear for your money.

THE MINER RUBBER CO., LIMITED. 5

HORSE HAS ITCH ON MANE AND TAIL

My one horse is infected with a sort of itch. Every chance he gets he tries to rub his neck and tail-bone. It seems to infect the entire ridge of his back and mane. Can you tell me what to do for it? J. B.

Lack of grooming and consequent formation of dandruff substance at the roots of the mane and tail commonly cause the itchiness referred to. Then parasites may invade the affected parts and make the condition an aggravated one that is difficult to cure. Chicken lice sometimes start the trouble, or horse lice may be found present. At once wash the parts clean with soap and hot water. Do not repeat the washing. When dry pour on and rub in a little of a mixture of one part of kerosene and three parts of sweet oil, or machine oil.

Do this once daily for three consecutive days; then apply freely every three days a mixture of two ounces of flowers of sulphur, half an ounce of coal tar disinfectant or dip, and one pint of sweet oil or cotton-seed oil. Keep the stable celan and well ventilated and never let the horse stand for a single day without work or exercise. Once daily, until itchiness subsides, mix in his feed a tablespoonful of granular hyposulphite of soda.

The discomfort caused the horse by placing frosty bridle-bits in his mouth may be avoided by blowing the warm breath against the bits several times, or holding them against the horse's body.

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PREPARATIONS for the June wedding—or for the wedding at any time, for that matter—cannot begin at a better time than now. The winter evenings before the fire offer the ideal time for sewing the dainty white fabrics of the young woman's trousseau.

And than soft white cotton, there is no more beautiful fabric for the intimate garments of femininity. Its snowy whiteness, its delicacy, combined with its durability, are the qualities which have included it in the fine apparel of the beautiful women of history.

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FRUIT COOKIES

One and one-half cups sugar, one cup fat; work to a cream; add three well-beaten eggs, 1½ cups molasses, 1½ teaspoons soda dissolved in a little cold water, one cup chopped raisins, one cup currants, one teaspoon each of three or four kinds of spice, flour to roll. These keep almost indefinitely.

RICH SPICE CAKE

Melt a square of baking chocolate over hot water, add one-fourth cup light brown sugar and one-fourth cup hot water, then cook until smooth, stirring constantly. Cream one-half cup butter, then add successively one asd a half cups brown sugar, two eggs, the hot chocolate mixture, two teaspoons cinnamon, one teaspoon cloves, one-half teaspoon nutmeg, one cup chopped fruit, currants or raisins, one cup chopped nut meats, one cup sour cream in which is dissolved a half teaspoon soda, and three cups of flour sifted with a teaspoon of baking powder. Bake in layers and spread with a cream icing, or bake in gem pans and sprinkle before baking with chopped nut meats and granulated sugar.

THE MARITIME FARMER

AN

CO-OPERATIVE DAIRYMAN

REGISTESED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 25. SUSSEX, NEW BRUNSWICK, JANUARY 20, 1920. Number 8.

Tuberculosis in Live Stock

Detection, Control and Eradication

By John A. Kiernan, Chief of Tuberculosis Eradication Division and Alex. E. Wright, Assistant Chief, Washington, D. C.

HOW THE DISEASE SPREADS IN A HERD

The tuberculous cow is the greatest source of danger to healthy cattle. Any reacting cattle not promptly removed from the herd constitute a source of constant infection.

Tuberculous cattle, sooner or later, begin to give off the germs of the disease. These germs escape by the mouth, nose, and bowels, in the milk, and other discharges. The discharged germs are carried in the air for a time until they fall to the ground.

Animals in adjoining stalls may take in the germs in the feed they eat and thus contract the disease. Continuous water troughs in barns containing diseased cattle are a source of danger. Drinking holes containing material from infected animals are likewise dangerous.

Failure to clean and disinfect the premises occupied by the diseased cattle constitutes another source of danger. Infected milking tubes and the practice of feeding calves with raw milk from tuberculous cows are the means by which tuberculosis spreads in a herd.

Present Knowledge of Tuberculosis

Probably no disease affecting either the human race or live stock is better known or has been the object of so much study as tuberculosis. Present knowledge of the disease is derived from many sources, including the work of eminent scientists who discovered its cause, and studies of the numerous ways in which it is spread, of the manner by which man and animals contract it, and the effects it produces.

The tuberculin test—the means of detecting tuberculosis — was devised in 1882 by the eminent scientist, Dr. Robert Koch. Thus the test has been known for more than a third of a century. The facts regarding it and other information presented in this treatise are based upon long experience and results verified many times. The methods recommended to be used in the eradication of tuberculosis have been tried upon large numbers of herds and found t obe effectual and practicable.

Early Eradication is Most Economical

Live stock owners are earnestly requested not to wait until the Provincial, States and Federal Government come into other localities to eradicate tuberculosis. It would not be possible indeed, at this stage to undertake to eradicate tuberculosis from the live stock of the United States and Canada solely through organized official forces established by the respective Provinces, States and the Federal Government. The area over which tuberculosis has spread is too vast, the herds are too numerous, and funds are insuufficient for conducting the work on so extensive a plan even though trained veterinarians were available in sufficient numbers to do the work. Every live-stock owner should be a party to this campaign which has been inaugurated to eradicate tuberculosis. In almost every locality of the United States and Canada are veterinarians capable of rendering valuable services to live-stock owners in this great work, and the cost of eradicating is greatly reduced by combating the disease in its early stages. Yet even in badly affected herds eradication can be undertaken with success. There are records of many herds, in which three-fourths of the animals were affected with tuberculosis, which eventually were freed from it and afterwards maintained in a healthy condition.

The extirpation of tuberculosis from live stock is important not only from an economic standpoint, but also because a considerable percentage of tuberculosis in the human family, especially among children, is positively due to the consumption of infected milk or other dairy products from tuberculous cows. It is eminently proper for the respective governments to expend funds for the maintenance of tuberculosis sanitariuums for the care of persons affected with that disease, and likewise it is extremely important to use vigorous measures to check the marketing of germ-laden milk. While it is true that proper pasteurization of milk destroys the living organisms of tuberculosis, a large part of the milk consumed daily is not pasteurized, and some of the milk so treated is not always made entirely safe.

Tuberculosis a Deceptive Disease

If tuberculosis were similar to foot-and-mouth disease in cattle, swine, and sheep, which causes rather spectacular symptoms, it would arouse immediate alarm among live-stock owners, who would insist upon its immediate eradication but because it is generally slow in developing and its symptoms commonly are not easily recognized from the general outward appearance of the animals, many people believe that it does comparatively little damage among live stock. Contrary to such opinions, however, the loss from tuberculosis is one of the heaviest taxes imposed upon our live-stock industry. amounting probably, to at least $40,000,000 a year in the United States.

Prevalence of Tuberculosis

In every Province, State and Territory in the Union and in Canada there is some tuberculosis among cattle and swine, though the degree varies considerably. In some States it probably exists quite extensively, the percentage varying from 5 to 30 per cent. of the cattle population, while in certain others investigation indicate that less than 1 per cent of the total of beef and dairy cattle are tuberculous.

Tuberculosis is known to exist also quite extensively among cattle and swine in all the European countries; in fact, no part of the world is known to be free from it absolutely. There are, however, some restricted regions where its presence is not known, or it exists to but a very moderate degree.

Until cattle from the eastern part of the United States were introduced in to the Middle Western, Western, and Southern States, tuberculosis among live stock in those regions was unknown so far as we know. The disease at that time was confined to the herds east of the Allegheny Mountains. It was known then that a considerable percentage of herds inthose States were affected, but live-stock owners were inclined to consider tuberculosis as of very great economic importance or dangerous to human health. Therefore very little progress was made in its eradication. As the Central and Western States became settled and cattle were moved westward the disease spread much more rapidly than is generall realized. The spreading in those areas is due, of course, to the fact that the live-stock industry occupies a more important part in agriculture than in the Eastern States. Cattle are traded in more extensively and are continually being shipped and trailed from State to State and from farm to farm.

In some localities in the West, where dairying has developed extensively, it is now known that carload lots of cows purchased in other States have contained 50 per cent. or more of tuberculous animals. Some herds of beef cattle in our western country have become contaminated with the disease by placing among them tuberculous pure-bred bulls and cows that come from diseased herds elsewhere. The importance of controlling tuberculosis and preventing its spread by the interstate movement of diseased animals was not so well recognized during the times of pioneer developmnet as it is today. Consequently in the absence of regulation and inspection, diseased animals moved from one State to another. The shipment of cattle from Eastern and Northern States to the South, with the exception of dairy herds near the larger cities did not commence until progress had been made in the eradication of the cattle tick. Therefore there is probably less tuberculosis among the herds of the Southern States than in any other part of the Nation. This favorable condition should be taken advantage of, for in all probability the livestock industry will reach a high development in that area in future years. It is especially important that the herds of the Southern States be protected by permitting only tuberculosis-free animals to enter.

Losses of Meat Food Products

Records kept by the Meat Inspection Division of the bureau show the great financial loss caused by tuberculosis every year. They also indicate how widespread tuberculosis in cattle and swine is in the United States, as the establishments in which the diseased animals were slaughtered are in all parts of the country. More than that, only about 65 per cent. of the cattle and swine, it is estimated, are slaughtered each year in establishments under Federal supervision, so that about35 per cent. of these classes of animals slaughtered each year in the United States do not appear in these records. It is known also that the percentage of tuberculosis is greater in the uninspected animals. In view of these points the losses shown in the following table are

(Continued from page 257)

HOW TO PROCEED TO MAKE CERTAIN THAT CATTLE AND SWINE ARE FREE FROM TUBERCULOSIS

Have a competent veterinarian apply the tuberculin test. Remove all reactors promptly, and disinfect the premises immediately after the removal of the reacting cattle.

Do not feed any infected dairy products to swine or young cattle.

Retest the herd with tuberculin once a year.

Maritime Stock Breeders in Convention

The annual meeting of the Maritime Stock Breeders' Association was held in the Agricultural College, Truro, N. S., on January 8th at 2.30 p. m.

Upwards of fifty representative stock breeders were present when A. E. Trites, President of the Association, called the convention to order.

The minutes of the last annual meeting and directors' meeting, and special meetings since held, were read by the Secretary, Fred L. Fuller, and approved.

The Financial Statement showed that the Association is in a flourishing condition with a surplus of $2350.00.

Mr. Fuller referred to live stock conditions in the Maritime Provinces, and the work accomplished by the Maritime Stock Breeders' Association in the way of bettering these conditions. He called special attention to the need for Maritime Stock yards, Abbatoirs and Cold Storage plants to give breeders and feeders of cattle, sheep and swine, sale facilities that are badly needed as under present conditions drovers and butchers have everything pretty much their own way, and consequently pay the producers just as little for the stock they purchase as they possibly can. Co-operation and competition in selilng stock is conducive to the best returns.

The Secretary instanced the cases of two men who had several head of cattle entered in the Block Test at Amherst, and who were unable to get an offer of only 16 cents per pound for the beef, the butchers taking advantage of the by-law "any exhibitor withdrawing an animal entered in the Block Test shall pay the following forfeit: For cattle, $5.00 per head; for sheep and swine, $2.00 per head." The butchers thinking that sooner than pay the forfeit, even if prices were low, the stockmen would send their cattle to the block. The management of the Fair on learning this, rescinded the by-law in question and when the butchers discovered that the cattle were being withdrawn from the Block Test, the prices went up by leaps and bounds to 24 cents per pound.

Buyers of lambs in Eastern Nova Scotia were offering as low as eight cents a pound until they come in contact with the competition of local co-operative lamb shipping associations, when they were compelled to increase their offer to ten and one-half cents per pound, in one week. Some co-operative shippers realized approximately twelve and one-half cents per pound net for their lambs on the Montreal market.

The matter of the establishment of an Abattoir in the Maritime Provinces was brought up by H. W. Redstone, of St. John, representing the Eastern Brokerage Co. He outlined the formation of a company, capitalized at one million dollars to build and conduct the proposed Abattoir. Plans prepared by eminent Chicago architects were submitted by the speaker. The location of the plant would be at some point in the Maritime Provinces to be selected by the Federal Government, and, failing that, by the stock holders of the corporation. The plans submitted would provide for a daily eight-hour capacity of from 100 to 150 cattle, 500 to 750 sheep, and from 1,000 to 1,500 hogs. The specifications are:

Killing building, four stories and basement, 112 x 122 feet.

Cooler building, four stories and basement, 102 x 112 feet.

Tank house, three stories and basement, 36 x 112 feet.

Fertilizer building, two stories and basement, 56 x 112 feet.

Engine room, three stories, comprising spray pond for cooling, ammonia.

Condensing deck and engine room proper on main floor, 64 x 64 feet.

Boiler room, one story 52 x 70 feet.

The president informed Mr. Redstone that the directors would make no more until they had another meeting with the Ottawa authorities early in February.

A motion to increase the number of directors allowed the Maritime Poultry and Pet Stock Association from one to three was defeated.

The next Winter Fair will be held on the week of December 13th, 1920. Stock breeders will do well to paste this date in their bonnets and the public will be well advised to visit Amherst at that time to see the display the Maritime Stock Breeders will make at that time.

President Trites, on behalf of the Maritime Stock Breeders' Association, presented Lloyd Bleach of Amherst with a purse of gold in recognition of his untiring assistance at the last Winter Fair.

We had heard a lot of criticism while attending the Fair, of delays and careless handling by the railways of stock in transit to the Winter Fair. We had also heard some very uncomplimentary remarks anet the same subject from men who had been inconvenienced on the homeward bound trip, rather more so than when Fair bound. Consequently we were not surprised when this subject was brought to the attention of the Maritime Stock Breeders' Convention.

The evidence adduced went to show that there had been flaglant delays, indifference, and carelessness in live stock transportation to and from the Fair.

Secretary Fuller had done his part to forestall inconveniences of this kind by getting in touch with Mr. Devenish, Superintendent of the Moncton Division of the C. N. R. apprising him of the number of cars of stock that would be moving from and to various points on certain dates. Mr. Devenish in turn had issued orders to his men, that had they been carried out would have kept every exhibitor in a happy mood, but the best laid plans of mice and men gang aft aglee. Jack Frost was playing havoc that week with railroading operations and some of the orders issued by Mr. Devenish could not be carried out in some cases, and in other cases would not be carried into effect by the train crews.

Mr. Devenish heard all the complaints and will undoubtedly have something to say to the crews that failed to comply with his instructions. He also assured the Stock Breeders that he would be on hand to superintend transportation matters at the next Winter Fair, and that everything possible would be done to prevent a recurrance of a necessity for complaints.

The following resolution was passed unanimously:

"Whereas exhibitors at our Maritime shows have defeatedly suffered loss and inconvenience, due to negligence and indifference of officials and employees of the railway; and

"Whereas they have repeatedly fallen down on promises and assurances given owners; and

"Whereas breeders of valuable high-class stock cannot afford further the risk and danger of injury and damage occasioned by such treatment;

"Therefore esolved that we, the members of the Maritime Stock Breeders' Association, now assembled in annual session, protest emphatically against such treatment; and

"Further Resolved that unless we have a guarantee against all financial loss and injury, due to such mismanagement we will appeal to the press, the public and allied farmers' associations to assist in securing justice."

Mr. S. A. Logan referred to some of the difficulties that confront the Maritime stock breeders. He said: "For instance, a man living in Berwick, N. S., sells a two-year-old bull at Glendyer, on the Inverness railway. The actual weight of this dairy bull is 700 pounds or less. He is billed at 4000 pounds, and at a half rate, as he is pure bred. The actual freight charged is $9.30 to Truro, $10.90 from Truro to Point Tupper, and $11.00 from Point Tupper to Glendyer, if shipped at the owner's risk, and $22.00 if carried at the railway's risk. In addition to this there is a lay-over at Windsor, another at Truro, and one at Point Tupper, with charges of at least $1 at each place for feed and water, making a total of $34.20, taking all the risk and shipping at the cheapest possible rate, or $45.20 when shipped at the railway risk.

"I asked for a freight rate recently on a lamb from Amherst to River Hebert on the Joggins railway," Mr. Logan went on, "and found that it was billed at 400 pounds, when it actually weighed less than 100 pounds, and the freight to Maccan (the junction point, and about half way) was 96 cents, if carried at the railway's risk. I did not enquire the rate on the Joggins road, but it would be as much more, at least. However, the express company carried the lamb all the way to River Hebert for 60 cents."

Mr. Logan then referred to the freight rate on ground or pulverized limestone, which he said was the same as on commercial fertilizer. "It cost from four to five dollars at the quarry, and if carried a few hundred miles, the freight was more than the cost." He added: "Railway companies in the United States have recognized the value of this limestone as a soil improver, and as soil improved means more business for the road, have made a special low rate on it. I merely refer to this, as ew have some railway officials with us, and we may take up these matters at some other time."

W. W. Hubbard said railroad men seemed to take delight in annoying the shippers. This is seldom or never done at points where two roads serve the public.

Hon. W. M. Lea said he knew of cases where train hands had failed to give valuable animals any consideration. They were shunted and jerked about at junction points. He had seen cars of live stock handled in this way so roughly that rings were torn out of the bulls noses. It was an almost hopeless situation he said, to be on the road with a load of live stock and no railway employees willing to give assistance or even decent courtesy.

Mr. James Roper told of an instance where he had taught an insolent railway employee better manners by grasping the insolent one by the neck and squeezing just hard enough to elect the promise of more courteous consideration in future of stockmen, and their stock.

Mr. Devenish replied that it was hard for railway officials to know what was going on at isolated points, where one man could, through careless tactics and an insolent disposition to the public, make a lot of enemies for the road. He was glad to have the frank criticisms of the stock breeders, and would be glad to co-operate with the association in every way possible to bring about the seemingly needed redress.

The election of officers resulted as follows:—Directors,

New Brunswick—Percy Fairweather, Rothesay; W. S. Harding, Hammond River; Angus Avard, Sackville, and W. W. Hubbard, Fredericton.

Prince Edward Island—J. M. Laird, Kelvin Grove; W. H. McGregor, Lot Sixteen; James Roper, Charlottetown; Edward Reed, Rollo Bay.

Nova Scotia—Prescott Blanchard, Truro; W. W. Black, Amherst; S. A. Logan, Amherst and J. O'Brien, Windsor Forks.

Director representing the Maritime Poultry Association—John R. MacMullen, Truro.

At a subsequent meeting of the directors, A. E. Trites, Salisbury, N. B., was re-elected president and Fred L. Fuller, Truro, N. S., was re-elected Secretary.

It was also decided to retain the Association's membership in the Eastern Live Stock Union and not hold a horse show this year.

At the public meeting held in the evening of the Convention day, films were shown and addresses were made by Hon. W. M. Lea, Minister of Agriculture for Prince Edward Island, on the Management of the Dairy Herd. Prof. John M. Trueman discussed the problems of stock breeders and urged the use of better sires and the elimination of scrub animals. The importance of an increased acreage of roughage to provide cheap food for stock was pointed out as the only solution of the question of making the dairy herd pay when mill feeds are so high.

Gleanings From N. S. Agr. College

BIG POTATO CROPS

The average yield of potatoes per acre for Canada in 1919 was 160.75 bushels. The average yield of crops grown by four farmers in the neighbourhood of Bridgewater, Lunenburg Co., N. S., was 475 bushels of excellent quality. This is no freak yield either, for these men have been growing equally heavy crops in previous years.

The four men whose potato crops form the basis of this story were the prize winners in the Fields Crops Competitions in the Western end of the Province. They are Messrs. Henry Newcombe, Newcombviee; Scott Hebb, Hebbville; ames Mader, Pine Grove; and Albert C. Veniotte of West Northfield.

The results obtained by these farmers point the way to greatly increased yields all over the Province, for the natural conditions are in no important respect different from those obtaining in any of our good farming sections. When one puts it down in cold figures, the difference in yield between the average field and these four is enough to stir the interest of any ambitious farmer. A fairly careful calculation of the cost in labour and materials over and above the cost of the average fields sets it down at $50.00 per acre. That is, the acre which yielded 475 bushels cost $50.00 more than the acre yielding 160 bushels. With potatoes at $1.00 per bus., these men got an extra return of $315.00 for an extra outlay of $50.00 for fertilizer and labour—over 600%. It beats black foxes out of sight, even when these animals were selling at $10,000 a pair.

The whole story of the potato growing practice of these men yields three main points.

1. The soil should be put into garden like condition before planting. An extra harrowing or two will pay handsomely.

2. It was proven that the addition of commercial fertilizer to the barnyard manure gave a generous return, even when it contained only nitrogen and phosphoric acid, and no potash.

3. Each of these men sprayed five times during the season, beginning early in July, when the plants were

about four inches high, and continuing until the end of August.

It is evident that Nova Scotia in this line can equal any other Province in the Dominion, perhaps any section of the Continent. What is necessary is the following up on the part of hundreds of other farmers of such methods as are indicated here.

A SUCCESSFUL SHORT COURSE

The Short Course held at the College January 6th to 16th of this year, was an extremely successful one, much more so than was anticipated by the staff when it was first proposed. Some doubts were expressed as to the wisdom of holding a Short Course this year on account of the scarcity of help on the farms, high transportation rates and still higher boarding rates.

It was decided in the end to make a change in the arrangement of the course. The first four days were filled with a self-contained programme so as to be complete in itself, then a continuation course was arranged for such as could remain longer to last six additional days. Thus, busy men who could not long be absent had an opportunity of hearing lectures and seeing demonstrations on up-to-date farming and stock-raising practice.

There were 146 regular students in attendance during the first four days and an additional class of 47 soldiers. Of this number the soldiers class remain for the continuation class and about 30 of the other students. No more successful Short Course has been held in the history of the College, and the plan of dividing the period in two parts will probably be followed in future years.

Apart from the usual instruction in the breeding and care of live-stock, crops, horticulture, veterinary science, etc., much interest was added by the exhibition of motion pictures depicting Agricultural processes. Some of the films shown are owned by the College, some were loaned by the Ontario Department of Agriculture and some by Mr. George E. Graham, General Manager of the D. A. R.

In this connection it is worth noting that the D. A. Railway, under the aggressive management of Mr. Graham, has purchased special cinematograph machines specially adapted for Agricultural operations, and is arranging for their use along the railway lines. This is a most commendable enterprise from an educational standpoint, and is capable of almost unlimited development.

N. S. POULTRY ASSOCIATION

Not many years ago about the only fuss the hen could raise was her cackle over her fresh laid egg, and it was not worth fussing over from the point of view of market value. Times have changed. With fresh eggs retailing in our cities at $1.00 per doz., and dressed poultry at proportionately high prices, the humble hen is coming into her own.

A keen and growing interest is evident all over the Province in poultry matters. The Annual meeting of the N. S. Poultry Association was held at the College, January 13th. Among all the meetings which were associated with the Short Course, this one ranked well up. Some twenty five delegates were in attendance, with President H. H. Hull of Glace Bay in the chair, and Mr. J. P. Landry, Superintendent of the Poultry Division for Nova Scotia, acting as secretary. A fuller account of the proceedings will appear in these columns at a later date.

N. S. A. C. NOTES

Eleven graduates of the Nova Scotia College of Agriculture, of whom six were in Khaki during the war, are this year enrolled in the third year at the Ontario Agricultural College. Their standing in the Christmas examinations at Guelph have just been announced and are very creditable both to themselves and to the College at Truro. Out of a class of ninety-three, who wrote the examinations, the Nova Scotia boys stood as follows: F. L. Wood, Carters Point, N. B., 3rd; R. M. Lewis, Yarmouth, N. S., 4th; H. L. Trueman, Truro, N S.; 6th. The others fall in line 27th, 31st, 37th, 41st, 53rd, 64th and 81st.

A NUT FOR SOME ONE TO CRACK

From time to time the public of Canada have been kept informed of the movements and enquiries held by Mr. W. F. O'Conner, enquiries quite often centering about the question whether milk should be 13c or 14c per quart in a given city. This is all well and good, but the writer, and doubtless other poor and humble consumers have often wondered why the enquiry should not be on the question whether meat should be retailed at 25c or 45c per lb. The milk issue is one involving only from one to three cents per day to the average family at most, while the meat matter may well involve ten times as much money.

An interesting side light on the meat situation was brought out at the Winter Fair. The highest offer made by local meat dealers for the animals slaughtered in the block tests, choice dressed beef, was 16c per lb. A Montreal buyer on the ground purchased the carcasses at 24c. Yet beef in Nova Scotia generally retails at higher figures than in Montreal. By the way, last week's quotations on the Toronto market for butchers' steers, good to choice, ran from $9.50 to $11.50 per hundred, live weight, which is equal to about $19.00 to $23.00 dressed weight. For heavy steers the prices ran about $3.00 per hundred higher, dressed weight.

It would seem that the farmers in the vicinity of Montreal and Toronto get higher prices for their products in this line, while the consumer actually buys at a lower figure than here. In view of the whole situation it is no wonder that there is a constantly growing demand for a central abbatoir and cold storage plant, which would tend to stabilize prices and improve matters for both producer and consumer.

STORAGE OF ICE

Where the materials are available it is a very simple matter to store enough ice to provide a great deal of comfort and convenience during the summer months. An enclosure 10 feet square and eight feet high will hold enough to last 130 days, using 50 lbs. per day, and allowing for a reasonable amount of wastage. The smaller the quantity stored the larger the proportion of waste.

Any unoccupied corner of a shed will answer the purpose, and the roughest lumber lying about is good enough. The bottom of the enclosure should be covered with about a foot of sawdust. If the soil underneath is clayey, a few inches of gravel below the sawdust will be an improvement. A space of a foot should be left between the ice and the boards to be filled with sawdust, and the ice should be covered with an equal depth. The drier the sawdust is the better the ice will keep. The ice should be cut in blocks so as to pack as tightly as possible.

If it is necessary to erect a special ice house, the roughest kind of a shed that will keep out the weather is all that is necessary. Poles may be driven into the ground and lined up on the inside with rough boards or slabs, leaving a half inch of space between them, and the whole covered over with a roof to keep out the rain. There should be abundant ventilation above the ice.

If sawdust cannot be obtained, shavings may be used, or even hay as a packing material. Marsh hay, or any fine wild hay is best. If hay is used, the space around the walls, and the covering over the top should be two feet instead of one foot in depth.

DR. JAS. W. ROBERTSON TO VISIT NOVA SCOTIA

A communication recently received by the Secretary for Agriculture from Dr. Jas. W. Robertson, Dominion Commissioner of Agriculture, indicates that Nova Scotia is to have a ten days' visit from him, Feb. 17th to 26th. Two or three dates within this period have already been arranged for, but the Secretary is anxious to have as large a number of Nova Scotia farmers as possible to take advantage of this visit. Dr. Robertson has been in France at the Peace Conference as Canadian Agricultural representative, and comes with fresh first-hand information on th world's food situation. No man is better qualified to advise with regard to food production and agricultural trade than Dr. Robertson. Organizations or communities, wishing to hear Dr. Robertson should communicate as soon as possible with the Secretary of Agriculture who is arranging his itinerary.

CLASS REUNION

The class of 1915 held a reunion at the time of the College Short Course, on Friday, Jan. 9th. The event was celebrated by a banquet at the Stanley Hotel, Truro. This class, which entered the senior year three months after the war broke out, enrolled thirty three members. An additional five were members of the class in its junior year. Twenty-one enlisted, and of these five laid down their lives in the great cause, viz., Jack Woodroofe, Dartmouth; eGorge O'Neil, Searsville, N. B.; J. H. MacIvor, Baddeck, C. B.; Fred M. MacKenzie, Nerepis Sta., N. B.; and J. Stanley Sutton, Nappan, N. S.

Nine of the class were present at the banquet and had a most enjoyable time. Officers were elected as follows: Hon. Pres. Professor Smith; Pres., Errol Notting; Secretary, Eldon Taylor. It was decided to hold another reunion five years hence.

"So long as I am Minister of Agriculture there need be no fear about the Guelph show, for it will be carried on as usual," was the emphatic statement of Hon. Manning Doherty, Ontario's new Minister of Agriculture, at the first of the director's luncheons held on Monday last. He made it plain that the Guelph Winter Fair must be maintained as a feeder for the proposed Royal International Show at Toronto, and also touched upon the importance of the live stock industry in Canada. In dealing with the proposed methods of improving Ontario's live stock, he asked for the co-operation of all in the campaign to eliminate the scrub bull.

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DATES OF ISSUE.

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JANUARY 20, 1920.

COWS THAT CAN MAKE GOOD RECORDS

The farmer of moderate means can use an ordinary herd of cows as a part of the foundatios of a splendid grade herd if he selects a good sire of either one of the great dairy breeds. He can secure one or two heifers of the breed of his choice for a moderate outlay of money and gradually as time goes on he can sell his grade cows to his less fortunate neighbors and fill their places with pure-bred animals grown on his own farm. In time and by he will find himself with a purebred herd and it will have cost him no large amount of money at any particular time. Such a course and such results are within the reach of most farmers throughout the country.

The cow must be in proper condition to go through the work of making a good production record, whether for seven days, thirty days, ninety days or one year. Few breeders of dairy cattle realize what condition means in making a great production record. It is often the extra few pounds of flesh and reserve energy that means the breaking of a world's record for milk and butterfat production and places some breeder on the highest pinnacle of fame. It is difficult to define exactly just how to put on this extra flesh and bring the cow safely through her calving period, but it is seen only when cows begin their official tests as vigorous and well-fleshed as skillful feeding can make them. Condition, as meaning capable of maximum production, is necessary before a phenomenal record can be obtained.

KILL THE PESTS AND SAVE THE CROP

Systematic effort to destroy weeds, grain diseases and insect pests result in the saving of hundreds of bushels of grain. Seed treatment for smut in oats, potatoes for scab and blight, crop rotation, frequent cultivation, the use of cleaned and tested seeds, free from weeds, orchard pruning and spraying, are general methods adopted for the control of all pests.

SET WET LAND TO WORK

In the Maritime Provinces there are thousands of acres of land that is just dry enough to tempt the farmer to cultivate it, but just wet enough to prevent the growth of a crop. Farmers who have ditched areas of this kind find that the major portion of crops subsequently grown on such areas can be considered as net profit; twice in former years such land was generally cultivated without any adequate return on account of poor drainage.

DAIRYMAN'S CREED

"A pure-bred dairy bull at the head of the herd. Disposal of all 'slackers' in the herd. Feeding the cows so as to secure the highest possible production and net returns from the herd."

Whatever else is done in the way of a beginning with pure breds, start with a good bull, a really good bull—the best available. The bull really builds the herd; the owner merely directs —inheritance is largely a matter of chance, and to become a successful breeder, one must eliminate, so far as lies in his power, the undesirable chances by the use of animals pure bred for many consecutive generations.

MUST HAVE CULTIVATION

The mind of the farmer, like his soil, must have cultivation if there is to be an ample harvest. Those who neglect culture and refinement cannot enjoy wealth and leisure if these are acquired. Life is not worth living without an appreciation of the true and beautiful in life.

AS TO RPODUCTION

We know that the 44-hour week cannot feed the world and we proclaim that it cannot clothe it —this resolution was passed recently by the Farmers' National Congress of the United States.

THE MODERN "RUBE"

"Say, Cy, I jest found out what a 'Rube' is."

"Thet so, Hiram? What is it?"

"Why, it's one o' them forty-one-hour, ninety-five-dollar a week labor guys that thinks a farmer is goin' to sell him food cheap."

Hon. Dr. Tolmie, speaking at Guelph Winter Fair, declared that "any farmer who gets up at four or five o'clock every morning to milk his cows, who attends to them seven days in the week and who has all the expense of putting his product on the market under prevailing conditions, is entitled to every cent he can get for milk in this country." He advocated the breeding of better cattle in Canada, and dwelt at some length upon the unprofitable 4,000-pound cow and their prevalence in this country. "The man who looks after them has nothing for his labor and there are too few 30,000-pound cows in Canada."

Dollars, though very necessary, are not the sole object in life. There are other things which add more to life than the mere possession of money. One of these is an attractive home; and that includes the home grounds.

Fortunately there is now a greater interest taken everywhere in the beautifying of the home grounds than in the past. There is a realization afloat that none can afford to have bare and ugly surroundings. Trees, shrubs and flowers planted appropriately about the farmstead not only add to the cash value of the farm, but also give comfort, beauty and pleasure to those who make it their home.

During these cold blustery days, when it is disagreeable working outside, the time can be very profitably spent in the barn cleaning the seed grains for the next season's planting. Oats, barley, clover seed, etc., will give better stands if run through the fanning mill and the light chaffy seed kernels, bits of straw, dirt and weed seeds removed. The large plump seeds germinate more evenly and make stronger, more vigorous plants. Farm production will need to proceed at high speed next spring, so prepare for it now.

Speaking at the Guelph Winter Fair, Hon. Manning Doherty, Minister of Agriculture for Ontario, asked for the co-operation of all interested ni the proposed methods of improving live stock in Ontario, in the campaign for the elimination of the scrub bull. Every right thinking citizen will stand behind any government that will legislate the scrub bull off the roads and commons of their province.

Clover is a good crop to grow, because of its feeding value. No other plant will take the place of clover as an all-round stock feed. The greatest value derived from clover, however, is the fertility which it furnishes to the soil.

No-lingering-along-in-the-woods these days for the man or woman who has decided to buy a foundation herd. The time is ripe to mobilize some purebred cattle and "get goin'."

The better the herd of dairy cows kept, the greater will be the return from this source. This is an inducement to invest in pure-bred stock.

Every normal person is born with a message for humanity, with a sacred obligation to give his best to the world.

Paper horses flourished like the green bay tree 30 years ago, but the lesson was well learned and there is small danger of a recurrence. The animal first and then as much of good blood as can be had.

Good fences are no longer a fad, but a necessity and of the kind that is imperative. If you look at the matter sanely, no matter from what angle, you cannot help but reach this conclusion.

There is a great cry just now for cheaper food, but such is impossible unless cheaper wages follow. The one must follow the other as sure as fate, and it is not of much importance which comes first.

If the average farmer would figure the cost of producing his crops as closely as the manufacturer figures his, he would be surprised, no doubt, at the small margin of profit which he has, and this in turn would lead to a more effective argument for his right to higher selling prices.

Sometimes farmers cannot prevent outbreaks of live-stock diseases on their farms, but they can and should ayways use every preventive measure and see that proper precautions are taken when the disease first makes its appearance.

TUBERCULOSIS IN LIVE STOCK—DETECTION, CONTROL AND ERADICATION

(Continued on page 261)

believed to be scarcely one-half of the total los sthroughout the country.

When animals are "retained" by the Federal inspectors on account of tuberculosis it means that some evidence of the disease is discovered and the carcass is placed aside for further examination. If the disease is found to be so slight as to render the undiseased portion of the carcass fit for food, the diseased area is removed and the remainder is passed. It will be noted that such is the case in most carcasses retained, but some loss occurs for the reason that the diseased portions found unfit for food would have a considerable value if healthy.

In the animals that are retained and when the disease is not extensive enough to cause condemnation of the entire carcass, the disease is in most cases in the early stages. Had the animals been allowed to live for possibly only a short time longer, the disease would have progressed until all the carcass would have to be considered diseased. In others the lesion of disease has become surrounded by tissues that "locks it up" and prevents it from spreading to other parts of the body. Such a condition, however, is liable to change at any time during the animal's life and allow the disease to enter other parts of the body, and also to be carried out of the body and endanger healthy cattle and swine.

On the farms from which these animals came, some of the remaining cattle and swine are probably acected with tuberculosis, or will be if allowed to remain there for a sufficient length of time. Knowing this danger, State and Federal officials, when the identity of the animals can be established, trace back as many of the shipments of diseased animals as possible and through the co-operation of the owner try to exterminate the disease rfom that farm.

Cause of Tuberculosis

The direct and primary cause of tuberculosis is a rod-shaped germ which can be seen only with the aid of a microscope of high magnifying power. The presence of this germ in the bodies of human beings or live stock is absolutely necessary to produce the disease. The germs of tuberculosis may also be grown artificially in proper material at a temperature of about 98° F.

Outside the bodies of animals the organism is not capable of reproducing itself. When exposed to the direct rays of the sun it dies quickly—a fact to be noted in the disinfection of pastures, paddocks and barn lofts. The organism may live for months, however, when it is protected by dry manure and other materials which form a crust over it and prevent its destruction by the sun's rays. It is of extreme importance, therefore, to clean and disinfect thoroughly all barns, stalls. and other inclosures which contained tuberculous animals before healthy ones are again placed in them.

While it is necessary for the germs of tuberculosis to be introduced into the body of the animal before the disease can be produced, there are many conditions or accessory causes which make animals fall victims to tbuerculosis.

Animals which are fed on nonutritious feeds, as well as those that have too little feed, become weakened constitutionally and lose the power to resist the invasion of the organisms. Stabling animals in dark, poorly ventilated, and dirty barns helps to spread tuberculosis among the stock whenever the germs are present. Introducing a tuberculous animal is almost sure to give the disease to healthy animals in a short time. If the heatlhy animals drink water from the same trough or bucket the tuberculous animal uses, and if that animal is coughing up tuberculous sputum, all the animasl are in serious danger of infection. Any condition that produces constant strain upon the systems of animals, such as the continued forced lactation periods of dairy cows, renders them fit subjects for the development of tuberculosis.

How Cattle Become Infected with Tuberculosis

The tuberculous cow is the greatest source of danger to healthy cattle, and inasmuch as it can not be determined just when that animal becomes a "spreader" of the germs, unless daily microscopic tests are made of the discharges from the body, and the milk is also examined microscopically it is unsafe to keep it with healthy cattle. No cattle from outside sources should be introduced into a healthy herd until they have been tuberculin tested and found free from the disease. Unquestionably more healthy cattle acquire tuberculosis by coming into contact with affected animals than in any other way. It has been observed frequently that cattle which stand on either side of or face tuberculous animals in barns are the first to contract the disease.

The continuous water trough in barns is also accountable to a very large extent for spreading the disease. Cattle may become infected by picking over manure infected with the germs of tuberculosis. Hay, straw, or any other feed contaminated with the germs may give the disease to animals that consume such material.

Water holes and creeks into which infected milk or the washings from infected milk cans have been dumped may also be a source of the infection. The teat siphon or milking tube, in a number of instances, has been the medium by which the disease has been conveyed from one animal to another. Calves contract tuberculosis by nursing, even for a short time, cows whose udders are affected. Calves also become infected frequently by drinking milk from diseased cattle isolated from the main herd. To be safe for feed, milk from such cows should first be heated to a temperature of 145° F. and held there for at least 30 minutes, but as this method requires considerable attention to assure proper heating, boiling for a few minutes is considered a better plan.

How Swine May Become Infected

The tuberculous cow is not only a menace to other cattle but is also the commonest source of infection to swine. In some parts of the country especially where there are whole-milk creameries and skimming stations, feeding mixed skim milk to swine is a common practice. In that way the skim milk from one farm may be fed to hoge on another. Thus it is possible that milk from a fe wtuberculous cows may set up the infection among swine on many farms.

Milk is a good medium for the development of the tubercle bacilli, and swine seem to be extremely susceptible to tuberculosis. Numerous instances are on record, also, in which the whole milk is seaprated on the farm, the cream shipped, and the skim milk fed to swine. Consequently one tuberculous animal that is passing the germs in the milk secretions may give the disease to any or all of tme animals to which any of the milk is fed.

As the disease often involves the lymphatic glands in various parts of the body, an examination of such glands as can be felt in the living animal is sometimes helpful in diagnosing the disease. The glands of the throat, udder, and point of the shoulder often present an abnormal condition, such as an enlargement or hardening. Animals affected often show a "staring" coat and a generally unthrifty condition. When the throat glands of an animal are affected, it often holds its head in an abnormal position in order to relieve the pressure which causes difficult breathing. Increased respiration is often noted when the lungs or lymphatic glands of the thoracic cavity are affected. When some of the glands of that cavity are extensively diseased, the animal often develops bloat. Diarrhoea is often evident in some cases in which infection has extended to the abodminal cavity. The symptoms mentioned, though typical, must not always be expected when animals are tuberculous animals that are extensively riseased are often in apparently perfect physical condition.

Methods of Diagnosis

Microscopic examinations of sputum, milk, and bowel discharges of an animal are sometimes made to determine the presence of tubercle bacilli and to diagnose tuberculosis, but after many years of experience the tuberculin test is now considered to be the most practicable and satisfactory way of discovering the disease in the living animal. The inoculation of guinea pigs with emulsions made from milk or discharges from living animals is sometimes resorted to as a means of diagnosis, but that method of examination is technical and requires special scientific training and equipment. Besides, cases of tuberculoss may be overlooked when laboratory methods are used because tuberculous animals do not always discharge the tubercle bacilli.

The Tuberculin Test

Testing animals with tuberculin is the process of introducing tuberculin into the animal and interpreting results accorting to well known standards. Tuberculin is a laboratory product prepared scientifically and, when of standard potentcy and in the hands of skillful persons, it is a reliable agent for detecting tuberculosis in animals. It contains no living tubercle bacillit but is a product of the growth of tubercle bacilli properly mixed with a substance on which it has grown and properly diluted and preserved. No harm can result to healthy animals from the proper application of tuberculin even if doses many times greater than the regular ones are used.

The use of tuberculin by untrained persons is to be discouraged for the reason that in mnay cases its effect on tuberculous animals is unobserved and not understood by those unfamiliar with its action. Tuberculin, by its immunizing property, can cause tuberculosis animals to fail to respond to its application at another time; therefore it may be misused by unscrupulous persons.

The Subcutaneous Test (Under the Skin)

The most frequently used method of testing is the subcutaneous test, which consists in injecting the proper quantity of tuberculin underneath the skin nito the subcutaneous tissue. If an animal is tuberulous, the action of the tuberculin causes a fever, which is indicated by a rise in temperature. This rise, under ordinary conditions, may occur any time between the eighth and twentieth hours after the tuberculin is injected, but in some cases it is desirable to measure the temperature before the eighth hour and continue to the twenty-fourth hour or longer.

The temperatures are measured at least 3 times in advance of the injection, at 2-hour intervals, to learn whether the animal is in proper condition to receive the test. The temperatures after injection are taken every 2 hours until the test is completed. The proper interpretation of the temperatures is made by the person applying the test, and a careful observance of any clinical changes is always important in determining theresult. It can not be set forth too strongly that the test including the two following methods, should be attepmted only by those who are properly qualified to do the work.

(Continued in the next issue)

TABLE I.—Number of cattle and swine slaughtered, and those retained and condemned on account of tuberculosis at establishments where Federal meat inspection is maintained.

	Cattle.			Swine		
Fiscal year.	Slaughtered	Retained.	Condemned.	Slaughtered	Retained.	Condemned.
1907*.....	5,867,642	24,876	17,117	26,189,026	362,445	48,544
1908.....	7,116,275	68,395	24,371	35,113,077	719,279	77,554
1909.....	7,325,337	100,650	24,525	35,427,931	860,425	45,113
1910.....	7,962,189	123,501	27,638	27,656,021	792,176	28,880
1911.....	7,781,030	133,551	27,186	29,916,363	1,117,789	31,517
1912.....	7,532,005	160,122	35,273	34,966,378	1,643,100	42,267
1913.....	7,155,816	152,560	33,001	32,287,538	1,809,751	47,632
1914.....	6,724,117	143,699	29,738	33,289,705	2,201,005	48,252
1915.....	6,964,402	158,239	32,644	36,247,958	2,774,835	66,023
1916.....	7,404,288	190,991	37,085	40,482,799	3,687,817	74,109
1917.....	9,299,489	218,928	46,351	40,210,847	3,970,168	76,807
1918.....	10,938,287	222,787	40,692	35,449,247	2,494,587	59,740

* Covers 9 months from October 1, 1906, to June 30, 1907.

J. M. Evvard, head of the Swine Experimental work at Ames, Iowa, has conducted some of the most extensive and practical hog experiments in the country. Some of his recent practical suggestions regarding fall pigs are as follows:

Feed both sow and litter well from the start to build flesh for winter.

Give plenty of good water and warm it in the winter time.

Keep fall pigs in warm, ventilated house.

Keep houses well bedded. This means bedding must be changed fairly often.

Place self-feeders within house so pigs will not have to go out in the cold to eat.

Confine pigs in small quarters and do not allow them to run over the farm.

Keep pigs free from lice, mange, and worms. Crude oil is good to prevent mange and kill lice. Santonin will get the worms. Give constant and careful attention to pigs.

Here's the Evaporator to Solve the Syrup and Sugar Problem

Thousands of grove owners do not work their groves for very little reason. Lots of them just can't make up their minds. Yet if we were to put a proper outfit in their grove and they saw it work so easily and the money there was in it—for one season—they would fight to prevent us taking the outfit away again, even if the cost were a good deal more. An unworked grove these days is like an untapped reservoir with thirsty people around. A big demand and no supply. Why not put a

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in your grove. One of a right size to work your bush to full capacity. Then there will be no waste and every dollar extra means more production. We can fit out any grove from sap spout to Champion Evaporator. Get in touch with us right away.

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The Annual Meeting of the

Nova Scotia

Farmers' Association

will be held at

KENTVILLE, N. S.

on

Tuesday, Wednesday and Thursday, 27-28-29 January

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HANTSPORT, N. S.

HORTICULTURE.

MARITIME SEED GROWERS IN ANNUAL CONVENTION

The Annual Convention of members of the Canadian Seed Growers Association, resident in the Maritime Provinces, was held in the lecture room of the Winter Fair Building, Amherst, N. S., on Tuesday, December 16th.

Dr. M. Cumming, of the N. S. A. C. presided, who, on calling the meeting to order, emphasized the importance of good seed in growing maximum crops and the relationship that maximum crops bears to the promotion of live stock breeding. It behooves every stock breeder to improve their seed by selection, and get better returns in crops. In turn the larger yields will enable stock men to feed their stock more liberally and increase their holdings. Good results cannot be expected from seed chosen in a haphazard way. Every stock man should therefore be interested in seed selection. So essential is good seed to stock raising that the latter cannot be considered without due attention being paid to the former.

Progressive stock men feed, weed and breed, and of these three, feed is the most important consideration.

To carry on this function, the breeding of good seed should be featured by all farmers who would be progressive.

In closing, Dr. Cumming expressed the sentiments of his audience when he referred to Mr. Donald Innis, the veteran seed grower, who was to have addressed the meeting on "What Fifteen Years of Seed Selection in the C. S. G. A. has Taught Me." Dr. Cumming regretted Mr. Innis' unability to be present, as he felt the veteran had some inspiring ideas for the younger growers.

Mr. Walter Shaw of the P. E. Island Department of Agriculture, to the subject of "Some Observations on the Value of Systematic Seed Selection in Prince Edward Island", said this phase of the work was rather neglected during the war period. Field Crops Competitions are encouraging the Island farmers to produce a better class of seeds. The competitions are usually keen. He did not think the Seed Fairs were accomplishing the purposes for which they were inaugurated, as well as their progenitors would like. The Island Seed Growers' Association members feel that the time has arrived when they should have a seed grain elevator at some central point where good seed could be assembled and graded properly for the market.

He had noticed that the farmers who are the best seed selectors are the men whose grain, as a rule, scores the highest in the Field Crops Competitions. Their fields are usually more uniform in appearance. Island farmers have done well in the past; they are not goisg to stand still in the future, but will adopt any improved seed and methods that will tend to give them better yields and added prosperity.

Mr. E. P. Bradt, New Brunswick's Secretary for Agriculture, speaking to the subject of "Opportunities Open to Special Seed Growers in New Brunswick", said the subject of seed selection was not given as much attention on the average farm as its importance warrants. It is absolutely necessary use the very best seed obtainable if the maximum yields would result. The best seed to use is seed, properly selected, from the home grown crops. Like begets like in seed, as in live stock. "If we sow sparingly, we shall reap sparingly" is an old adage, and coupled with it we may truthfully say it is next to folly to expect a full crop from shrunken, broken, weedy seed.

A census of the kinds of seed used on the farms of Canada revealed the astonishing conditions, that a large percentage of the farmers did not know the names of the varieties they were growing, and little or no attention was paid to selection, either in the field or by the fanning mill process. In many cases seed is drawn direct from the bin from which the farm teams have been fed all winter. Few men in New Brunswick make any attempt to grow seed for the trade, yet there are within the province, many opportunities for the creation of splendid seed growing centres, particularly along seed potato growing lines. Some districts have a reputation of being practically free from disease. The farmers of these districts have here an asset that they should zealously guard to protect and maintain.

In regard to seed for Field Crops Competitions, Mr. Bradt said there was not enough registered seed in the province, or procurable elsewhere, to go around, and the only scheme that can be put into effect for the time being, is to use only seed from high scoring fields.

Mr. S. J. Moore, Maritime Representative of the Seed Division, spoke briefly to the subject, "What Well Bred Seed Means and How its Use May be Made More General."

The biggest problem was to overcome the indifference that is too often found in regard to the farmer's own best interests. It pays handsomely to use the best seed available, and a better class of seed than is commonly used is available through systematic seed selection.

The Seed Contest Act is quite generally observed in the matter of the smaller seeds. In cereals there was more latitude than the small seed classes, but now that there has been

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Eureka Potato Planter
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SYDNEY, Nova Scotia

a change, whereby a stricter contest may be had of the Cereals offered for sale as seed, btter results may be looked for.

Seed Grade Standards for Wheat, Oats, Barley and Rye

Extra No. 1 Seed Wheat, Seed Oats, Seed Barley or Seed Rye, shall consist of correctly named and approved variety, shall be practically free from other varieties, shall contain not more than 50 kernels per pound of other grain, including black or brown domestic oats in white or golden varieties of oats, shall lie free from noxious weed seeds, shall be well cleaned and graded to remove light and small kernels, common weed seeds and other foreign matter; shall be sound and of good color; shall weigh not less than two pounds per measured bushel more than the standard weight for grain of the kind and shall be capable of germinating at least 90 per cent

No. 1 Seed shall consist of at least 95 per cent of one variety or type distinguishable from an examination of the threshed grain; shall be reasonably free from other kinds of grain; shall be free from noxious weed seeds within the meaning of the said Act; shall be well cleaned and graded to remove light and small kernels, common weed seeds and other foreign matter; shall be sound and of good colour; shall weigh not less than the standard weight per measured bushel of grain of the kind and shall be capable of germinating at least 80 per cent.

No. 2 Seed Oats and Seed Barley shall be the same as No. 1 in all respects except that it may contain slightly more foreign matter than is permitted in Grade No. 1, but not including any excess of noxious weed seeds, excepting Wild Oats, which may be tolerated in a proportion not exceeding ten in one pound of grain.

"The Value of Selection in Improving Potato Yields", was the subject of an excellent paper prepared and read by Mr. James Bremner, Agricultural Representative at Chatham, N. B. We will publish Mr. Bremner's paper in a future issue.

Mr. L. H. Newman, Secretary of the Canadian Seed Growers' Association, spoke on the subject of "Production and Handilng of Registered Seed."

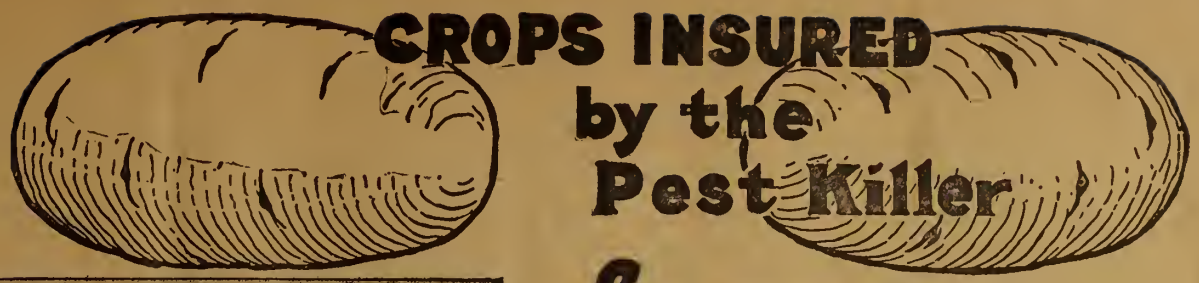
He emphasized the importance of forming seed centres, demand, supply, better grading machinery and the success attained by the St. Rosalind seed centre in the Province of Quebec. This progressive Association owns its own assembling and cleaning centres.

Careful Canadian growers, selectors and graders of seed hold their own favorably with the American growers, and are helping to create a demand in the county to the South for Northern grown seed. Seed growers in the Maritime Provinces can carry on and round out the work so well begun.

Mr. Grant I. Peart of the Markets Division, Ottawa, outlined the policy of his department, which in short is the encouragement of the production of good seed in an economical way, and placing it on the market where it will accomplish the best results.

Hon. J. E. Sinclair of Prince Edward Island, himself a practical farmer, emphasized the importance of good seed to the stock breeder, and urged the necessity of the early establishment of an elevator and grading plant for Island seed grain growers.

Among the other speakers who took part in the deliberations were: Mr. W. W. Fawcett of Sackville; Dr. Gauthier and J. A. Clark of Prince Edward Island and Wallace Rhodenizer of Bridgewater, N. S. The latter gave instances of big potato yields in his county and how they were obtained, but the Reverend Doctor from The Garden of the Gulf could go one better in every case.



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Dodd's Dyspepsia Tablets, 50c. a box, or six boxe s for $2.50, at all dealers, or The Dodd's Medicine Co., Limited, Toronto, Ont.

N.S. FRUIT GROWERS 56th ANNUAL

Association is Making a Drive for 500 Members. There should be a big Response

FIVE HUNDRED MEMBERS is the goal fixed by the Nova Scotia Fruit Growers Association in 1920. The annual meeting will be held at Kentville, January 20th, 21st and 22nd, and an excellent program has been arranged for the gathering. All interested in fruit growing are invited to be present. The annual fee is $1 for men and 50 cents for ladies. Since its organization in 1863, the Nova Scotia Fruit Growers Association has done much to advance the interests of horticulturalists. Every person interested in fruit growing should lend support by becoming a member.

The following is the program for the meeting:

TUESDAY AFTERNOON

7.30 o'clock

Opening Prayer.

President's Address—H. S. Shaw, Berwick, N. S.

Address—Mayor James H. Yould, Kentville, N. S.

Address—Hon. J. Everett Kinsman, Centreville, N. S.

Address—Hon. H. H. Wickwire, Kentville, N. S.

Address—Cabot's Quilting for Lining ville, N. S.

Pictures—Bee Culture and Scenes of the Annapolis Valley.

WEDNESDAY MORNING

10.00 o'clock

Election of Officers.

Resolutions and Other Business.

Report of Committees.

Appointing Delegates to Potato Convention, Ottawa.

Address—Orchard Management, Prof. W. S. Blair, Kentville, N. S.

Address—Caot's Quilting for Lining Box Cars, Frank H Gillis, Halifax, N.S.

WEDNESDAY AFTERNOON

2.30 o'clock

Address—General Results from Orchard Spraying and Dusting Experiments, Prof. W. H. Brittain, Truro, N. S.

Address—Cost of Spray Materials, Amount per Acre, Etc., Geo. E. Sanders, Annapolis, N. S.

Discussion—By Prominent Orchardists.

WEDNESDAY EVENING

7.30 o'clock

Address—Recent Experiments of Interest to Nova Scotia Fruit Growers, Prof. W. T. Macoun, Dominion Horticulturist.

Address—Transportation and Co-operation, A. E. McMahon, Kentville, N. S.

Address—Principal Cumming, Truro, N. S.

Pictures—Strand Theatre, 10.30 o'clock.

THURSDAY MORNING

10.00 o'clock

Address—Thinning of Fruit, J. M. Robinson, Kentville, N. S.

Address—Bees, their Value to the Orchard, F. W. Sladen, Dominion Apiarist, Ottawa.

Address—Handling the Nova Scotia Fruit Crop in 1919, G. H. Vroom, Chief Fruit Inspector for Nova Scotia.

THURSDAY AFTERNOON

2.00 o'clock

Demonstration—The Standard Apple Barrel, G. H. Vroom, Chief Fruit Inspector for Nova Scotia.

Address—Possibilities of the Tractor for Orchard Work, Prof. John Trueman, Truro, N. S.

GOD SAVE THE KING.

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HINMAN
CANADA'S STANDARD MILKER
H.E. BAILEY & SON, MFRS. GALT, ONT.

DAIRYING.

DEVELOPING THE DAIRY HEIFER

"When I first started breeding dairy cattle I raised all the heifer calves, but there was something wrong; I didn't get results; they were sired by a good bull yet many of them were not equal to their dams as milk producers, and I was pretty nearly disgusted with the whole business. In fact, if it had not been for a visit I made to New York about that time, I would have undoubtedly sold my dairy cows and returned to my previous occupation of beef raising."

The above statement was made to a staff representative of one of our valued exchanges a short time ago by one of the prominent dairy farmers in Ontario. He went on to explain how the calves from even his best cows had been a disappointment, and with but one or two exceptions were not equal to their dams as milk producers. He could not locate the trouble until one day he visited the home of a farmer friend across the border. The latter was the owner of a most successful herd and one that was bringing him results. His methods of breeding were quite similar to those followed in the Canadian herd, but his heifers were much superior. "I at once discovered," he said, "that my failure had been due largely to the fact that I had not been paying enough attention to the feeding and growing of my young stock."

The above confession from a well known dairyman is worthy of careful study, as it brings out a striking example of what we have advocated on several occasions, namely, that the value of the mature animal depends largely upon the treatment received during the first two years of its life, and more especially during the first twelve months. Heifers must be well fed and given every chance to develop because if they do not grow out to proper size before dropping their first calf, they will never do it afterwards. In this connection it is rather unfortunate that statistics are not available whereby it is possible to tell just how many of our unprofitable dairy cows are the result of under feeding during their early years. Breeding, of course, is most important and should receive first consideration in the building up of a profitable dairy herd, but, breeding without feeding is the shortest road to failure. The highly bred animal because of her past environment is not as capable of standing improper feeding and neglect as is her ancestral sister, the scrub.

Feeding is most important, and the man who is raising his own dairy cows is making a big mistake if he attempts to economize on the feed allowance of heifers at any time. By that we do not mean that growing heifers should be given heavy rations of expensive millfeeds; far from it, but they should be given all the good, wholesome, cheap roughage they will consume. It matters not whether that is pasture grass in summer or dry roughage in winter, the effect is the same. Corn ensilage, roots, clover hay, and good quality stra ware not expensive feeds, but they will put the growth on heifers, and that is what is required rather than finish. In fact some of the best grown heifers the writer has ever seen were fed almost ntirely on corn ensilage, roots, and oat straw in winter and pasture in summer. They were given a light meal ration as they neared freshening time, but taking all in all the expense of raising them was not extremely heavy, and they almost invariably developed into fine, large heavy milking cows.

But there are other things to consider besides feeding. Heifers must be well cared for if they are to develop as they should. There is not much use in feeding them heavily if they are allowed to become covered with lice, sick with disease or fall heir to the many other ills that cattle are subject to when they are not properly attended to. Heifers that are heavy in calf should not be allowed to run loose in a shed or box stall because of the danger of injury from hooking or one animal taking advantage of another if got in a corner. Neither should two-year-old heifers be allowed to run loose in a shed or box stall unless they are dehorned. Young bulls and heifers should not be allowed to run together after they are eight months old at most, and it is a much safer plan to separate them several weeks before that time.

Then there is the question of handling and quieting heifers before they freshen, which should not be neglected, for as a general rule heifers that are not handled more or less are nervous and often cause trouble at freshening time. On the other hand those that are handled regularly are almost always docile and practically no trouble when they drop their first calves.

That in itself is quite a consideration as on frequent occasions it has meant the loss of a calf and sometimes the injury of the heifer her self. If a heifer is worth raising she is worth raising well, and any care and attention that tends to make for her improvement should not be neglected. The future of the cow is made during the first two years of her life.—O.U.J.

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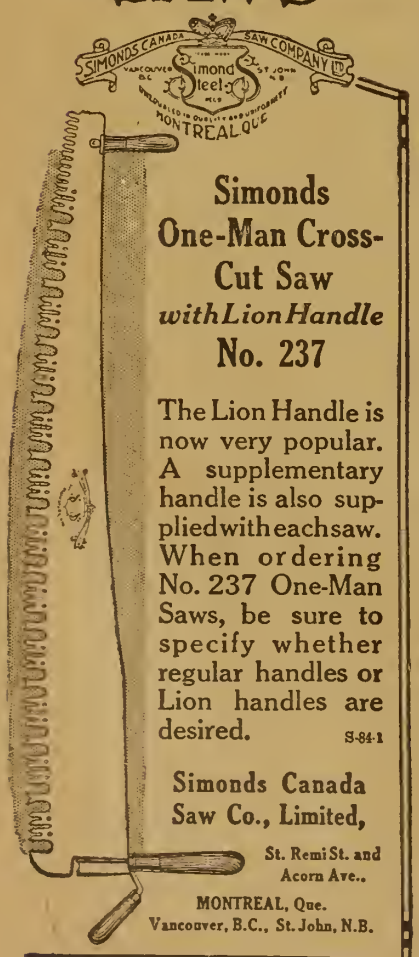
MILKING COWS REQUIRES SKILL

Milking was formerly, and is still, on too many farms, considered a necessary burden one that has to be taken up twice every day in the year, Sunday and all, and the sooner the work is done the better. Under such conditions no particular attention is given to regularity in the time or the order of milking the cows, the work being, as a rule, done when other farm work is out of the way. The milking has to be attended to, however, both in order to relieve the cows and to furnish the raw material upon which the farmer largely depends for the payment of cash outlays. It is but natural that the work of milking, when done in this way, is not considered particularly important labor. At best, the object of the milking from this point of view is to obtain all the milk in the udder of the cow at the time of the milking.

During late years another way of looking upon the work of milking has become more general, at least among dairymen and breeders of dairy cattle. A closer study of all conditions contributing to success in dairy husbandry has, of course, of late, been brought about by increasing competition, by high prices of feeding stuffs, and by a fuller knowledge of the sciences bearing on the production of milk and its products. This closer study has caused greater attention to be given to individual cows, and to details in the dairy than was formerly the case, and it has, also, brought the importance of the milker

SIMONDS SAWS



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Abraham Lincoln was asked how long a man's legs should be and be replied, "they sbould be long enough to reacb the ground—and no longer." An engine should weigh enough to do its work—and no more. Years ago it was necessary to cast engine parts very large and beavy, with heavy base and flywheel, or the violent explosions and fast and slow speeds of the old-style engine would tear it to pieces.

Six years ago the Cushman Motor Works designed a new type of farm engine weigbing about one-fifth as much per H. P. as other farm engines, but so well built, balanced and governed that it ran more steadily and quietly than a farm engine was ever known to run. Some people laugbed, and said that an engine weighing only 190 lbs. must be a toy, but when they saw the Cushman at work beside beavy engines weighing five or six times as much, they realized that weight does not mean power, and tbat the Cusbman is a giant in power for its size.

Cushman Light Weight Engines

40 to 60 Pounds per Horse Power

4 H.P. Weighs Only 190 lbs. 15 H. P. Weighs Only 780 lbs.
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Cushman Engines have Throttle Governor and Schebler Carburetor, insuring regular speed even on jobs of irregular loads, like sawing. Their perfect balance also helps to make them steady, insuring unusual durability and freedom from engine trouble.

The 4 H. P. and the 8 H. P. are mounted on trucks, if desired, and may be pulled around by hand. These are very useful engines, as besides doing all work heavy engines do, they may be attached to machines in the field, as 4 H. P. on grain and corn binders and 8 H. P. on hay balers. All engines over 4 H. P. are double cylinder, which means steadier power.

The Cushman is not a cheap engine, but it is cheap in the long run. Engine Book free.

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How much does it weigh? If it weighs more than 60 lbs. per horsepower, why?

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more into the foreground. It has been found by experience that properly milked cows will better keep up their flow of milk than is the case with cows which are milked in a careless mnaner, whose udders are not thoroughly emptied of milk at each milking, and this flow will be maintained for a longer period of time. Carecul milking, therefore, permanently improves the animal as a milk-producer, aside from directly increasing the milk flow. The work of milking, from this point of view, is as important as any on the dairy farm, and nobody can do it properly but persons endowed with a good share of intelligence, patience an docnscientiousness. It goes almost without saying that when the milker brings suuch qaulifications to his work it will be highly respected and its importance appreciated, as it ought to be, by himself, as wel las by those about him.

COWS NEED REST BEFORE FRESHENING

Practically all observing dairymen agree that it is most profitable to give the dairy cow a rest between lactation periods, and experience has shown that she will porduce more milk annually than if milked continuously. Heavy milk producion is a severe tax upon an animal. The production of 8,000 or 10,000 pounds of milk is a tremendous strain upon a cow, and the individual that can stand up under such heavy work without a rest between periods is, truly, a remarkable animal; however, sooner or later, she will break down under the strain. On the other hand. it is a well known fact that the cow that has been dry for a reasonable length of time will start her next lactation period with a higher production than the cow that has been milked right through to calving time.

How long should a cow be dry? That is a question on which dairymen do not all agree. Some claim that four weeks is sufficient time, others say from six to eight weeks, and the nearer the latter the better. Of course that will depend to a large extent upon the cow and the amount of milk she is giving. Some cows will not milk more than ten months of the year, no matter how well they are cared for; but others will milk right up to the freshening time, and often more or less difficulty is experienced in drying them off. However, the consensus of opinion seems to be in favor of giving the cow a rest of two months each year. That will enable her to store up flesh and start the new year in the best of condition. Some cows, if they are highly fed, may appear to put on an excessive amount of flesh; but if the cow is a dairy animal that will do her no harm. She will milk that into the pail, and slowly, but steadily, that excess fat will go back to the owner in the form of milk. No healthy cow becomes thin without her owner receiving some immediate return for that decliine in flesh, either in the form of milk, butter, or a saving n feed. When a cow loses in flesh she does so for one or two reasons: first, because she is producing beyond her capacity, or, secondly, because her feed allowance is either insufficient or not properly balanced. In the first place, her owner stands immediate gain as a result of her extra production, and, in the second case, he stands immediate gain by a saving in feed, although in that regard he generally loses out in the end. The cow that is fed spasmodically seldom produces the maximum yearly production she is possible of doing, and her feed bill is generally larger than if a steady gait had been maintained.

The good dairy farmer will feed his land as well as his cows. Home grown feeds, especially silage, help the profit side of the ledger.

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The older people knew from experience that the De Laval skims cleaner, runs easier and lasts longer. They also remember the service they have always received from the De Laval Company and its agents.

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As discussed by Sir John Aird, General Manager of the Canadian Bank of Commerce at the Recent Annual Meeting of the Bank

Contrary to the view expressed last year, that it was unlikely that we should again shew such large figures for some years to come, the unexpected has happened, and we have made a new record in both profits and total assets. Undoubtedly the continued high level of prices for commodities of all kinds has left its mark upon the balance sheets of financial institutions, and while this condition continues it will be reflected in the figures of our own annual statement.

Increased Earnings

The net profits have amounted to $3,074,000, after a most careful provision for all the doubtful items among the Bank's assets. These earnings exceed those of last year by $224,000, a satisfactory increase of 7.9 per cent., but which compares with an increase of 8.9 per cent. in assets. The figures show that the forces which have been steadily reducing the rate of earnings on the services performed by Canadian banks for the public, to which I referred last year, are still actively at work, and it is fervently to be hoped that the keen spirit of competition, so strenuously active in many directions, will not blind Canadian bankers to this tendency of the times. When it is considered that the three million odd dollars that we show as our net profits represent the combined earnings of over 500 offices, and the result of the efforts of a staff of over 4,000 employees, it will be more clearly recognized how meagre is the showing in comparison with the vast amount of hard labour and heavy responsibility involved.

The Pension Fund

We have paid during the year four quarterly dividends of 3 per cent., or 12 per cent. in all, and now that the war is over and we find it necessary to take up our building programme again, we have resumed our former practice and have written the sum of $250,000 off Bank Premises Account. This is perhaps more necessary now than ever, owing to the extremely high cost of all building operations, which has naturally caused us to limit our programme to only the most necessary work. The release of large numbers of our men from military service, and their return into the service of the Bank, has rendered a large increase necessary in the Bank's contribution to the Pension Fund.

There has been a decrease in our note circulation for the first time since the commencement of the war. The decrease is only $1,536.000, but if it is one of the first signs of a check to the inflation of prices, it is not unwelcome. The increase in deposits of $40,446,000 is the striking item of our statement, and it has taken place almost entirely in the more stable item of deposits bearing interest. The decreases in balances due to foreign banks and in bills payable are almost offset by the increase in acceptances under letters of credit, and none of these changes possess any special significance, save only that the increase in the use of letters of credit indicates a revival of foreign trade as a result of the ending of the war.

Increased Cash Assets

On the assets side of the statement we show an increase of $1,390,000 in cash on hand. The change is more than accounted for by the increase in Dominion notes held, there having been a slight decrease in our holdings of coin. Dominion notes in the Central Gold Reserves are $1,000,000 lower, corresponding to the decrease in our note circulation. There is a decrease of about $1,400,000 in the item of cheques on other banks, which may indicate a slight lessening in the activity of general business, but an increase in bank balances, which leaves the combined total of notes and cheques and bank balances $1,133,000 greater than the figures of last year. There has been an increase in our call and short loans in Canada and a decrease in those elsewhere, the combined effect of all these changes in assets being that our quick or easily realizable assets have increased by $16,892,000, and stand at 49.11 per cent. of our liabilities to the public. Our holdings of Dominion and Provincial Government securities have increased $10,700,000 during the year, largely represented by our share of advances to the Dominion Government which are being repaid out of the proceeds of the last Victory Loan. Current commercial loans, that is, those current loans not classified as "call and short loans," both in Canada and elsewhere, show considerable increases, amounting to $20,837,000 in all, which may be considered as another welcome indication of reviving commercial activity. We have disposed of the Eastern Townships Bank building in Montreal during the year, and this accounts for the reduction in Real Estate other than Bank Premises. The increase in Bank Premises Account is due principally to the acquirement of sites for a number of our newer branches, in pursuance of our general policy in this respect. The total of our assets has grown during the year by $39,333,00 or 8.9 per cent., which under the circumstances we consider satisfactory.

The Bank's Taxes

Some years ago, the year after the outbreak of the war, we took occasion to refer to the subject of taxes paid by the Bank and advised you that the total was about $650,000. It will no doubt be of interest to you to know that the sum taken out of the profits of the Bank during the past year, and applied to the payment of taxes, was nearly double that amount, or over $1.200.000. We have thought it well to speak thus frankly because the opinion seems to be more or less widely held that banks do not bear their fair share of the burdens of general taxation.

Out of the total of 1704 officers of this Bank who volunteered for the defence of the Empire, either in the army or navy, we have reinstated during the course of the year 996, and have still to hear from 253 of them. We have been glad to welcome these officers back to our service, and will do all in our power to assist them to become re-established in civil life. It is our hope that in the course of a reasonably short time they will find themselves at no disadvantage as a result of the loss in banking experience which naturally resulted from their absence. The opening of new branches and the expansion of our business have made it possible to take on the staff again all those who apply for reinstatement.

Employer and Employee

An unlooked for consequence of the war has been the unsettlement of the relations between employer and employed in every walk of life. One of the primary causes of this has been the extraordinary increase in the cost of living, but any one who is forced to grapple with the problems before the employer knows that this can be the cause of only a small part of his difficulties. The deeper and more complex part of them, no doubt, had their origin in that phase of the war, when it took on the aspect of a life and death struggle between the opposing forces. For a time everything had to be subordinated to the turning out of men, munitions and material for use in the war. The Government became, practically, almost the sole employer, the erst-while employer acting as its manager or agent to secure the necessary production. Under these conditions the usual balance-weights and counterpoises of business enterprise were lacking. To secure the necessary production was the only thing that mattered; the cost of doing so was a secondary consideration, and any demands made by employees were granted almost before they were asked. Thus new conditions arose, some shewing marked improvement over those existing before the war, but others such as are foredoomed to failure if put into practice under the usual conditions of peace. It is, perhaps, too much to ask of either employees or employers that they should at once grasp with a clear mental vision all the far-reaching consequences of these changes. Suffice it to say that the adjustments necessary now that business conditions have become more normal are many and difficult, and involve to the utmost a spirit of fairness and a willingness to compromise opposing points of view on both sides. Speaking for our own staff, both permanent and temporary, they have rendered us loyal service in difficult days, and we have sought to give generous and sympathetic consideration to the difficulties which have been particularly their lot, as salaried men and women, during an extraordinary rise in the cost of living.

The 1919 Victory Loan

In November last the Canadian Government issued its sixth War Loan, the money being required for purposes connected with the transition from war to peace. The Minister of Finance, Sir Henry Drayton, again asked for a minimum of $300,000,000, and the total subscriptions received were $676-242,790, almost as much as subscribed to the previous loan. The Minister of Fnance, and the country itself, are to be congratulated most heartily upon this new demonstration of the financial strength of Canada. There was a large reduction in the number of subscribers, the total number being 789,532, as compared with 1,140,057 in the case of the 1918 loan, so that the average amount subscribed was considerably larger, being $857, as against $610. It is interesting to note, as showing the popularity of the Victory Loans among small subscribers, that in the case of the 1917 loan $100,300,000, and in the case of the 1918 loan $104,500,000, was issued in $50 and $100 bonds. The corresponding figures for the 1919 loan are not yet available, and owing to the reduction in the number of subscribers the total will probably not be so great, but it is evident that about $300,000,000 of the last three loans has been obtained in this way.

Depreciated Exchange

The condition of the foreign exchanges is one of the problems with which we have had to deal during the past year, and it is one in which the people of Canada are deeply concerned, as it has a very direct effect upon their economic life. Canada is not alone in suffering from the effects of a depreciated exchange, in fact, it is a condition now familiar to almost every country in the world. The artificial expedients which have been resorted to in order to correct the situation, such as the shipping of gold, the sale of securities and an attempt at fixing exchange rates, are inadequate and may even prove dangerous. The rehabilitation of our dollar can only be accomplished by saving, economy and greater production. It has perhaps become fairly generally known among those who take an interest in the matter that our imports from the United States greatly exceed our exports to that country, and that in the case of Great Britain to reverse is true, our exports greatly exceeding our imports. Therefore in the case of our trade with the Untied States there is a scarcity of bills receivable which we can set off against our bills payable to that country; while in the case of our trade with Great Britain the reverse is true, and the bills receivable exceed the bills payable to such an extent that she has been forced to obtain credit from us for many of her purchases of food-stuffs produced in Canada.

Foreign Credits

There is much more, however, in the situation than this. We have been selling on credit to France, Belgium, Greece, Roumania, and to some extent to Great Britain, manufactured goods, the raw materials of which are largely imported from the United States, and we are called upon to pay for these raw materials in cash. In addition to this, the interest payments on our debt abroad have increased, as well as the heavy shipping charges which have to be paid on water-borne goods. In paying for the raw materials referred to we are forced to use up a large part of those funds ordinarily available to defray the cost of our normal imports from the United States. The scarcity of United States funds has thus been accentuated by the increased demand, while the source from which we have been wont in the past to make up any deficiencies, that is, the balance due to us by merchants and others in Great Britain, is not now available for this purpose for two reasons; first, that Great Britain is not settling in cash as in the past; second, that such part of this indebtedness as might be made available for the purpose is not now acceptable to the United States as payment, because that country has already a surplus of British debts which she is anxious to realize. If to these factors in the problem be added the effect of increased purchases of luxuries imported from the United States in the present era of free and easy spending, an idea will be obtained of at least some of the main reasons for the present situation.

British Imports

It should not be forgotten in any discussion of the position of the foreign exchanges as affecting Canada, that so far as imports to this country are concerned the position of the British and Continental exchanges is just as favourable as United States exchange is unfavorable. The difficulty in this case is one of supply. Judging by recent accounts, however, Great Britain is bending all her energies, in spite of labour troubles and other adverse circumstances, to resuming her place as an exporting nation, and now that the difficulty of securing vessel space is decreasing, we shall hope to see a decided increase, in the near future, in imports from the mother country of those goods of which we stand in need, and which cannot be produced at home.

Buy in Canada

On the other hand in our relations with the United States we should aim to decrease our imports, especially of those articles which are merely luxuries, or which can be produced equally well at home. The position of exchange at this moment is a lesson that our dollars can be more advantageously expended for a home-made article than for one manufactured in the United States, and it is to be hoped that this practical lesson will not be lost upon our people. Its influence should

be strengthened by merchants and importers discontinuing to import for consumption in Canada such unnecessary articles as we have referred to.

To sum up, then, there is no royal road to the rectification of the foreign exchanges. Hard work and self denial, such as will increase our income as a nation, and decrease our expenditure, are the only sovereign remedies for the disease. Harder work and greater diligence are needed to increase production, and self denial implies the cessation of purchases of imported articles which are only luxuries or can be produced at home. We doubt, however, whether ought save stern necessity can enforce these conditions upon our people.

P. E. I. URGED TO PRODUCE MORE BUTTER

(By Hon. W. M. Lea, Minister of Agriculture)

At the price now being paid for creamery butter, it is to be regretted that we are not in a position in this province to produce a greater quantity of this valuable article. High as prices for raw products of the farm may be, the sale of these lessens our soil fertility to such an extent that we either purchase expensive commercial fertilizers or be situated so as to be able to use natural occurring fertilizer, otherwise we reduce the earning capacity of our farms by such sale; but the more butter we produce the more fertility we add to our soil, when we sell butter fat off our farms we are marketing "Sunshine" alone, and for this reason the money received for this product is better money than from the sale of any class of raw products. However, even at present prices we can feed our crops at a porfit to the right class of dairy cows. We must bear in mind the fact that the butter and other live stock products of the world are not manufactured at a loss by the countries specialising in their products. Not only do they feed practically all their home grown crops, but import largely of foreign mill feeds as well, but our dairy cows can produce butter from grass alone and from the heaviest producing crops grown on the farms, crops which yield the greatest quantity or tonnage per acre, such as the different varieties of roots grown and the green feeds that may be sown over longer period and give us more time in which to plant a large acreage and a guarantee against crop failures possible to our grain and hay crops, and while it is possible to feed our grain or other crops for butter with profit at present prices of each, we must have the right kind of dairy cows, suitable housing, and have a knowledge of a proper balanced ration to secure the best returns as it is easily possible for us to waste feed, if any of the above conditions are lacking, but we may easily learn by experience to be economical and efficient feeders and by proper selection and breeding secure a paying herd of grade cows, which will average from six to ten thousand lbs. of milk per year. We have quite a number of herds in the best dairy districts giving that quantity and earning upwards of $200.00 per cow at our creameries and cheese factories. They are patrons of the creameries that manufacture the year around and hold their best customers by continuous yearly supply of the highest quality of butter, which usually commands 10 cents per lb. over the home made product. Not only do home makers lose at least this sum of money, but besides the work entailed in home manufacture there is a loss in weight, as we know that the best quality of butter may contain 10% moisture when this is worth 70 cents a pound the skilled creamery makers see that they incorporate the full amount allowed them by the law, and qualified as all home dairy makers believe themselves to be, the inspectors rarely find dairy butter containing over 5%, or at least 6% moisture, and much of this in a loose state leeching from the butter; there is a lot of unnecessary labor and loss in home dairying, and no country can hope to develop the industry by any such disorganization. The time is long past for individual effort in manufacture or sale of any farm product capable of being handled on a co-operative basis, and we must all endeavor to cultivate that unselfish spirit that aims for the most good to the greatest number, continually keeping in mind the truth, and withdrawal of our support may weaken the effect for the betterment of any form of co-operative effort, and it is only the most selfish and unpatriotic that will withhold their suport from a creamery until they see if it will prove a failure or success. We should all support it to the best of our ability and guarantee its success.

The men who are the most successful farmers are those who add the greatest amount of fertility to their farms during their tenancy and pass them on to those who may follow producing more each year. The amount depends principally on the fertility of our farms. The amount of fertility applied depends on the quantity and quality of feeds consumed on our farms, and the man who produces wealth from the production and sale of animals and their products at the same time creates wealth of soil and a more productive provicne from year to year is a producer and a builder. The man who sells raw products without returning fertility of some nature to make up the deficiency caused by their growth is a destroyer of soil fertility and of provincial wealth. All things are possible with fertile land; we can hardly pay too much for a rich fertile farm, nor too little for a poor run out one. Our success as farmers and our development as a prosperous progressive province will largely depend on the system of farming we follow whether we are adding to or reducing the earning capacity of our farms. No ambitious farmer should be satisfied to even hold the farm after cultivating at any given state of fertility when it is easily possible to increase the earning power from year to year by a judicious system of live stock farming.

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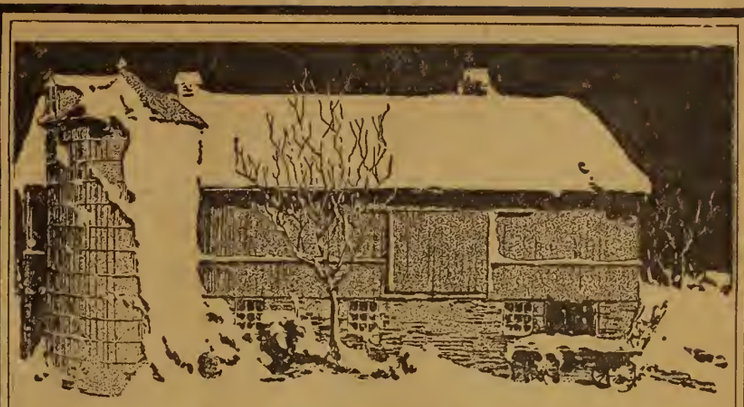

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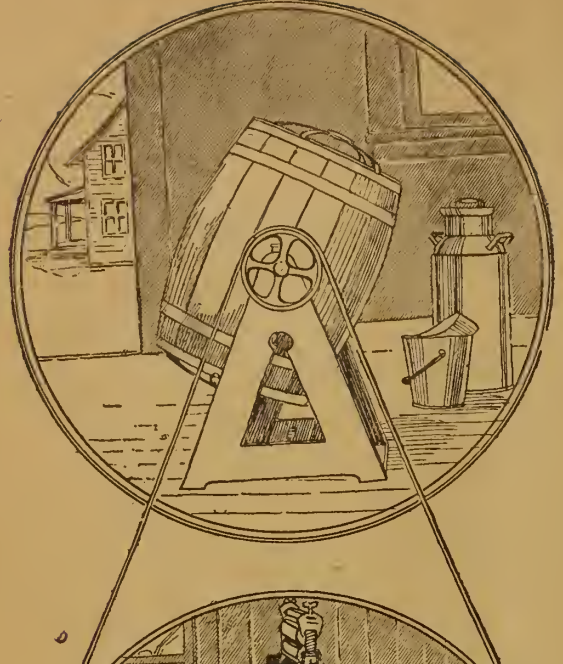

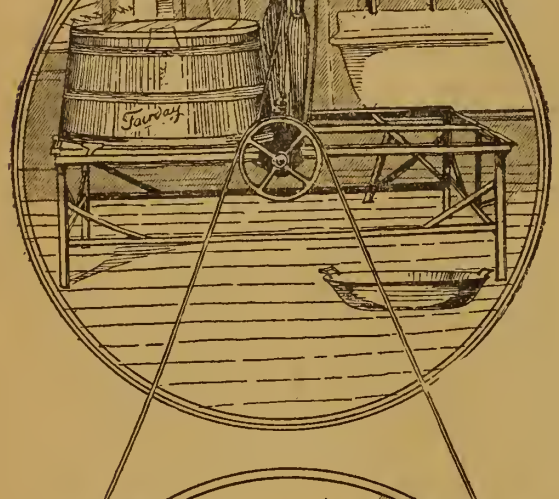

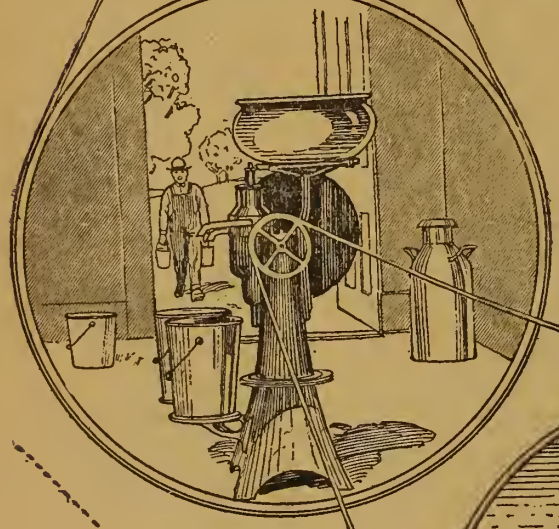

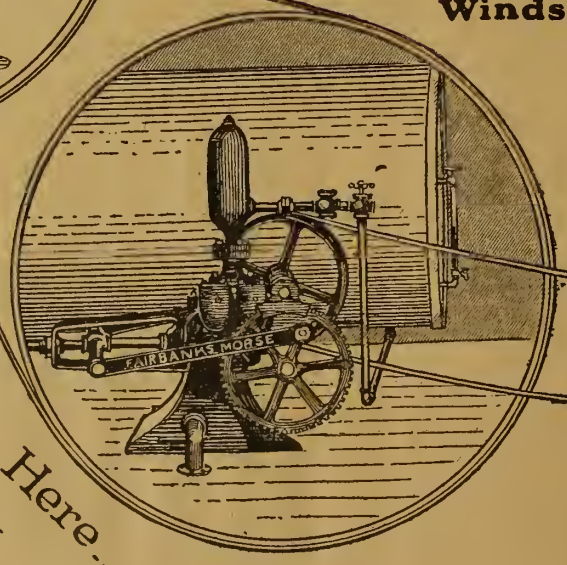

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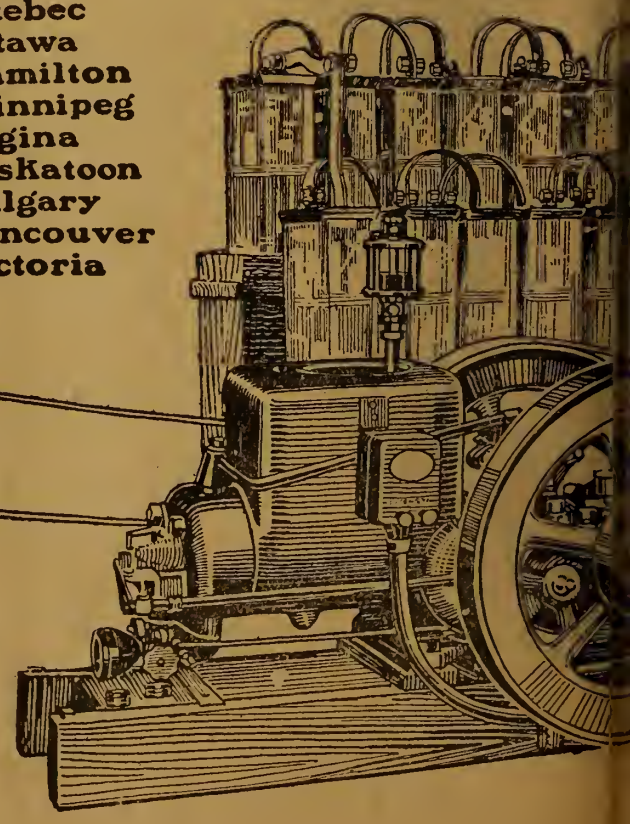

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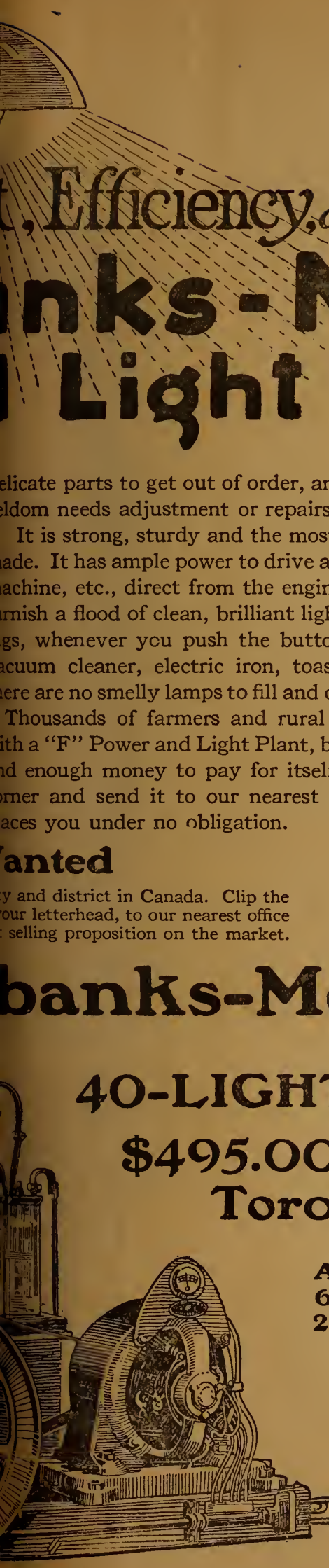

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Odbur James, Sunny Brae—Hen 6th; cockerel 1st, 2nd, 3rd, 5th; pullet 2nd, 3rd, 4th, 6th.

L. B. Johnstone, Nashwaaksis—cockerel 4th.

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W. S. Swetnam, Moncton—Cock 1st; hen 1st, 2nd, 3rd, 4th; cockerel 3rd; pullet 2nd, 3rd, 5th, 6th.

Ralph Huntingford, Moncton—Cockerel 1st; pullet 1st, 4th.

Arthur Card, Sunny Brae—Cockerel 2nd.

Silver Wyandottes

E. H. Taylor, Shediac—Cock 1st; hen 1st; cockerel 1st; pullet 1st.

Partridge Wyandottes

R. P. Allen, Fredericton—Cock 1st; hen 1st, 2nd; cockerel 1st, 2nd; pullet 1st, 2nd.

Columbian Wyandottes

Cecil Church, Moncton—Cock 1st; 2nd; hen 1st, 2nd; cockerel 1st, 2nd; pullet 1st, 2nd, 3rd.

Any Other Variety Wyandottes

Jas H. Reardon, Sunny Brae—Cockerel 1st; pullet 1st, 2nd.

Rhode Island Reds (S.C.)

Reliabe Poultry Yards, Fredericton—Cockerel 1st; pullet 1st, 2nd, 3rd.

Rhode Island Reds (R.C.)

Cecil Church, Moncton— Cock 1st; cockerel 2nd.

Stanley R. Seaman, Lewisville—Cock 2nd; hen 1st, 3rd; cockerel 1st; pullet 1st, 2nd..

John Stewart, Moncton—Hen 2nd.

Any Other Variety (Class 14)

John P. Bain, St. John—Cock 1st; hen 2nd.

Jas. H. Reardon, Sunny Brae—Cock 2nd; hen 1st, 3rd.

Buff Orpingtons

A. Vye Gibson, Moncton—Cock 1st; hen 1st, 2nd; cockerel 1st, 2nd, pullet 2nd, 3rd.

Burpee Jardine, Moncton—Pullet 1st.

White Orpington

Jas. H. Thompson, Moncton—Pullet 1st, 2nd.

L. V. Wolfe, Irishtown—Pullet 3rd.

Blue Orpingtons

Jas. H. Reardon, Sunny Brae—Pullet 1st, 2nd.

Light Sussex

Percy J. Lively, Sussex—Hen 1st; cockerel 1st; pullet 1st.

Indian Cornish

Day Bros., Moncton—Cock 1st, 2nd; hen 2nd, 3rd; cockerel 2nd; pullet 1st.

John P. Bain, St. John—Hen 1st; cockerel 1st; pullet 2nd.

S. C. White Leghorns

J. N. Ferguson, Fredericton—Cock 1st, 2nd; hen 1st. 5th; cockerel 2nd, 4th; pullet 1st, 5th.

O. L. McAllister, Moncton—Cock 3rd; hen 2nd, 4th, 6th; cockerel 3rd; pullet 4th, 6th.

J. H. Thompson, Moncton—Cock 4th; cockerel 1st, 6th; pullet 2nd, 3rd.

A. Vye Gibson, Moncton—Hen 3rd.

P. D. Morgan, Fredericton—Cockerel 5th.

R. C. Black Mniorca

John P. Bain, St. John—Cock 1; hen 1; pullet 1, 2.

White Faced Black Spanish

Cockerel 1, 2; pullet 1, 2.

S. C. Anconas

Chas Smythe—Cock 1; hen 3.

Gibson & Swetnam—Cock 2, 3; hen 1, 5, 6; cockerel 1, 2; pullet 2, 4, 5, 6.

J. W. Stickles, Fredericton—Hen 2, 4; cockerel 3; pullet 1, 3.

R. C. Anconas

J. W. Stickles, Fredericton—Cockerel 1, 2; pullet 1, 2.

Houdans

C. H. Webb, Sunny Brae—Cock 1; hen 1, 2, 3; cockerel 1, 2; pullet 1.

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John A. Scott, St. John—Cock 2; hen 1, 3; cockerel 3; pullet 3.

R. C. White Leghorns

C. H. Webb, Sunny Brae—Cock 1; hen 1, 2; cockerel 2; pullet 1.

John A. Scott, St. John—Hen 3; cockerel 1; pullet 2.

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H. R. Emmerson, Dorchester—Cockerel 1; pullet 2.

R. P. Allen, Fredericton—Cockerel 2; pullet 1.

White Wyandottes (Utility)

A. E. B. Card, Sunny Brae—Cock 1.

P. D. Morgan, Fredericton—Cock and hen 1, 2; cockerel 2, 3; pullet 3.

Charles E. Henderson, Moncton—Cockerel 1, 4; pullet 1.

Dr. L. H. Price, Moncton—Pullet 2, 4.

Rhode Island Reds (Utility)

Reliable Poultry Yards, Fredericton—Cock 1.

Burpee Jardine—Hen 1, 2; cockerel 1, 3; pullet 1, 2, 3.

Toulouse Geese

Dr. L. H. Price, Moncton—Cock 1, 2; hen 1, 2; cockerel 2.

Embden Geese

Joe Ellick, Nashwaaksis—Cock 1, hen 1; cockerel 1, 2; pullet 1, 2.

African Geese

Geo. H. Seaman, Moncton—Cock 1; hen 1, 2.

White Pekin Ducks

A. Vye Gibson, Moncton—Cockerel 1, 2; pullet 1, 2.

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Samuel Steeves, Sunny Brae—2 pen

A. O. V. Wyandotte

R. P. Allen Fredericton—1 pen.

Wm. S. Swetnam—2 pen.

Buff Orpingtons (Pens)

Burpee Jardine, Moncton—1 pen.

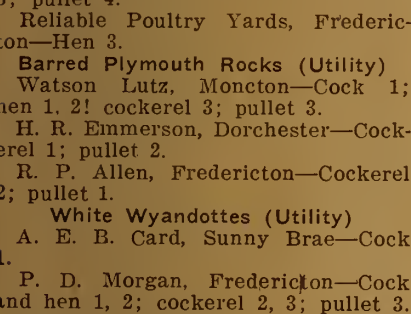
A. Vye Gibson, Moncton—2, 3, pen.

S. C. White Leghorns (Pens)

O. L. McAllister, Moncton—1, 2, 3 pens.

Black Leghorn (Pens)

John A. Scott, St. John—1 pen.



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E. H. Taylor, Shediac—1 pen.

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Day Bros., Moncton—1 pen.

Black Langshan (Pens)

Chas. H. Smythe, Moncton—1 pen.

Barred Plymouth Rocks (Utility)

Reliable Poultry Yards, Fredericton—1 pen.

Ira C. Brazie, Sunny Brae—2 pen.

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P. D. Morgan, Fredericton—1 pen.

Odbur James, Sunny Brae—1 pen.

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DAMP HENHOUSES

Damp, rainy, blustery weather causes more poultry ailments than cold weather. No matter how cold it is, there is no danger if the weather stays clear and the air dry. At such times there is nothing to prevent turning the hens outdoors for the usual time each day. In the house give them litter to scratch in and allow them to keep warm by healthy exercise.

Roup seldom appears in dry weather. Drafts and dampness usually cause it, and also various ailments in little chicks, especially early-hatched ones. In fact, poultry of all kinds suffer greatly from exposure to damp weather. The solution is a dry properly-ventilated house, and the fowls confined during the damp days, or until

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THE HORSE

FEEDING HAY TO FARM HORSES

During the winter time on many farms, the horse's chief occupation is munching hay. Feeding hay to horses is considered such a commonplace job that anyone who is capable of filling a manger with it is supposed to be quite capable to feed horses in winter. Horsemen generally have much to learn on the subject of feeding this staple feed to farm horses. The average man allows his horse to be the judge of how much hay he should have, this being gauged by the animal's capacity, and thus many a good horse is ruined.

Hay for the Idle Horse

Idle horses call for as skillful management in feeding hay to them as do work horses. What is needed by the idle animal is a good maintenance ration, one containing sufficient nutrient to rebuild the tissues of the body as fast as they are broken down by the every-day activities of the vital organs. This can be accomplished only by regular and careful feeding on a good allowance of clean, palatable hay and a fair quantity of wholesome grain. Horses should not be confined to hay alone. The greatest mistake usually made in feeding idle horses is that of giving too much hay in order to save grain. This practice seriously impairs the digestion, if continued for any length of time. From 10 to 15 pounds of hay per day, according to weight of animal—that is, about one pound of hay for every 100 lbs. live weight of animal—is entirely enough hay when given with a grain ration of from six to eight pounds per day. A small amount of oats or bran is a large enough grain ration for idle animals.

Of course, if horses are exposed to the rigors of winter without comfortable shelter, more grain will be required than otherwise. But shelter is cheaper than feed.

Every farmer wants to winter his work horses as economically as possible, but it is to be regretted that some farmers practise economy in the wrong direction, and feeding hay in excessive quantities to save grain is one of the ideas. The important point to keep in mind is that horses must be so treated in winter that they will come out in the spring in the proper condition to take up work, and perform steady, every-day service.

No Life or Snap to Them

Some horses will eat much more hay than the amount mentioned above, but it is a mistake to increase the quantity, as a horse can only digest and assimilate a certain amount. Keep in mind that his appetite generally goes beyond his powers of assimilation. In many cases horses that eat large amounts of hay become hard-looking, while they have little life or snap in them. Men go on from year to year with their horses in this condition without knowing anything about its cause.

There are generally a few chores that a comparatively idle horse has to overtake daily or at longer intervals on the farm. The practise gives him the necessary exercise, but he should be fed with the same regularity and care as if at heavy work, but with a lessened quantity of grain. The one pound of hay per 100 pounds of live weight and one pound of grain ration per 100 pounds of live weight is, on the average, sufficient to keep work horses in trim, but half that amount of grain is sufficient for the idle or comparatively idle horse.

Hay for horses should be bright and clean and of the best quality. Extra quantity of poor hay to make up for loss of quality is a horse-killing procedure; laying the foundation for the diseases that assuredly follow such practices. The question of variety of hay to give a horse is not of such vital importance as the condition in which the hay is cured and kept. It goes without saying that it must be fresh and not overripe when cut, and if this is the case the kind of hay does not matter so much. Personally, the writer has a preference for timothy and clover, mixed in about equal proportions.

Timothy Versus Oat Straw

There is divided opinion about the feeding quality of timothy, but although timothy hay is not very rich in nutriments there is something about it that the horse dearly loves, so that it should be kept in mind that palatability has much to do with digestibility and therefore it is wise to cater to some extent to the animal's tastes. But woody and fibrous timothy hay that has been overripe when cut is very indigestible. Even bright, clean well harvested oat straw excels it in feeding value, and horses as a rule prefer it. Oat straw is largely fed to horses in Scotland but it is made entirely free from dust, chaff, etc., as the oat sheaves are put through the separator.

In dividing the quantity of hay set apart for horse feed daily, it is advisable to use only a small amount in the morning and also at noon, thus making the night feed somewhat more liberal, though not more than what the horse will clean up in a reasonable length of time, and then lie down for a comfortable night's rest. Also in connection with sensible hay feeding, it should be mentioned that horses should receive water before and never immediately after a meal.

Those who have never weighed a horse's daily feed should do so, to get some idea of the bulk of 20 pounds of hay from 30 or 40 pounds. Once a feeder is accustomed to the quantity by weight he can easily arrive at the same conclusion by what he carries in his arms or on his fork. Systematic

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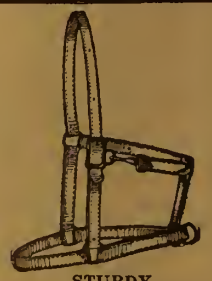
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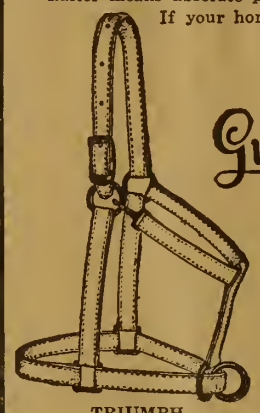
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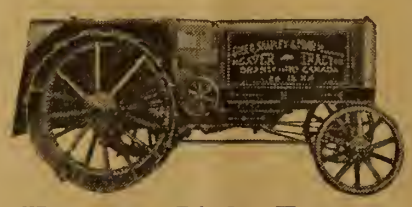
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feeding of horses will pay the extra trouble to get into the expert daily rut of doing so. Horses kept in winter as herewith explained, will keep fit and ready every day of the year, like well oiled engines that have their mechanisms ready for immediate starting.

It is really wonderful how careful some men are about the engine of their motor car, tractor or the stationary one at the barn, and how careless they are about the animal engine in the horse stall. There can be no true economy in farm power till the horse gets the due attention in winter which his indispensable position on the farm merits.

VALUE OF THE HORSE BLANKET

One thing is evident in the horse-breeding business, that it is only the man who knows enough to care properly for his horses all the year round that can go in for keeping high grade or pure-bred stock. It is all very well to say that every farmer should get the best of horse stock to breed with, but stock of this class cannot be maintained by scrub methods. This article is being published in The Maritime Farmer with the purpose of encouraging farmers to get away from keeping the unsound and ill-bred runt. If a farmer cannot keep a team of scrub horses in flesh and heart it is a foregone conclusion that he never will do anything with pure-bred or high-grade animals. Better let live stock, of any species, alone unless one is prepared to give it high-class care.

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Blanketing the Horse

The necessity or use of a blanket for a horse does not seem to be very well understood. But the proper use of a blanket is of first importance. So long as a horse has got a blanket and it is thrown on to him without much thought as to the horse's needs or feelings in the matter, it is not considered by some horse owners to be of any vital importance to the animal's health or condition.

The usefulness of a horse can be prolonged, and his efficiency increased by proper blanketing and grooming.

On arriving at the stable very warm and sweating, the horse should not be blanketed until he has ceased to steam, nor should he be left in a draft. If blanketed at once, little opportunity is given for him to dry off, the blanket will become damp, and the hair remain so all night.

How would the owner of a horse so treated like to be wrapped up in a heavy overcoat when he is steaming hot and, perhaps at the same time, confined in a stuffy, badly ventilated home. Everyone knows how dangerous it is for a heated person to expose themselves in a draughty situation. But to both these conditions many owners subject their animals. A little consideration of what they would do if they were in the same condition as the horse finds himself in, would go a long way in keeping the animal in comfort and efficiency. If a blanket is not used until the animal has ceased to steam and is somewhat cooled, whch will be in a quarter of an hour or so, the hair will be dry and smooth the following morning.

A Common Practice

The common usage that a large number of horses have to put up with is not at all conducive to horse improvement through proper stall care. It is common practice after the day's work to hurry the horses into the stalls, unharness, blanket them at once, feed and leave them for the night. In the morning there is eager endeavor to get to work early, the horses are fed, the blankets removed, the animals' bodies groomed but very little, the harness is put on, and in a few minutes the horses are at work. Animals thus treated stiffen in the joints and develop leg and foot diseases.

In a cold winter climate such as is found in Canada the use of blankets is indispensable. Horses prove more efficient and endure much longer if reasonably protected against sudden changes of temperature and exposed to cold, wet weather. An early use of blankets in the fall will arrest the growth of hair, and in the opinion of The Farmer will obviate the necessity of clipping. For horses that are used for farm work clipping is not advised, at least in the fall and winter months. There may be some advantage gained by clipping the upper half of the legs and under the abdomen in the spring time, but the growth of hair is controlled where blankets are used wisely. If a horse is clipped it will require extra blankets and close attentionn to their use to keep animals in heat and health. As soon as nights begin to get cool the heavy blanket should replace the light summer one.

Heated Team in Zero Weather

Today, with the mercury near zero, the writer passed a farm team standing at the door of a store. They were steaming from the exertions of a hurried journey of several miles, hitched to a loaded wagon. Twenty minutes after the horse blankets, neatly folded, were still on the driver's seat board, and the horses showed evidence of feeling the cold. It is farmers of this class that have most to say about the inefficiency and expense of horses as a motive power on the farm.

There is as much need for the outdoor blanket as for the stable one. If horses are allowed to stand out doors, either for a short or for a long time, they should be well blanketed. If any one is going to stop but a short time, the temptation is strong not to blanket the animal. The horse cools off rapidly and may chill, so that it is best to blanket though only for a moment. It is best, on stopping the animal, to see that he is well protected at all times. If a driver would take some of the lessons that experience teaches him in regard to his own comfort, and treat his horse humanely, there would be less heard about sick and inefficient horses.

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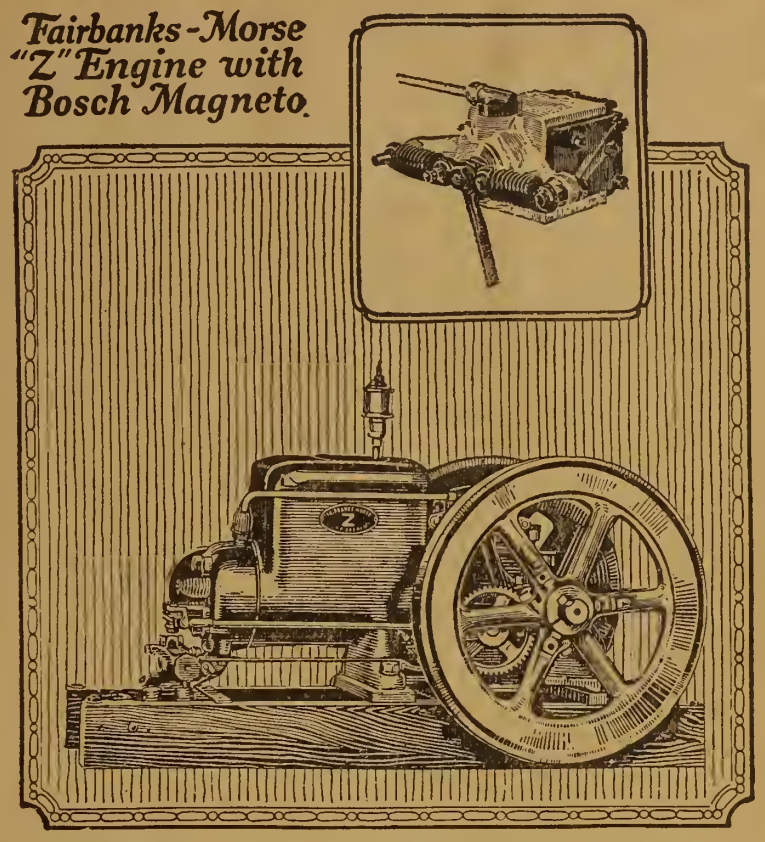

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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

COURAGE

Courage! What if the snows are deep,
And what if the hills are long and steep,
And the days are short, and the nights are long,
And the good are weak, and the bad are strong;
Courage! The snow is a field of play,
And the longest hill has a well-worn way;
There are songs that shorten the longest night;
There's a day when wrong shall be ruled by right.
So courage! courage! 'Tis never so far
From a plodded path to a shining star.

MEN AND MONEY—A STORY WITH A PURPOSE

(By Nellie McClung, author of "Sowing Seeds in Danny," "In Times Like These," etc.)

In a certain small prairie town in Western Canada, twenty-five years ago, two houses were built side by side. You will perhaps remember them when I tell you that they stood on thirty-three foot lots and were painted a stone color with brown trimmings. Each had a door and a large window in the front, with a small verandah, over which were two small windows; each had a gray roof and lean-to kitchen, and the houses were divided from each other by a stone colored and brown fence, painted with what was left over from the houses.

You do not need to be told that the same man had built them, owned and rented them, and you know he was a dull fellow, without imagination, or he would have put a dab of red paint somewhere in the trimming of one, and green in the other, or an extra gable in one, or another sort of kitchen, or put the chimney or a window in a different place or made some change to break the spell. But he did not do any of these things because he had simply built them to rent, and renters are expected to be glad of anything to live in, and not to expect too much for twelve dollars and fifty cents per month, strictly in advance.

The front door opened into a small hall, whose meagre space was partially taken up by a gray painted stairway, and which afforded the occasional caller a full view of the inward workings of the kitchen, unless the door at the other end was kept shut; but the careful housewife overcame all danger of such exposure by hanging curtains over the door space. The living room was to the right as you came in the front door, and the dining room was separated from it by an archway, and more curtains. The dining room had one window, whose upper portion contained squares of red, blue and amber colored glass; the large window in the front room followed the same design. The walls were plastered and the floors were of fir.

By these peculiarities, I am sure you will know the houses I mean.

Well, as I said, there were two of them side by side, and by a curious coincidence, they received their occupants the same day, and both mistresses were brides. William Brown, book-keeper for an implement firm, who had gone east and married Stella Morrow, of Peterboro, and Herbert S. Wilson, banker, who had married Miss Summers, one of the teachers, were the tenants, and the people of the smal ltown called that street "Honeymoon Avenue."

When the observant ladies of the Reception Committee of the Ladies' Aid called on the two brides, which they did in due course, they were unable to decide who had the best furniture. Mrs. Wilson had a green carpet and green chenille portiers; Mrs. Brown's were dull blue; Mrs. Wilson's china was the tea rose design, Mrs. Brown's was the gold clover leaf; Mrs. Wilson had house plants; Mrs. Brown had a bird; Mrs. Wilson had a silk eiderdown on her spare room bed, Mrs. Brown had a crocheted bedspread which her grandmother had made.

After careful discussion, the visitors of the Reception Committee were unable to institute a comparison, which should be abundant proof that the house of Wilson and the house of Brown had got away to a fair start.

At the end of the first year, the equality which had existed between the two families was at an end, for there came into the Brown home a small, pink, blue-eyed infant, who constantly mistook the night for day, and persisted in wanting everyone to stand at attention.

Mrs. Wilson, who ran in the first afternoon to see him, presented him with a handsome garment, replete with blue bows, which she had bought the week before at a church bazaar, because, as she explained to her husband, "it was so hard to get out without buying something." It was really a very handsome present for the young barbarian, who mistook it for something of an edible nautre, and even the first time it was put on him, chewed one o fthe dainty blue bows into shapeless squadigness. But this misdemeanor did not decrease his mother's admiration.

There were times, of course, in the first six months, when she wished he was not quite so imperative, and she often wondered how he could tell when she had gone down cellar for vegetables for dinner, and why he raised such a piercing wail every time she went out of the room. But she always rushed to him with breathless haste, fully expecting to find that some evil had befallen him. When she reached his crib and found that he was still intact, her thankulfness always drove out her indignation, and when he flashed his blue-eyed, two-tothed, dimpled smile at her, she forgave him freely, and marked his "board and keep bill" paid to date.

The observant caller would not have any difficulty in deciding which house had the best furniture after the first year. The Wilsons now had a new and handsome Turkish rug in their living room; the Browns had a cradle in theirs; the Wilsons had Japanese grass mats and swinging chairs on their verandah, the Browns had a baby carriage on theirs. But there was no envy on either side of the mud brown paling which divided the two houses; everybody was satisfied with what they had. Someiimes, indeed, when young John Brown, dreaming of wolves, bears and kidnappers, awakened with loud wailings in the middle of the night, the Wilsons, hearing him, were sorry for their neighbors and were very glad that the quiet and calm of their own lives had not been disturbed by one of these overbearing young things who know nothing of that unwritten law regarding the right of others to undisturbed sleep at nights.

Young John Brown awakened regularly at the hour of five each morning, and insisted upon his parents doing likewise. Perhaps it was the spirit of his industrious grandmother, the one who had made the crocheted quilt, which had ben inherited by him, for he loathed late sleping, and saw to it that both his parents began the day bright and early. Having accomplished this by the simple and unaided method of the human voice, young John settled down to a calm and refreshing sleep, during which time his mother, on tiptoe, hurried through her work, to be ready to take him out when he awoke.

Her neighbor joined a literary club that winter, and studied Maeterlinck, and Matthew Arnold, fragments of which she pased on to young John's mother,—who said when the baby was old enough to take with her, she would be able to attend the meetings too. But the first time she took him to church, he tried to usurp the attention which, by all laws of fair play, belongs to the minister, and so had to be taken out in disgrace.

John's father saw in his bounding energy large possibilities of future greatness.

"Notice the shape of his head, Stella," he often said, "it is a perfectly rounded head, indicating a well-balanced disposition,—see the full forehead, with observation and reasoning equally full—veneration and conscientiousness especially large. This boy will never shirk his duty:—Never mind, Stella, even if you can't get out to the Browning Club, or whatever it is, you're doing something when you are bringing up young John Brown. You'll have more to show for your time than the members of the Club, in the spring."

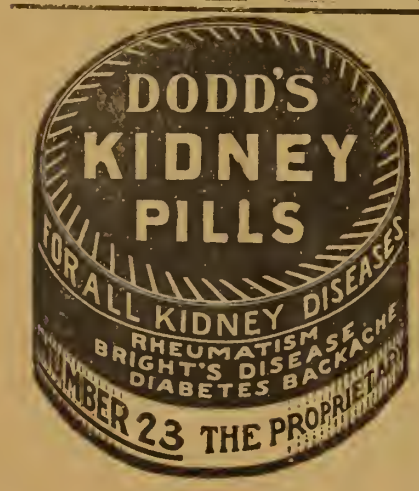
"Of course will," John's mother said happily—"I expect John will be walking then, and won't I be proud when he can step out with me in the afternoon, in his blue suit and white straw hat, and is able to pass the time of day with his neighbors. He tries to say things now, and I think that's very smart for a baby only ten months old."

"He's a wonder," declared Mr. Brown, with conviction.

When John passed his first birthday, began to walk on his fat, uncertain litle legs, he had his first photograph taken, and the friends on both sides of the house were remembered in the distribution. Most of them wrote back, with strongly expressed admiration; some with faint words of praise, and one unhappy aunt sent not a word, and was struck off Mrs. Brown's correspondence list forthwith. Mrs. Brown was too amiable a woman to be resentful even of such neglect, but she considered that any one who was not moved with tdmiration on beholding such a beautiful child's face, was too dull to bother with.

"When I go East, I'll go to see Aunt Grace, and ask for the picture. Evidently it is of no use to her," said Mrs. Brown.

Mr. and Mrs. Brown's good opinion of their son was further enhanced,



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when, soon after his first birthday, he began to talk. Just what he was saying seemed to be unknown, except to the imemdiate family. But it was as plain as day to them. When asked what the kitty says, and what the cow says, and what the pig says, the answers he gave were strikingly similar in each case, but outsiders are often dull in such matters.

At sixteen months, he had learned one unmistakable trick—he saluted and responded when his name was called. "John Brown," called his father, when he entered the front door and John Brown, in whatever part of the house he happened to be, struggled to his feet, and placing his heels together, stood very straight, and raising one fat hand, answered:

"Present."

At least his parents said that he said "present," and it certainly sounded as much like that as anything else.

His next trick was to tell, with unfailing acuracy, where his papa's boy boy was, by patting his own blonde head, and giving utterance to an animated whirl of sounds, which seemed like a sucecssion of "da's," but which his parents had no difficulty in understanding. What the child said was, "Right here, right here!"

The Wilsons were brought over to hear John's tricks, and although he did them beautifully, and they laughed in apparent enjoyment, there was a slight lack of heartiness about their applause, and if John had been a real actor, he would have known that his audience was in full accord with him, and that for some reason he had failed to put it over; but John did not care anything aobut their applause anyway—he had two devoted slaves on the front seats, and he did not look past them.

When the Wilsons went home, they laughed a little about John's tricks. "The Browns are nutty over that kid," said Mr. Wilson—"they make me tired sometimes."

His wife suddenly went serious. "It's nice to be silly—sometimes," she said wistfully. "I often wonder . . . and wish——"

"I don't see it," he said; "rasiing a squalling kid does not appeal to me—it is too much like work—if you want to, you can adopt a half-grown one—past the howling age—I can't see mysel fparading up and down in my nightshirt, singing 'Beulah Land' the way Brown did last summer. Echoes of the coming across the fence was enough for me. A kid costs tooo much time, sleep and money, and I tell you, May, they're not worth it—Now that's the straight truth! Look at my father and mother—they raised eight, and my mother was an old woman with a bonnet, at forty. She never had a good time—she just slaved for us kids. Every last one of us now are married and gone, and the two old folks are there alone. We write at Christmas and send them a shawl and a pair of gaiters, that's all the communication there is between us—It isn't fair, but what can we do? I can't talk to my mother for five minutes—we belong to different worlds—She couldn't raise kids and read the newspapers too, and she dropped behind. Maybe she doesn't know it, but I do. It's nobodys fault, I guess—but it's uncomfortable, and I can't see the sense of raising a family, and losing all the fun in life."

They had argued the question before, and always to the same conclusion.

That afternoon when Mrs. Wilson was going down town for a hair-shampoo and manicure, and saw her neighbor hanging out a washing, with young John holding on to her skirts and clamoring loudly for attention she rejoiced in her freedom, and the pleasant life she had. Bert was right, children were too much trouble!

The next summer, John had a little brother, an exact duplicate of himself, blue-eyed, dimpled and imperative. In the hot nights, when the windows were open, the piping wail of the new baby often broke into the nightly stillness of the street. These fidnight distrubances helped to decide the Wilsons to make a visit to the Coast, though they had a feeling of real pity for their neighbors left behind to struggle with the heat and the two young children.

"Maybe they like," said Mr. Wilson, when his wife was saying that she felt mean about leaving her neighbor, "some people do—it is a real instinct with some people to care for kids—but I must say it's not so with me—and you can't do them any good by staying—you don't know how to mind a kid anyway."

"She didn't know, either," persisted Mrs. Wilson—"but she's learning—I could learn too—if I needed to. I wouldn't be afraid to try it"—

Then she added quickly—"But I am glad I don't need to learn just now."

That winter, the baby, whose name was Tom, had a serious illness, requiring a trained nurse and a specialist. For a few days it looked as if he had decided to give up the journey on which he had started out so joyously six months before. His dimpled face, now shrunken and wrinkled like an old man's, haunted his father as he went about his work—it was too cruel, that anything so little and so sweet should suffer pain.

"Brown walks like an old man," Mr. Wilson told his wife that day as they

"You Are Under Weight, My Boy"

"YES, sir."

"Do you know what that means?"

"No, sir."

"It means that your body is not properly nourished. You are not getting the right food, or else not obtaining full benefit of the food you eat! Are you easily tired?"

"Yes, sir."

"How are you getting along at school?"

"Not very well."

"Now, I am going to send a report to your parents, so that they may know your condition, and I want you to do what I tell you, so as to regain your normal weight."

"All right, sir."

"You can never expect to get far in athletics, or school either, so long as your blood is thin for lack of proper nourishment and your nerves starved and exhausted."

"We shall go a little easy on exercise, and I have asked your parents to see that you eat plenty of plain, nourishing food. I have also suggested the use of Dr. Chase's Nerve Food, so as to enrich the blood and tone up your nervous system."

"Is that a medicine?"

"Yes, I suppose you might call it that, but it is entirely different to most medicines, because it builds up tissue instead of tearing it down. It is what is called a restorative. It sharpens the appetite, improves digestion and helps you to obtain full benefit of the food you eat. 'We are not much on medicines around here, but Chase's Nerve Food has helped so many under-weight boys whom I know that I never lose an opportunity to recommend it."

"I hope it helps me, for I would like to be able to do 'stunts' like the other fellows, and I don't seem to have the strength now."

"You are ready to do your part then? That is what I want to know."

"Yes, sir, I am."

"We will weigh you every week, and I am sure we shall soon have you all right."

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CAN BE STRONG AND WELL

WITH WEAK KIDNEYS.

Women try to bear the daily burdens of the household, but the continual stooping, bending, never ending strain on the back, sooner or later, may end in some form of kidney trouble.

When the back aches or becomes weak it is a warning that the kidneys are affected in some way, and on the first sign of any weakness Doan's Kidney Pills should be taken, so as to strengthen the kidneys and prevent some future trouble.

Mrs. Joseph Jarvis, 152 Niagara St., Hamilton, writes:—"I was so troubled with my kidneys I could hardly sleep; I could not do my work, and was a burden to myself. I used Doan's Kidney Pills and they sure helped me, and I would not be without them in the house. I can sleep better now than I have for years."

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sat at lunch in the hotel. They had been out late at a dance the night before, and she had phoned to his office that she did not feel like cooking, and suggesting that they "eat out."

"I guess it would be a relief is the little kid did pass out. They can't afford nurses and doctor's bills like this. Brown was in today to see how much he could borrow on his Life Insurance, and I gathered from what he said, they are pretty well up against it!"

Then they talked of other things.

But young Tom Brown did not die. There came a day when the troubled look went out of his tired eyes, and he knew his mother when she bent over him.

When Brown came home to dinner, he did not get a chance to make his usual enquiry, "Well, how is he?" for his wife was waiting at the door, with the first real smile he had seen for months.

"Billy!" she cried—"Oh, Billy, he's better—he's going to get well!"

And then, quite without warning, she, Stella Brown, the brave, patient, tearless one, buried her head on his shoulder and cried, and cried.

Softly stroking her hair, he noticed for the first time that it had in it streaks of gray.

It was a hard pull for the Browns to recover from the financial depression following the baby's illness. The specialist, who had been twice to see the child, was able by that occult gift which many specialists possess, to divine the amount of their savings, and make his fee cover it exactly.

"I wonder how he knew how much we had," said Billy Brown, reflectively, as he wrote the check which signed away all their savings for the last six years.

"That's part of their course at college," said his wife gaily. "Never mnid, Billy, we have the boys to show for our time, and we're still young and strong. We'll start another savings account on the first of the month, and we'll have garden stuff to sell, and our clothes will do for another year. We've enough left from the Insurance money you borrowed, to pay the nurse and our own doctor, and the bill at the drug store, so we start even again —that's not so bad."

The two families did not see so much of each other in the years that followed, for the Wilsons moved into the big house which they built on another and more fashionable street, and sometimes months and months passed without the women seeing each other. The men met occasionally at the Business Men's Luncheons which were given once a week, and always regarded each other with real friendliness. Mr. Wilson, in speaking of his old neighbor, said to his wife:

"I like Brown—but the stories he tells about his kids certainly make me tired. The man doesn't notice that he's shabby himself, and getting into a groove. He works in his garden as long as he can see, and then gets up early and goes at it again. But he's bubbling over with enthusiasm all the time about the kids, and showed me their school reports. The kids are hustlers all right, and young John works in the printing office after school and is earning a set of books that way. The other fellow keeps chickens and has bought a bicycle. You'd think it was an automobile, to hear Brown talk about it. The man's simply dippy over those two youngters."

"Well, I don't wonder," said Mrs. Wilson, "they're handsome and clever and the most beautifully mannered children in town everyone says. Mr. and Mrs. Brown will realize all their own ambition, in the boys, and that's something. They see their own dreams coming true, and that makes labor sweet and satisfying."

"But they never have a trip or any fun," said her husband.

"They get their fun at home—and that's the best place," she said. "Teas and dances and clothes don't satisfy every woman, you know, Bert. Some of them have deeper ambitions than just to be well dressed and able to play cards. . . . I sometimes envy the Browns——"

"They're welcome to the kids,—so far as I am concerned," he said shortly. "It's cost poor Brown all his salary to raise those kids so far, and now comes the most expensive time, for they have to be educated. He never takes a holiday—he does curl, but he never goes away for bonspiel."

"But they seem happy," Mrs. Wilson urged; "there aren't two people in town who stick together like the Browns—Don't you remember that Sunday afternoon we saw them out walking with the boys? I thought they all looked so contented and happy, and the boys are such handsome youngsters. They may be poor, Bert, but they've something to show for their time."

Her husband shrugged his shoulders irritably.

"I'll tell you what they have," he said. "They have a small six-roomed house, on a poor street, in need of repairs, five thousand dollars Life Insurance, and that's all they have in the world. His salary just covers expenses—he'll borrow on his insurance again to send the boys to college. He'll skimp and save and work to the end of his days. He'll never take his nose from the grindstone, and she's the same!"

"The boys represent their life work," said Mrs. Wilson persistently. "They haven't got their money in the bank, the way we have; they have it in the boys—the way we haven't. They've worked to better advantage than we have."

"I don't see it," he said, and he went out of the room with every indication of impatience.

One morning at breakfast a few weeks later, Mrs. Wilson said to her husband:—

"Did you notice the school repott this month?"

"No," he answered tartly—"why should I?"

"There's no reason," she said quietly, "and no reason for my noticing it, only that I always do read it. Did you ever have a sore nail, which, someway—you like to hurt? I don't know why,—Well, I read the school report for some such reason as that—and it always hurts."

A long silence fell upon them. What was the use of going over all the arguments again?

Before he left, he said more gently: "What were you going to tell me about the school report?"

"Nothing,"—she answered—"except that the Brown boys are ahead again. John passed his entrance, with honors and Tom is one year behind. Both names are the first on the list."

"That's because 'B' is the second letter in the alphabet, I guess," said Mr. Wilson. "Well, I'm glad you told me—I'll know enough to keep out of Brown's way for a few days."

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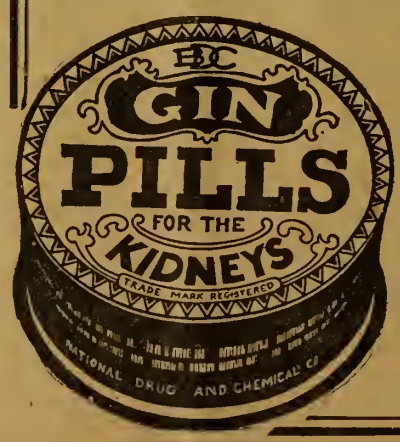

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He said it laughingly but his wife's eyes were very listless and weary as she sat leaning her head on her hands.

She was still sitting there, when the maid came to clear away the dishes.

(Continued in the next issue)

THOSE WHO COME BACK

In the months that have passed since the signing of the Armistice Canada has been bringing home those who have survived the war. On the whole her greeting to her sons has had no lack of genuine enthusiasm and warmth, and perhaps spectacular display. Her cities have been almost daily bedecked with flags, her municipalities have been busy with receptios, and her homes have been bright with the light of thanksgiving for the return of the boy who was "over there." Her politicians and preachers, her press and platform, her fraternal societies and her civic and provincial leaders have all joined in a great chorus of welcome. Much has been said and written of Canada's gratitude for her sacrifice; and there has been many asurances that her debt to her soldier offspring Canada will not forget. With the completion of repatriation this great national chorus has at last been silenced and the hands of reception committees have been, perhaps somewhat wearily, folded, for the war is of the past.

But this not to be the end. Canada realizes that this is not the last she has heard of those who have just returned to her fireside. She knows, as a mother knows, that while she cannot forget her beloved dead "over there" she must also be mindful of her living children who have wandered home from the far country and who will help to keep her house in order. Those of her family who remained at home know too, that the men who have returned to them are not quite the same as when they went away; that these home-comers are very different from the men they knew in the pre-war days. Canada is still asking anxious questions about "those who came back" and about the so-called problem of the returned soldier. How have they changed? What will their influence be in the national life? Will they settle down in time to the old pre-war routine? What has their war experience done for them?

In the last five years over half a million Canadians have worn a garb to which they were not accustomed and have performed duties for which they were not previously trained. The strange and unaccustomed khaki is off, and they have turned their energies to more peaceful labors. But they have not put off that wonderful something of the spirit which they donned with their soldier's uniform, and which belonged to it during these anxious days of peril when the world was under arms.

Not alone is it a change of years. Not merely that the lad who went away has come back a man; nor that the man who went has come back with hair perhaps a bit whiter and with face a bit more lined. The difference is indeed a "something of the spirit." It is first and foremost a changed outloog on life. The geographical horizon has been widened. Men have learned that they are "Canadians" rather than dwellers in Toronto or Montreal. Canada means more to them now than when they went away. Before the war one part of Canada knew little of and cared less for how the other part lived, nor did one part consider very unselfishly what the other part thought. East was East and West was West. Life was at best provincial. Men knew other countries, but they did not know their own. It was often the proud and impressive boast of a dweller in the Maritime Provinces that he had "crossed the Atlantic six or eight times, but that he had never been west of St. John, N. B." Ignorance of his own country and knowledge of another was looked upon as a virtue or and evidence of broad culture. The horizons were too frequently those of provinces or even countries or towns and there was little thought or knowledge of the land out yonder. Even in the schools little was heard of the homeland. The boy in Meeting Creek, Alberta, seldom looked even in imagination eastward beyond the prairies or westward beyond the distant hills, and the lad in Guysboro, Nova Scotia, seldom turned his thoughts to a place far removed from the Atlantis mists. The locality where each resided meant to him Canada.

War made strange companions. An effort was made by some provinces to have their provincial units intact at the front and to have them reinforced only by the provinces in which they were originally recruited. Fortunately for the fuure of Canada this plan could not always be carried out. And so it hapened that men from British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island lived at times in the same billeting area, or even in the same dugout in a shell-swept sector in France and ate bully-beef or "mulligan" served by the same cooks. It was in front of Vimy Ridge that Vancouver Road met Nova Scotia Road and Saskatchewan Road, and continued forward again as Moosejaw Road with New Brunswick Road and Gaspe Road not far away. It was here too that Quebec Trench linked up with Winnipeg Trench. This mingling in a strange and death-infected country of names remote at home was symbolic of the strange mingling and comradeship of the men to whom these names were lear. Sandy MacDonald from Grand Narrows, Cape Breton, went over the top with Pat O'Leary of Toronto on his right, and Pierre LeBlanc of Tadousac on his left, while Ivan Slovaski of Regina, and Percival Chicchester-Jones, who wore a monacle back home in Victoria, B. C., were nearby; and they faced death and won, and proved themselves great, and mopped up the enemy trench together. Or they managed the same howitzer during a counter-attack. In these splendid moments the imaginary lines of races and creeds and provinces was blotted out. These men were conscious only that they were Canadians fighting for the great ideals of their common country. They can never be provincial again. "These men have done much to advertise their native povrince," I heard a speaker say with more enthusiasm than judgment of some returned officers. He was wrong for he was still

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LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

A MESSAGE TO WOMEN!!

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.

Mrs. M. Summers, Box 309 Windsor, Ont.

PILES Do not suffer another day with Itching, Bleeding, or Protruding Piles. No surgical operation required. Dr. Chase's Ointment will relieve you at once and as certainly cure you. 60c. a box; all dealers, or Edmanson, Bates & Co., Limited, Toronto. Sample box free if you mention this paper and enclose 2c. stamp to pay postage.

When Your Liver Becomes Sluggish

Your Bowels Become Constipated.

Constipation is, without a doubt, the commonest of all the ills that mankind is afflicted with, and one if neglected, will cause no end of trouble and sickness.

The way to keep yourself in good health is to keep the liver active and working properly by the use of Milburn's Laxa-Liver Pills.

Mrs. L. Wainman, Orillia, Ont., writes:—"From a child I was always very badly constipated, and I can well remember, when quite young, my mother giving me senna tea nearly every morning, and I got to dread it.

"After taking Milburn's Laxa-Liver Pills for a while I am not troubled with constipation any more."

Milburn's Laxa-Liver Pills are 25c. a vial at all druggists or dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

MINARD'S "KING OF PAIN" LINIMENT

The old reliable remedy for rheumatism, neuralgia, sore throat and sprains.

Best Liniment Made

MR. A. E. LAUNDRY, EDMONTON, writes:—"I fell from a building and received what the doctor called a very bad sprained ankle, and told me I must not walk on it for three weeks. I got MINARD'S LINIMENT and in six days I was out to work again. I think it the best Liniment made."

Minard's Liniment always gives satisfaction. For any ache or pain. It gives instant relief.

Minard's Liniment Co., Limited

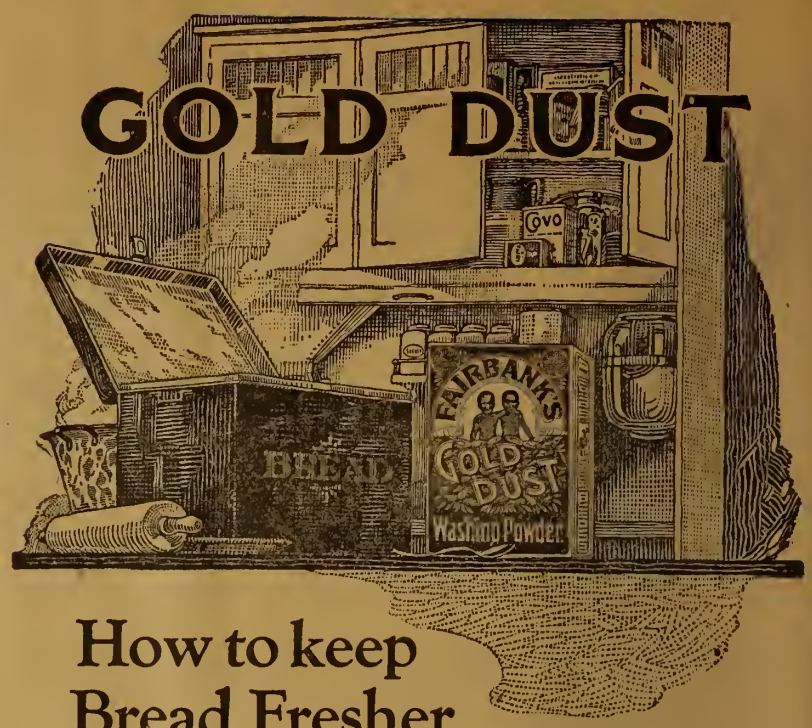
Yarmouth, - - N.S.

thinking provincially. "Over there" they advertised only Canada, for they were known only as "Canadians."

On those who come back the war has had an eeffct, closely related to the above, on the much talked of, but little understood, question of the French in Canada. "Over there" our boys lived when on rest with the French people and they grew to know and admire them. and to understand their temperament. They saw their suffering and how heroically and cheerfully they bore it all. The majority of them learned a new language. They picked up at least a smattering of French. Little enough this may seem on the surface. But deeper it should mean a greater harmony of races at home. It should mean too, a greater emphasis on French in our schools. For it will mean a determination on the part of our boys not to lose, if possible, the little French they have acquired. It means the realization that in our country there are two tongues, the two great languages of the world, which today give expression to the ideals of freedom; and a knowledge of these two, however small, must mean a greater harmony on the new Canadianism fostered by the war. It must produce in the end a sympathy and an understanding, too often lacking before the war in the relation of race with race.

Those who come back will likewise have greater religious tolerance. Creeds mean less intolerance to them now than when they went away. Even as provincial lines are less distinct, the intolerance of creeds is less emphatic. We have heard much about the "religion of the trenches,"—much that was foolish sentimentalism, little that was of fact. The religion of the trenches was not a new religion; it was as old as Chistianity itself. But it was bereft of the trappings by which in pre-war days it was too frequently obscured. The basis of true religion anywhere is sacrifice and service, unselfishness and humility, justice and courage, fidelity and duty, and the bearing of one another's burdens. It was stated hundreds of years ago, it is as old as history. 'Do justly, love mercy and walk humbly with your God." Bear ye one another's burdens." Quit ye like men, be strong." "Be ye faithful unto death." "He that saveth his life shall lose it." "Greater love hath no man than this, that a man shall lay down his life for his friend." This is surely not a new religion. But in the soft days of peace its principles were well nigh forgotten. The war made it a reality. For "over there" the men lived it daily and nightly. It was not put on merely when they dressed for parade; it was not displayed as it too often is in peace time with their Sunday clothes. It needed no church with storied windows, nor pulpit with gorgeous trappings to expound it. It was not accompanied with cathedral aisles or mysterious altars, by pealing organs or surpliced choirs. It was indeed a "something of the spirit"—the law by which men governed their lives, the law, too, under the power of which they died. In the war zone men were not captivated by frock-coated melodrama or amateur philosophy, but they were silently interested in the things of God. Hypocrisy got short shift in the trenches. Intolerance was not permitted. Both were foreign to religion. The men suffered daily for a cause or gave away their lives for someone's sake, saw one another in their true persepctive; they were stripped of all the petty affections and the unreal gossamer of life. They saw only realities.

And brotherhood was not a dream; it had a real meaning; and the ideal of Jesus "that ye all may be one" was in pat, at least realized. The men who stood waiting, waiting, in the darkness, waiting to go over the top to break the Mindenburg line or to die in the attempt, had little interest in the thin delusions and foolish toys that in times of peace divide heart from heart and make men unmerciful to his brothnr. For the Great Leveller was always near by, and they stood on the brink of that West where there is neither race nor creed. They knew only that they were men from the same great country, bound by common bond, with the same duty and the same objective, on the same great quest, and willing to die for the same Ideal, the Ideal born in a Man-



How to keep Bread Fresher

YOUR bread can't keep "fresh"—even for a day—in a stale bread box.

A tablespoonful of Gold Dust to a gallon of hot water takes wonderful care of Bread Boxes because Gold Dust dissolves every particle of grease in nooks and crannies. Now, scald with hot water and air thoroughly.

With this simple Gold Dust recipe you never need worry about stale or "mouldy" bread boxes.

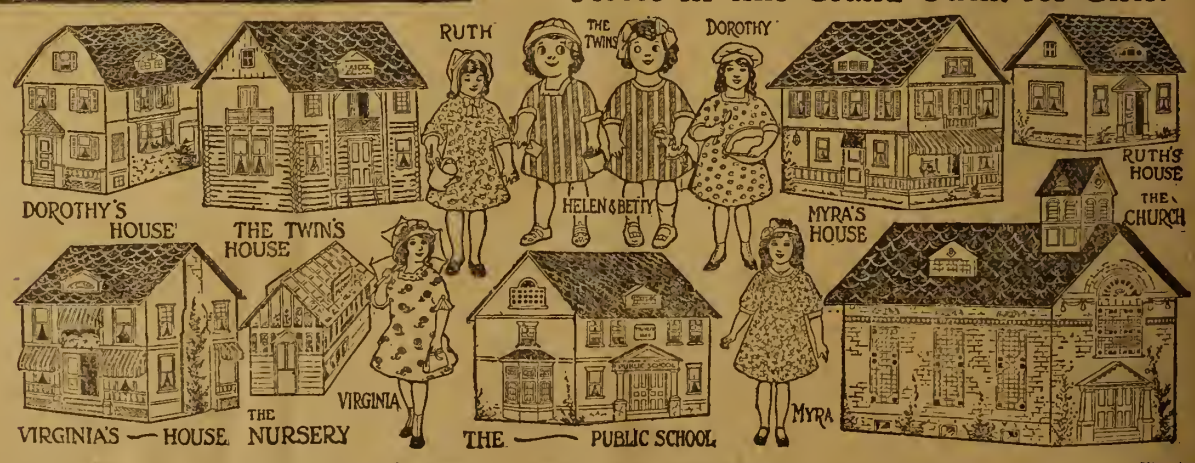
Busy housekeepers know there is only one Gold Dust. They always look for the Gold Dust Twins on the package.

THE N.K. FAIRBANK COMPANY LIMITED. MONTREAL

MADE IN CANADA

All Free!

Six Lovely Dolls and the Most Wonderful Doll Village You Have Ever Seen—Over 60 Pieces in this Grand Outfit for Girls!



GIRLS—You have never seen anything in your lives to compare with this marvellous Doll outfit. Nothing was ever made from which you could derive so much fun and amusement. Just think—not only do we give you six of these famous and Beautiful Reely Trooly Dolls, but we give you with them the complete DOLL VILLAGE consisting of five beautiful big doll houses, a grand Dollie's School, a lovely big Church for the Dollies to go to on Sunday, and a play Nursery for Dollies to garden in. And that isn't all, girls—we send you also the complete plan for arranging the dolls' village and over 27 beautifully colored cut outs for it, consisting of horses and carriages, dogs, cows, flowers, trees, fences, etc., etc., all with real metal stands for them, and everything else you could think of to make you the most wonderful and beautiful Dolls' Village you could think of. You will be the envy of all your friends when you get this marvellous outfit.

GIRLS—We are giving you all these wonderful prizes free to introduce "Daintees," our delightful New, Cream Candy Coated Breath Perfume. Just send your name and address to-day and we will send you Free a big sample package to try yourself and with it just 35 big handsome packages to introduce among your friends at only 10c each. Open your sample package and ask all your friends to try a "Daintee." They'll like them so much that everyone will buy a couple of packages at once. Just one or two little "Daintees" instantly sweeten the breath, purify the mouth, and they are irresistibly delicious. You'll sell them all in an hour. It is easy. Then return our money only $3.50, and we will immediately send you this complete outfit just as shown above—and all 27 other pieces to arrange the pretty village. Moreover, we will pay all delivery charges. Write to-day, girls. Don't lose a minute. Address:

18D

Gold Dollar Mfg. Co., Dept. V 67 Toronto, Ont.

"We have been using FIVE "ROSES flour and can gain a loaf of bread on every baking." —*Miss H. R., Brougham, Ont.*

"Always go back to FIVE "ROSES, as I have more bread "with same amount of flour."— *Mrs. C. H. McN., Englehart, Ont.*

"I use 7 quarts of FIVE ROSES "flour in my recipe. Other flours "I have used take 9 quarts."— *Miss A. P., Marshville, Ont.*

"Am positive one can get more "bread out of a bag of FIVE "ROSES flour than from any "other kind."—*Mrs. N. H., Copetown, Ont.*

"Always an extra loaf from the "same quantity of flour." —*Mrs. A. M., West Summerland, B.C.*

"The most profitable flour a "poor man can possibly obtain." —*Mrs. T. S. McC., Rodney, Ont.*

SAVE A LOAF
at Every Baking

COMBINED with its great nutrition and enticing eating qualities, FIVE ROSES is the acknowledged flour for *economical* baking.

It actually *saves* flour and the money that that flour costs. This on account of its bigger yield due in turn to its glutinous strength and water-absorbing capacity.

Exactly how much it will save *you* depends upon how much baking you do, and upon how much bread you make at one baking.

Read what thrifty housewives write us, in the margin. It points the way to patriotic economy.

You know how much FIVE ROSES flour you can bake in a year. By saving a loaf at every baking, figure out for yourself how you can reduce your own High Cost of Living.

LAKE OF THE WOODS MILLING CO., LIMITED
Montreal and Winnipeg

FIVE ROSES FLOUR
FOR BREADS, CAKES PUDDINGS, PASTRIES,

ger over nineteen hundred years ago, which is the monopoly of no religious faith and which can appeal alike to men of all creeds and of none. And they trusted one another to be "faithful unto death," to "quit like men" honestly, justly and fearlessly.

Again, the Chaplain's creed or church was seldom thought about or considered. The Padre for the most part was a welcome and beloved figure. To the men he was usually a Pilgrim of Love, irrespective of the church to which he belonged. "He went about doing good"—that was his main interest to the soldier. And in hard and dangerous places "he was with them always, even unto the end." His congregation was always one of many sects and creeds, as church doctrine names them. Indeed it could never be classified. The Roman Catholic priest buried the Protestant dead or the Protestant chaplain buried the Roman Catholic dead near where they fell on the field of honor, or he took their last message in the hospital ward. The Anglican rector gave communion to the Presbyterian or the Methodist as he repeated in his temporary dugout or shell-hole or gun-pit, "Whosoever will may come." Men kept their own faith and their own creed, but they had respect for one another's. Religious intolerance had no place in the trenches. It will have no place in the hearts and minds of those who come back.

(Concluded next issue)

A large part of one of Finland's iron ore fields lies under the sea.

A tractor designed by Italian engineers to give maximum traction with minimum road damage is featured by a number of flat steel pads held against the rim by individual coil springs from the hub.

VOL-PEEK
Mends Pots & Pans
Cooking utensils, Graniteware, Aluminum, Enamelledware, Tin, Copper, Brass, Iron, etc. Easy to use, no tools required, ready for use in 2 minutes. Saves a pot for 5/6 a cent. 15 cents at your Dealer, or postpaid by Vol-Peek- B.Co., Box 2024, Montreal

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JACOB BROS., Diamond Imp., 15 Toronto Arcade, Toronto

MAKE PLANS TO STORE AWAY SUPPLY OF ICE THIS WINTER

An ample supply of ice is of greater economic importance in the country home than in the city residence. Folks in the city can buy perishable supplies as needed, but the remoteness of many country homes from markets often makes it necessary to use canned, corned or smoked meats use canned, corned or smoked meat producs all through the seasons of the year when the table should be supplied with fresh meats.

In the country, ice is appreciated not only for its use in the preservation of fresh meats, butter and other table supplies, but it is well nigh invaluable in the production of high grade products.

Ice is a luxury which everywhere can be had almost for the gathering. The cost of harvesting and storing is not to be compared with the comfort that it brings. The cost of packed ice of course, varies in different localities, but on the average the total cost of harvesting, hauling, storing and packing is about $1 a ton.

With the natural advantages of abundant streams, lakes and ponds of clear, pure water and the cold winters there is little excuse for most farm homes not being equipped with facilitise for storing sufficient ice to last through every summer. The harvesting is done at a time of year when the men and teams are not too busy, and after the construction of a suitable ice house, the cost is insignificant.

Source of Supply

The stream or pond from which the ice is taken should be fed from a source free from contamination or pollution. If the stream is so sluggish that water weeds thrive in it, all vegetation must be removed to prevent its freezing in the ice. Decaying vegetation forzen in ice is objectionable because as the ice melts, the refuse is deposited in the ice box or refrigerator, making it dirty and dangerous to health. Ponds in which green spawn grows profusely can be rid of these pests by copper sulphate. The crystals can be placed in a cloth sack, hung to a pole and drained through the water until the salts are dissolved. One or two treatments at the rate of one pound to one hundred thousand gallons of water will keep down such growth and make the water clear and pure.

Cubic Formation Best

To keep well, ice must have a minimum surface exposed to air or to the packing material; it must have thorough insulation to protect it from heat and air; it must have good drainage and it must be packed to prevent as nearly as possible the circulation of air through the mass.

The more nearly the mass of ice approaches the solid cube, both in shape and texture, the easier with good drainage and insulation, will be the keeping problem. Experience has shown that the cube formation is the best. A mass of ice twelve by twelve by twelve exposes less surface than the same tonnage piled in any other form.

Farmers who have only a small quantity of ice to harvest will need only two saws, two ice tongs, two ice hooks and a pointed bar. In co-operating with neighbors to fill community houses, these tools may belong to individuals or the complete outfit might be bought by the community organization. The advisability of cutting square or oblong cakes must be decided by the harvester. Oblong cakes twenty-two by thirty-two inches have the advantage that they can be lapped so as to break joints as they are stored and thus reduce the possibility of air passages in the ice heap.

The function of an ice house is to prevent outside heat from passing into the interior and melting the ice; such passage by interposing in the walls a material which will resist its transfer from the outer to the inner side of the building. The best insulators appear to be those containing the greatest amount of entrapped air confined in the smallest possible spaces. No entrance should be allowed near the ground line as the cold currents of air at the bottom will filter through.

Insulation is Needed

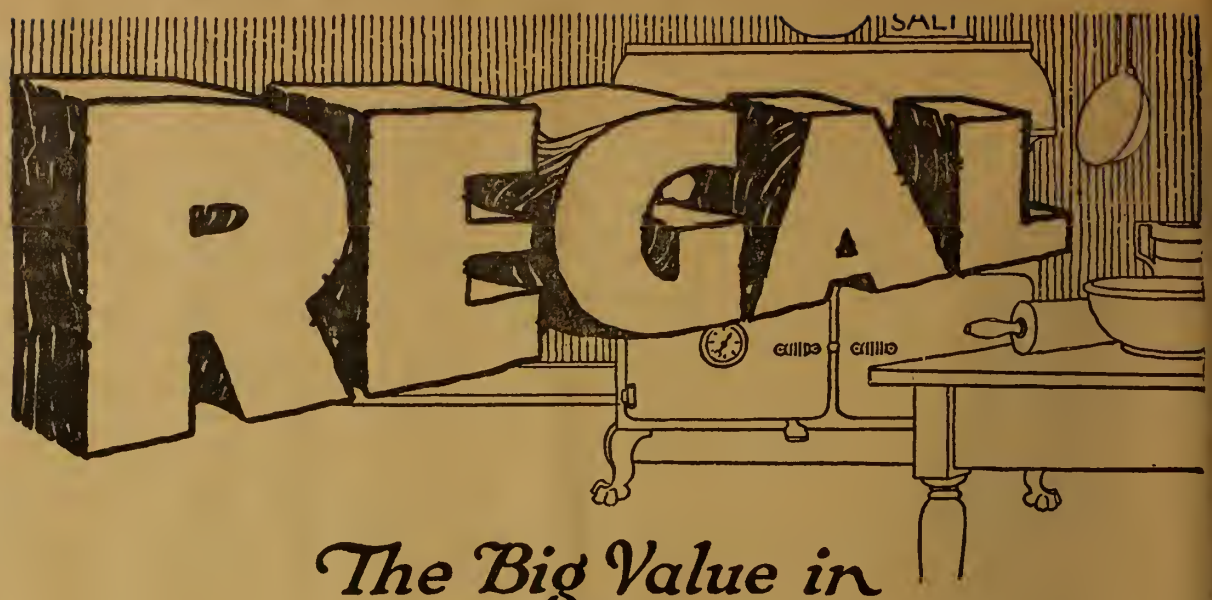
If the foundation and walls are air tight at the bottom, an opening at the top has little effect as, when the warm air enters it will remain at the top of the room. A layer of insulating material should be placed on the floor and the ice stacked on it. There shoul also be a layer between the ice and the walls. Ice should never be stored directly on the ground which is a conductor of heat, especially when wet, as all ice house floors are sure to be. Planing mill shavings are better than sawdust for insulating. They are elastic, they do not settle rapidly and do not absorb moisture and most important, are free from dirt. There are several makes of commercial insulator which are better than either sawdust or shavings and cheaper in the end, but their initial cost is somewhat greater.

Thorough drainage is esstnial. If the floor is below the level of the ground, sufficent drainage usually can be obtained through the soil, especially if the soil is porous. With a clay soil, it may be necessary to excavate a foot or two and fill in with cinders or gravel and to place a three inch porous tile under the floor. This drain should be properly trapped or sealed to prevent warm air from enteing the floor. All floors should slope towards the centre of the floor to prevent the ice from falling against the walls of the building and in houses having water-tight floors, to carry the water to the drain.

There is bound to be some melting of ice, causing moisture to settle on the walls and ceiling. If the building is of wood, it absorbs the moisture and rot and decay follow, so wooden houses should have a ventilating system that can ve controlled. The ceiling should be sloped to the centre in order to carry the warm moisture laden air to the ventilator. In houses with some form of commercial insulation that will take a cement finish on the interior no ventilation is necessary. The building should be constructed so that there will be a circulation of air through the outer wall and at the eaves to the ventilator on the roof as these air currents tend to break up heat radiation through the walls and roof.

Quantity of Ice Needed

Owing to the different conditions under which ice is handled, the locations of the buildings and the quan



The Big Value in
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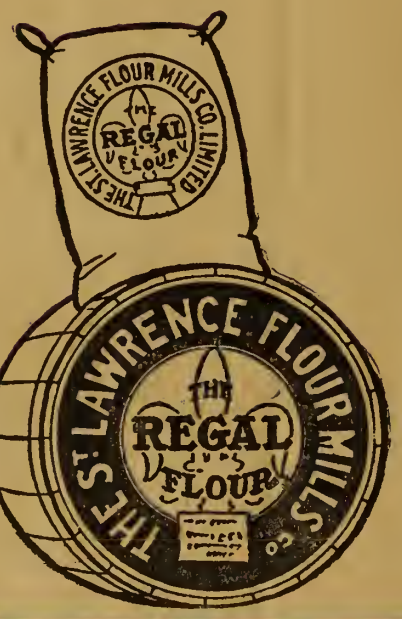

IN THE KITCHEN, the big event is baking day. And the important thing on baking day is to use "REGAL"—the ideal flour for bread. "REGAL" means bread of uniform texture, lasting freshness and wholesome qualities.

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Protect your home with a strong, permanent ladder. Write us today.

Highest commissions paid.

WALLACE MACHINE WORKS, Limited
SUSSEX, N. B.

MINK 1,000 skins wanted. We pay $12.00 to $15.00 average. Coon $3.00 to $10.00. Rats (lawfully taken) $2.00 to $2.50 average. Write for price list today.

E. W. DOUGLASS,
BOX 10, - - - STANLEY, N. B.

tity packed, there is a wide variation in shrinkage. Generally speaking it wil ltake a ton and half of ice to cool the milk from each cow. From forty to fifty cubic feet of space are needed for a ton of packed ice. About 50 per cent. more ice should be packed than actually is needed. This amount will allow for a heavy shrinkage and for generous household use.

OUR APPLE FUTURE

The apple is king in the Annapolis Valley, and we are now gathering the fag end of the biggest crop we have ever had.

Our orchards have been taxed to the very limit, and our orchardists, will have to put back into their orchards vitality to replace what was used this season, or else the slump in the crop of 1920 will be enormous.

Orchards will have to be liberally fertilized, so as to ensure a vigorous an dhealthy growth, and nature will have to be assisted in the polination of the coming blossom.

The fact has been established that the Bee is our most efficient ally in that respect, and it is up to us to make uuse of all the Bees that can be secured, so that their work in our orchards may result in more fertility and consequently more thoroughly developed apples.

It has been established beyond question, that when the apple blossom is not sufficiently pollinized, the result is a poor dwarfed apple, that does not develop or mature; that is simply a useless incumbrance to the tree that bears, it, and that eventually lets it go in what is usually termed the June drop.

The Dominion Atlantic Railway is working hard to interest our growers in the value of the Bee, is showing films illustrating the matter, and showing them free all over our Valley, in fact in every community no matter how remote from the Railway, asking only that the people shall apply for them. They are also willing to assist the farmer to procure Bees so that it is all up to them, as to whether the present production increased from year to year, or whether we go back and accept just what nature gives us, while we fold our hands and look on.—Advertiser.

CARBONATE OF LIME IN APPLE SYRUP; KEEPING CIDER

Why is powdered calcium carbonate or carbonate of lime used in making apple syrup? What is your idea of keeping apple cider? Is benzoate of soda or salicylic acid, one ounce to the barrel, 4 to 0 gal., advisable?5—W.M.

Carbonate of lime is added to the apple juice and the precipitate removed to reduce the acidity. It is a harmless addition, for, even if you get in too much, it is so insoluble that it is all filtered or strained out later, and you have a better syrup as a result.

Opinions differ as to the use of the preservatives you mention. We do not think they should be used if the cider is to be offered for sale, unless the fact is clearly stated to the buyer and even then there may be some local health regulation against it. But we are unable to share the prejudice against the preservatives when used in small amounts in cider or similar fruit juices for domestic use. The quantities which you quote are quite small, in fact rather too small to be much good unless the cider is very fresh indeed, and even if you doubled them you would not get as much of either acid in an ordinary drink of cider as you would if you ate a dish of cranberry sauce or chewed a few wintergreen leaves. It would be quite another matter if cider so preserved made up a large and regular portion of your daily diet. After all, the one sure preservative is heat, but the flavor of apple juice is so delicate that it is some what the worse for sterilization.

"Making two blades grow where only one grew before."

1920 Fertilizer production will be an uncertain proposition

"Shur-Gain Fertilizer buyers should order a full supply at once and arrange for deliveries in January or February at latest. Strikes at the phosphate mines, railway car shortages and soft coal strikes have delayed raw material shipments to us and will affect the consumer too.

Gunns SHUR-GAIN Fertilizers

mean bigger crops with less labor—we have a mizture to suit any crop

You will find a ready market for all the hay, potatoes and orchard crops you can grow this year. Let SHUR-GAIN High Grade Fertilizers help you put more dollars in your bank. Remember it costs just as much to seed and harvest a thin crop as it does a bumper one. We are specialists in potato Fertilizers and can help you select a fine growth-giving mixture. See our local dealer at once or write us for full information.

Representatives wahted in unallotted territory

Gunns LIMITED

ST. JOHN, N. B.
Head Office
WEST TORONTO, ONT

THE REASONS FOR A FORWARD MOVEMENT

FIVE Christian Communions in Canada are engaged in a Forward Movement. They call their various constituencies, and the people at large to a livelier and more sacrificial Christianity. They are making a great financial appeal. It is fitting that the public should know the reasons.

THE DECLINE OF THE DOLLAR

The sharp rise in prices the world over has affected seriously the position of all men working for a fixed salary. Missionaries are in this category. Stipends that were ample in 1900, and nearly adequate in 1912, are utterly insufficient in 1920. There has been no general increase in these stipends. There cannot be, until the Canadian people scale-up their giving in accordance with the decline in purchasing-power of the Canadian dollar.

NEW STANDARDS FOR ALL

The Anglican Synods, the Baptist Conventions, the Congregational Union, the Methodist Conferences, and the Presbyterian General Assembly, have set new standards for the salaries of Clergymen actively engaged in Canada. But, for the Missionaries and for the Superannuated Ministers, no increases have been possible. One of the aims of the Forward Movement is to show the impossibility of maintaining missions, even on a pre-War basis, without greatly increased revenues.

THE CALL FROM ABROAD

Despite this financial difficulty, new opportunities for the extension of Christian teaching have appeared. In India, literally millions of "outcastes" are pleading for Missionary preachers and doctors. In China Missionary teachers are required to help formulate the National system of education. Hospitals, Missionary nurses, doctors and dentists, are heartily welcomed by the people. From other lands comes the same story.

THE HOME RESPONSIBILITY

Here in Canada the rapid growth of our cities, the expansion of the West, the great immigration of the last twenty years, and the depopulation of rural areas, make a four-fold problem.

Finally, the decline of the dollar has created difficulties in financing the various Colleges established and maintained for the training of the Clergy. The men of faith doing mssionary work abroad are the product of these Colleges. The Church must continue them in action.

IN UNITY OF FAITH AND PRAYER

These are the facts. Faced with such conditions, the Church leaders, at first, were appalled. Putting aside for the time being differences of religious temperament, considering only their common belief in the Everlasting Father, the Almghty Son, and the everpresent Holy Ghost, they prayed together. Then they arose, thrilled with a glimpse of the wonderful Missionary opportunity, to appeal together to the whole body of Christians in Canada.

THE GREATEST OF ALL GIFTS

You are a believer in the Lord Jesus Christ, and in the Gospel He proclaimed. Your country has become great through Christianity. The hope and love of the Gospel have warmed your heart and illumined your life.

You will be asked by the representatives of your Church to show practical proof of your convictions. Be prepared—not to give a trifle out of your abundance, but to taste the full sweetness of Sacrifice.

"For God so loved the world, that He gave His only begotten Son, that whosoever believeth on Him should not perish, but have everlasting life."

The United National Campaign

Representing the Simultaneous but Independent Forward Movements of the Anglican, Baptist, Congregational, Methodist and Presbyterian Communions in Canada.

Lawndale Stock Farm

Jerseys and Shorthorns (Pure Bred)

Jersey Offerings for the Winter of 1919—20

A few registered mature cows due to freshen the coming fall and winter.

Several yearlings, bred and not bred, registered and grades.

Several pure bred and grade calves, male and female.

Shorthorn Offerings for Winter of 1919—20

Two yearling heifers, very thrifty.

Several pure bred calves, male and female, by Imported English dual purpose Shorthorn bull, out of splendid producing dams.

We can supply intending purchasers a choice list of either Jerseys or Shorthorns to select from.

Come along with your inquiries.

Apply for information to

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

COSSAR STOCK FARM

Lower Gagetown, N. B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

Orders now booked for EWE and RAM LAMBS for fall delivery, several extra good animals for sale out of Ewes clipping 10 to 12 lbs. and sired by an Imported Ram weighing about 400 lbs. with a clip of 18 lbs.

BREED LEICESTERS the Sheep with THE HEAVY FLEECE.

G. C. Cossar, Proprietor. J. Meiklejohn, Agent.

Elmwood Stock Farm

OFFERS FOR SALE:

Two choice young Holstein Bulls, 15 and 19 months old, sired by Dutchland Pieterje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad, "the world's greatest bull," 101 A.R.O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

Pure Bred Shorthorns For Sale !

Am offering for sale my herd of pure bred registered Shorthorn cattle. These cattle range in age from 7 years to 3 years, or a little less, with one bull calf two weeks old, and are all fine in type and color.

I have also exceptionally good grade cattle of various ages for sale. All will be sold at a reasonable price and offer an unusual opportunity to anyone desiring to start a herd of choice stock or to renew an old herd.

J. E. HETHERINGTON, - Codys, N. B.

Dispersion Sale of Pure Bred Ayrshires

Having sold my farm and offered my entire herd of pure bred Ayrshires for sale, I still have eleven head left, among the lot my stock bull Silver Nugget, just turned two years old. He is a grandson of the famous Ayrshire cow Gardrum Bonnie Jean, whose official record in one year was 14,141 lbs. of milk and 552 lbs. butter fat. The following year she gave over 15,000 lbs. of milk. The sire of this bull was sold to the Experimental Farms at Ottawa for $500.00. This bull is the equal of his sire in every respect. Also Eastcourt Dora, a cow that has an unbeaten show ring record and was third in the 1914 Dairy test at the Winter Fair, and a half sister of the Ayrshire Cow at the Agricultural College, that won over all breeds in 1919, bred to calve for the fall fairs. Among the lot are several two year olds which were sired by Gardrum Gold Boy, the bull sold to Central Experimental Farms, Ottawa. There are also a few yearlings and calves sired by Lotus Perfection, a grandson of Jean Armour. Will be glad to meet any intending purchasers at Truro Station.

GEORGE RITSON,
Upper Brookside.

N. B. The farm is about three miles from Truro Station.

Advertise in the Farmer.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

F. W. C. Nase, Nerepis, N B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B.

Ayrshire Cattle

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co,, N. S.
C. A. Archibald, Truro N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

YORKSHIRE PIGS

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
C.A. Archibald, Truro, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on. as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue, which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex N. B.

FOR $4.50 I will mail to any address, complete course Shorthand. The Boyd System. E. A. GORHAM, Glenwood, N.B.

WANT TO HEAR from party having farm for sale; give particulars and lowest price. JOHN J. BLACK, Maritime St., Chippewa Falls, Wis.

FOR SALE—Pure Bred Holstein Bulls, 1, 15 months; 2, 10 months; 1, 1 month, will be sold cheap if taken soon. W. G. CAMPBELL, Salisbury, N. B.

FOR SALE—Registered Jersey Cows, heifers, calves and imported Bull "Pogis' Golden Poet". Register of merit stock. ORCHARD HILL FARM, Brown's Flats, N. B.

LADIES WANTED—To do plain and light sewing at home; whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING COMPANY, Dept. A, Montreal.

GREAT WHITE LIGHT BURNERS—The lamp burner that doubles the light you get from your oil lamps. We have a few dozen to offer at 18c each, postpaid. They are a big investment for any person using oil lamps. In large size only. —THE MARITIME FARMER, Sussex, N. B.

THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and other premiscs. Price $3.50 per 100 lbs. Apply by mail to "NAILS," care of Office Maritime Farmer, Sussex, N. B.

FOR SALE—Dual purpose Shorthorn bull, 13 months old, sired by Butterfly Count, 98225, and from a good milking dam. J. JAMES ROSS, R. R. No. 1, Pictou, N. S.

MAN WANTED—Energetic young Canadian as assistant on large well equipped farm. Wages as to ability and permanency. CHAS. PETERS, Elmhurst, Kings Co., N. B.

EGGS for hatching from trap nested bred-to-lay Barred Rocks. $2.50 per 15. Order early. Send for circular. GUS LANGELIER, Supt. Experimental Station, Cap Rouge, Que.

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HOLSTEINS

One Bull 11 months old, of good breeding, and fit for service. Dam gave 10887 lbs. milk 3½ test in 10 months. Weight of sire, a ton. Also one Bull Calf 3 months old, with lots of 20 and 25 lb. records in his backing. Also 3 purebred Dorset Ewes. This stuff is priced to sell, so write at once to

WALTER PAYNE,
LAKE EDWARD, N. B.

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Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

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Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.

We have young bulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

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Shorthorn Cattle and Shropshire Sheep

The early maturing and good doing sort—bred from Show stock in every cross. Offering thirty ewe lambs and shearling ewes to avoid crowding winter quarters. Also a few ram lambs not booked yet.

C. A. ARCHIBALD, Bellevue, Clifton, N. S.

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for sale calves of both sexes, sired by Dutchland Pieterje Count, a bull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Johanna Lad, who has 101 A. R. O. daughters, 4 over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice, come and see these calves or write for further particulars.

We will also book orders for young Yorkshire pigs for next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - CANARD, N. S.

COBEQUID FARM HOLSTEINS

We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows have in turn been bred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter each in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a heifer calf or two. Get your orders in quick, they won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

Special Offering

Maple Green Farm Holsteins

On account of the great shortage in the supply of milk in our home town, we have decided (with regret) to dispose of our entire crop of Bull and heifer calves.

If taken inside of the next 30 days will price them away below their value.

The Dams of these calves are now running in the R. O. P., and the last official test conducted by the R. O. P. Inspector showed an average test of 4.62% fat for the lot.

All are sired by our 32.32 lb. herd sire "King Korndyke Johanna", whose Dam is a full sister to Canada's Champion R. O. P. cow, "Jemima Johanna of Riverside". Milk in 365 days 30373; butter in 365 days, 1280 lbs.

Phone or write,

R, L. HICKS
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HE IS LESS DANGEROUS

Eliminate the danger and increase the value of the young bull by dehorning him. The most successful dairymen, drovers and shippers use and recommend the KEYSTONE DEHORNER. Write for booklet. R. H. McKenna, 219 Robert Street, Toronto.

Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages. Have some good cows to freshen soon. Am booking orders for ram lambs for fall delivery. Write or phone for prices and description.

J. ROBIE MacDONALD,
Shubenacadie, - - Nova Scotia
Successor to J. MacDonald & Son

Five Ayrshire Bulls for Sale !

From good milking strain. All fit for service.

Prescott Blanchard,
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Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S.

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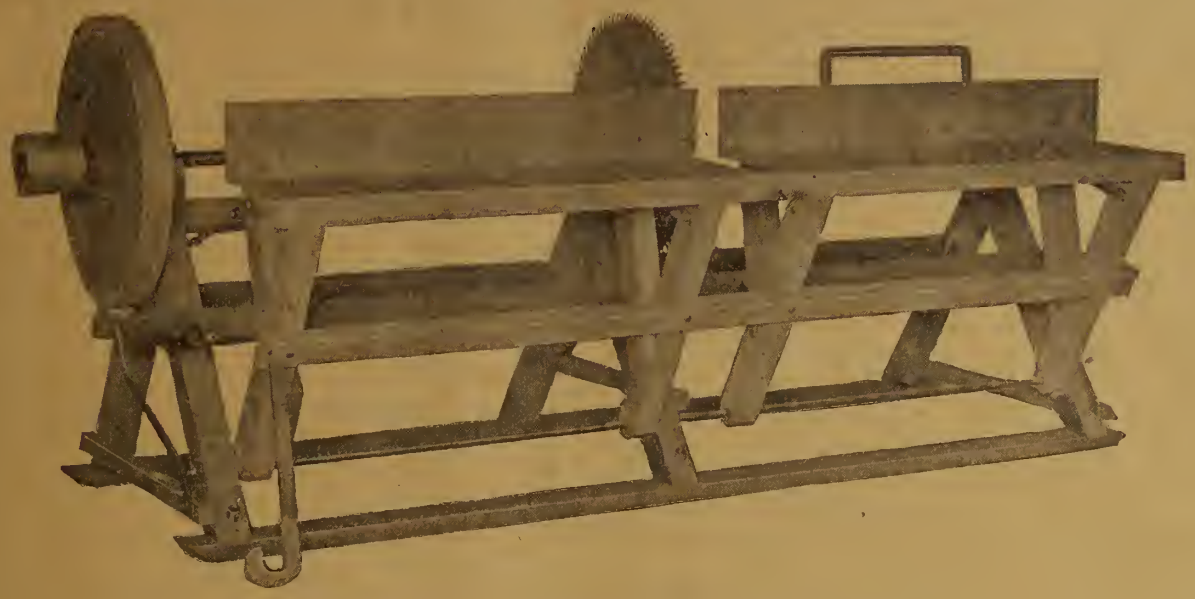
The Machine You Can Depend on



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Ask for our Special Catalogue covering the different style cutters. IT WILL PAY YOU. We Guarantee Prompt Shipment and Satisfaction.

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Holstein Herd Averages 18812 lbs. Milk

A herd of 13 purebred Holsteins last year averaged 18812 lbs. milk and 638.57 lbs. fat.

Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in

HOLSTEIN CATTLE

send for booklets—they contain much valuable information.

Holstein-Friesian Association of Canada

W. A. CLEMONS, Secretary.

ST. GEORGE, - - ONTARIO

FOR SALE

We have to offer a nice bunch of Shorthorn bulls and heifers ages 1 to 3 years.

Also span 4 year old horses, span 5 year old horses, span of brood mares and a choice driver

For further particulars apply to

FRANK C. FAWCETT

Upper Sackville - - N. B.

AYRSHIRES BULLS!

lt for service, bred from heavy producing stock.

FRED S. BLACK & SONS,
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Chester White Pigs for Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

Willow Glen Shorthorns!

Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

A. N. GRIFFIN,
New Mines - - - - N. S

FAIRVIEW FARM

Holstein and Yorkshire Swine

Calves of either sex, eight mos. of age and younger, from well bred and Tuberculin-tested Dams. Write for further particulars or come and see them.

Booking orders for Yorkshire Pigs for Spring delivery—from 1st Prize Sire and Dams at Fredericton Exhibition, Fall 1919—either sex, six weeks old. $10.00 each.

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White Plymouth Rock Cockerels

Superb breeding qualities. Exhibition or utility stock. All birds shipped on approval. Prices $4.00 to $25.00.

G. E. WILSON,
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WISH-TON-WISH STOCK FARM

Breeders of Big, Smooth, Heavy Producing Holsteins

The kind that fill big pails the year through. Can sell a few good bulls fit for service and some choice Bull Calves; also some Heifers and Cows due to freshen soon. Write or 'phone for description and prices.

HARDING BROS., Proprietors, WELSFORD, New Brunswick

FOR SALE!

Our Shorthorns are about ready for the block. Parties wishing to start a herd can do so at reasonable prices from us. If not sold for breeding purposes, will go for beef. Both sexes, all ages. Come and see them before buying.

A few very nice Berks for sale.

L. M. ANDERSON, Sackville, N. B.

Firshade Farm Dual Purpose Shorthorns

P. R. L. FAIRWEATHER

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FOR SALE

Two yearling Gurnsey bulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

SARAH E. M. SMITH,
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AYRSHIRE CATTLE. KARAKULE-ARABI SHEEP

We are offering two Ayrshire Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

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THE EASTERN KARAKULE-ARABI SHEEP CO., LTD. WINDSOR, N. S.

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Females, all ages. Also a number of bull calves ranging from one month to eight months. Sired by the prize winning bulls "Morton Mains Amanth" Imp. and "Cherry Bank Cicero."

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For Sale—Registered stock. Male or female.

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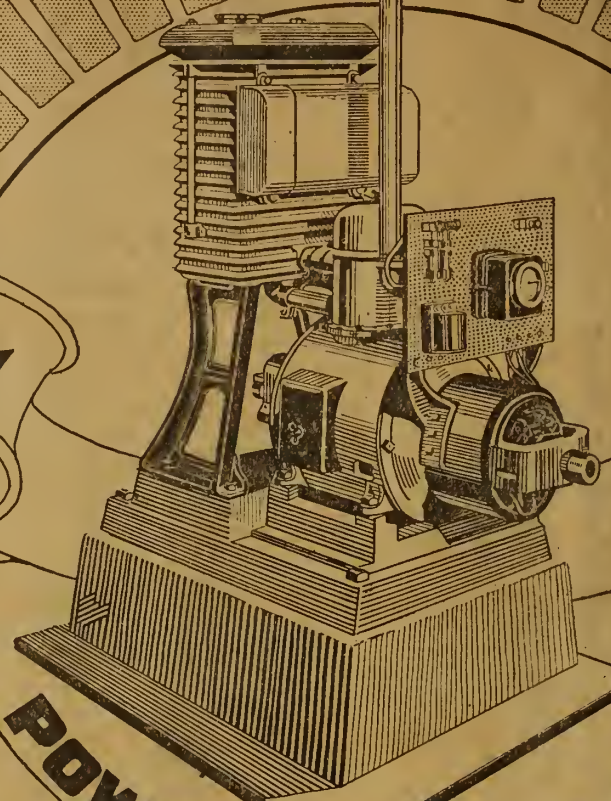
Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $2.00 per 15.

R. R. BLACK, Proprietor
Oxford Junction, N. S.



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First in the electric farm plant field is the North[illegible] Electric name. The experience gained through years of successful electrica[illegible] nufacturing is your personal safeguard for the lasting and steady dependab[illegible]y of

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From coast to coast there are Northern Electric distributing houses—the one nearest you is always at your service. There, in stock, is the plant for your farm and everything electrical required for its installation. Make your whole plant Northern Electric—we willingly assume the responsibility for its perfect service.

If you now have electricity, either from Central Station or a private plant, buy Northern Electric appliances. We can supply your every electrical want.

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Published Fortnightly in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., FEBRUARY 3, 1920 No 9.

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Three Rivers, Quebec

"Go Teach All Nations Beginning at Jerusalem"

"THAT'S it," says a critic, "'beginning at Jerusalem!' You should correct paganism at home before going abroad to look for it. I do not believe in Foreign Missions."

And yet Jerusalem was not Christianized when the Apostles went to Antioch; when Philip taught the Ethiopian.

A Word of Reminder

The man who does not believe in Foreign Missions stands today clothed and educated because of Foreign Missions. When did English culture begin? With the visit of St. Augustine, a Foreign Missionary from Rome! Who evangelized Rome? A Foreign Missionary named Paul, of Tarsus and Jerusalem. What if he had gone to the Ganges instead of to the Tiber!

Certainly Canada needs more Christianity, but the necessity of the world cannot be overlooked while we are busy improving our own spiritual life.

The Mission Established

Five Christian Communions in Canada, Anglican, Baptist, Congregational, Methodist and Presbyterian, have an extensive mission work abroad. They have sent overseas many devoted men and women. By their work, barriers have been broken down and in every land there is an eager call for more missions, more teachers, more doctors, more hospitals. Now, owing to the declining value of the dollars in all lands, it is necessary to double the expenditure in order even to hold the ground won. Until that is done, not one item of an advanced Missionary programme can be undertaken.

The Great Opportunity

All men, who think honestly, realize that the Gospel of Christ is unique in splendor, in majesty, in civilizing influence. It has made the modern world of thought, of industry, of progress. It must go out over all the earth to ease international relationships, to put an end to the cruelty and misery existing in the dark places of the earth. There is free entry for the Gospel in every nation under Heaven. Lift up your heads, O ye Gates of India, and be ye lifted up, ye everlasting Doors of China and Japan and Africa, and the King of Glory shall come in.

The Call to Action

Canadians, Churchmen or non-Churchmen, you met the charges of the war with cheerfulness, since it was waged to establish righteousness in the earth. Can you neglect the call of the Church for adequate means to continue by peaceful suasion the work which for four years was done by batteries and bayonets? Your Church appeals directly to you, civilized and educated by Foreign Missions of an ancient time, to meet your obligation to that same Great Cause today.

National Peace Thank Offering

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February 9-14

The United National Campaign

Representing the Simultaneous but Independent Forward Movements of the Anglican, Baptist, Congregational, Methodist and Presbyterian Communions in Canada.

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Have you ordered your Shur-Gain yet? Don't delay any longer

"Shur-Gain Fertilizer buyers should order a full supply at once and arrange for deliveries in February. Strikes at the phosphate mines some months ago, railway car shortages and soft coal strikes have delayed raw material shipments to us and will affect the consumer too.

Gunns SHUR-GAIN Fertilizers mean bigger crops with less labor. We have a mixture to suit any crop

You will find a ready market for all the hay, potatoes and orchard crops you can grow this year at good prices. Let SHUR-GAIN High Grade Fertilizers help you put more dollars in your bank. Use them freely. Remember it costs just as much to seed and harvest a thin crop as it does a bumper one. We are specialists in potato Fertilizers and can help you select a fine growth-giving mixture. See our local dealer at once or write us for full information.

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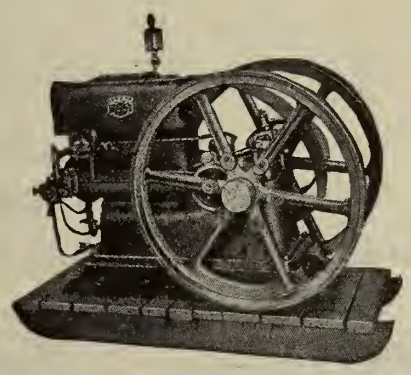
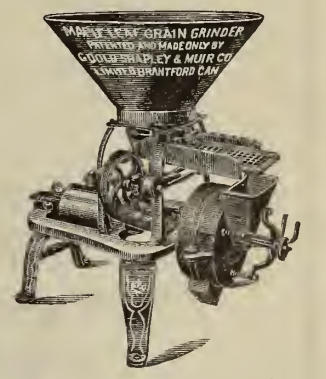


An engine for every need. Also operated on Gas and Gasoline.



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Touring	740
Coupe---fully equipped	1050
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Electric Starting and Lighting Equipment is supplied on Sedan and Coupe at prices quoted. On Runabout and Touring this equipment is optional at an additional cost of $100.00, exclusive of War Tax.

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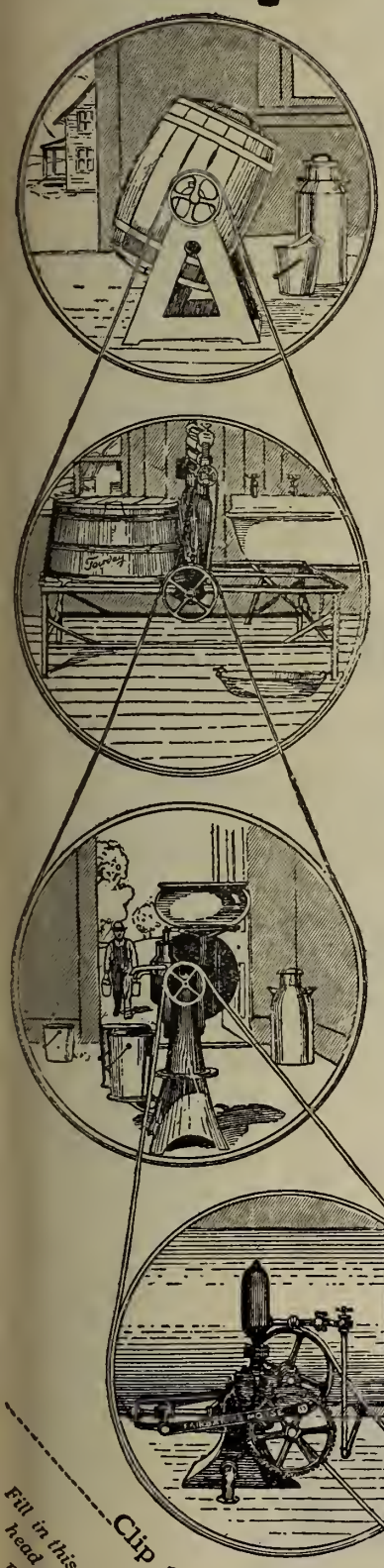
Ford, Ontario

If You Want Greater Comfort, Efficiency, *and* Economy,
Install a Fairbanks-Morse "F" Power and Light Plant



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Send the coupon in the right corner to our nearest branch and we will give you full particulars and tell you where you can see an "F" plant in operation.

40-Light Plant

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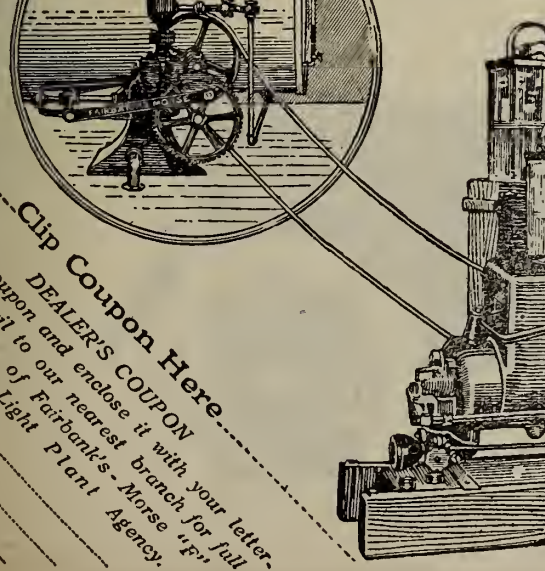

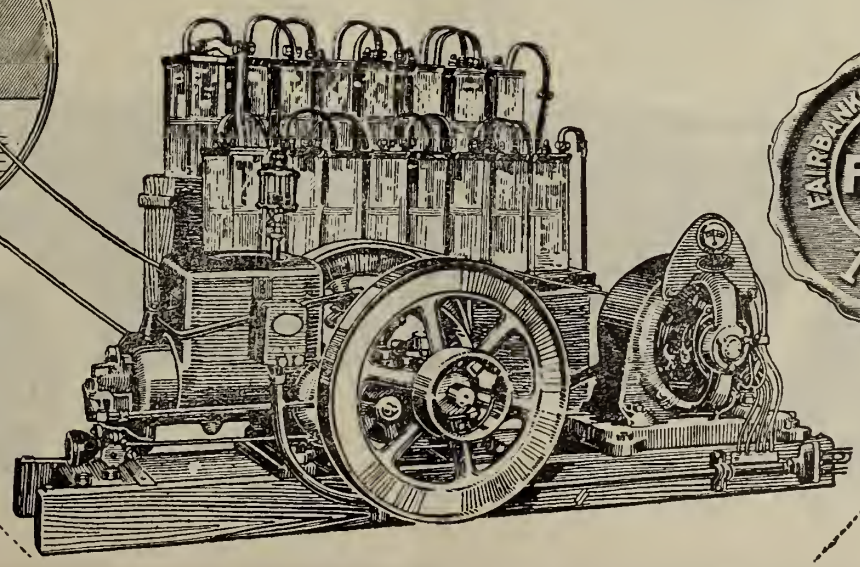

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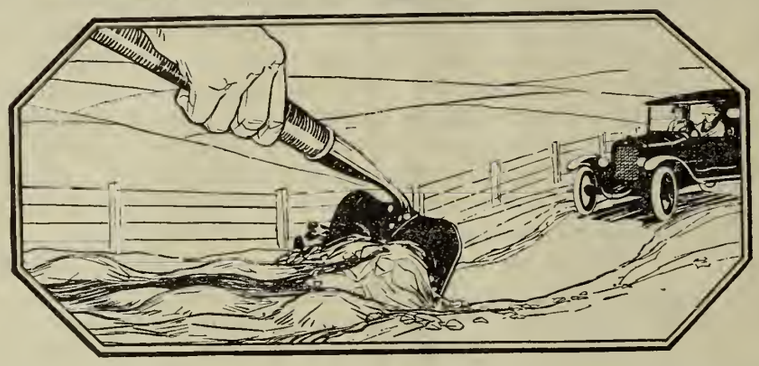

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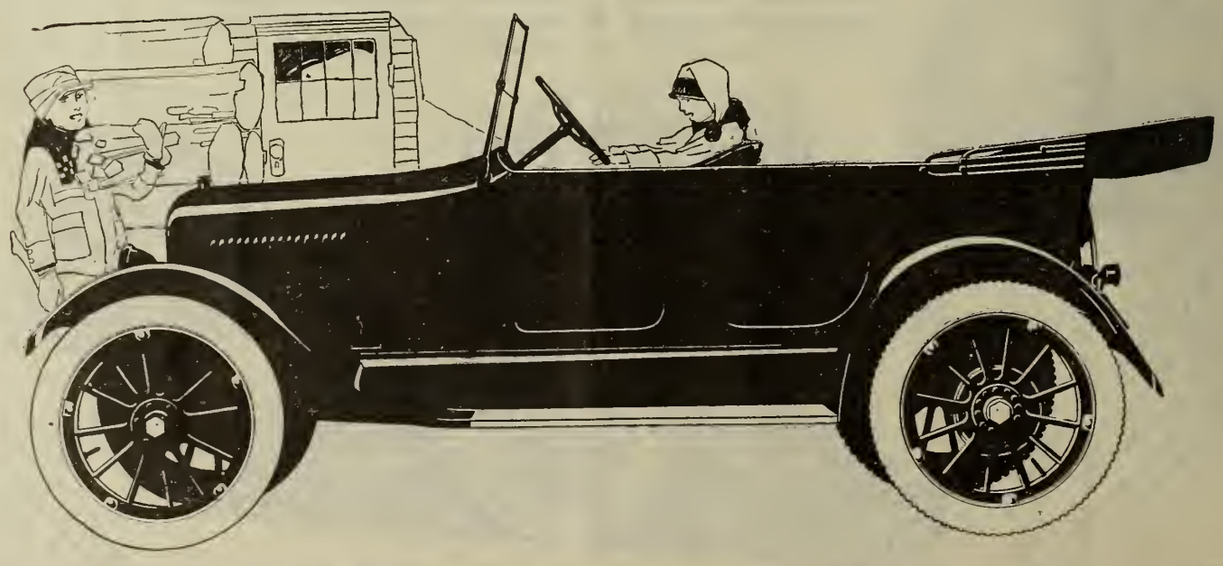

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Tuberculosis in Live Stock

Detection, Control and Eradication

By John A. Kiernan, Chief of Tuberculosis Eradication Division and Alex. E. Wright, Assistant Chief, Washington, D.C.

HOW TUBERCULOSIS SPREADS FROM A DISEASED HERD TO A HEALTHY ONE

Tuberculosis may be intorduced into a healthy herd by any of the following means:

By the addition of an animal that is affected with the disease; therefore animals should be purchased only from herds known to be free from tuberculosis, or from herds under supervision for the eradication of the disease.

By feeding calves with milk or other dairy products from tuberculous cows; this frequently occurs where the owner purchases mixed skim milk from the creamery, and feeds it to his calves without first making it safe by boiling or pasteurization.

By showing cattle at fairs and exhibitions; reports have indicated that numerous herds have become infected through mingling with infected cattle at shows or by occupying infected premises.

The shipment of animals in cars which have recently carried diseased cattle and which have not been disinfected properly.

Community pastures; pastures in which tuberculous cattle are allowed to graze are a source of danger.

In most cases the outward appearance of the animal bears no relation to the degree of infection. The disease frequently develops so slowly that in some cases it may be months or even longer before any symptoms are shown; therefore he on the safe side and have your herd tested.

(Continued from last issue)

The Intradermal Test (Into the Skin)

The intradermal test for detecting tuberculosis is used to a considerable extent, especially on range cattle not easily controlled. When made by those who have become skilled in its application, it is very accurate. In this test the tuberculin is injected between the layers of the skin, only a few drops being used, and it is usually applied in the region at the base of the tail, where the skin is soft and nearly hairless. The intradermal test is satisfactory also for the diagnosis of tuberculosis in swine and, when so used, the tuberculin is applied into the skin of the ear near its base.

The reaction from the intradermal test consists of a swelling at the point of injection and is observed from 48 to 108 hours after the injection. The character of the swelling varies, and a proper diagnosis of tuberculosis by this test can be made only by an experienced person.

The Ophthalmic Test (Into the Eye).

Still another method, known as the ophthalmic, is used to some extent and has been found to be of considerable value in what is known as "check" testing; that is, it is used in connection with either of the previously described methods. Sometimes a tuberculous animal that fails to react to those tests shows evidence of the disease upon the application of the ophthalmic test. The ophthalmic tuberculin is placed in one eye and the other eye is used as a check. A reaction is indicated by a characteristic discharge from the eye receiving the treatment, which may occur in from 3 to 10 hours after the application or even later. Some swelling and inflammation of the eye and lids are often noted.

Post-Mortem Appearances.

Animals affected with tuberculosis may show the effects of the disease in almost any part of the body. In advanced cases the lesions are easily found, but when the disease is of recent origin or if a slightly diseased area has been encapsulated or closed up, it is often very difficult to find evidence of the disease. Lesions in advanced cases generally appear as nodules or lumps, which are tubercles formed as a result of the disease. These lumps may be found in great numbers in the lungs and abdominal organs. The lesions are of various sizes and may contain pus, either soft or hard; many times it is gritty. Tubercles are often found in various numbers attached to the walls of the thoracic and abdominal cavities. Lesions of the disease also occur in the lungs, liver, and spleen. The lymph glands, to some extent, are usually affected, and, when cut into, show diseased areas characteristic of tuberculosis.

Lesions of the disease may be found also in the skin and in or on the bones. In animals only slightly diseased, the lesion may be hidden so that it is impossible for even the most skillful person in the post-mortem work to find it. A microscopic examination of the lymphatic glands or other tissues often reveals the presence of tubercle bacilli when no lesions can be seen by the naked eye, a condition showing that the disease is just starting. When animals have reacted to the tuberculin test, a very careful post-mortem examination should be made. The action of tuberculin is often discredited when on post-mortem the lesions are not plainly seen, but experience of many years has shown that very few animals reacting to the test were not affected with tuberculosis to some extent even though some were very slight.

Methods of Eradication

Cattle owners who do not know whether tuberculosis exists among their animals should ascertain the fact by having them tuberculin-tested and physically examined by a qualified veterinarian. In many cases thousands of dollars and very valuable breeding animals might have been saved by taking up tuberculosis-eradication work in time. Three main projects comprise the general campaign of eradication, as follows:

1. Eradication of tuberculosis from pure-bred herds of cattle.

2. Eradication of tuberculosis from circumscribed areas.

3. Eradication of tuberculosis from swine.

It is important to eradicate tuberculosis from pure-bred herds of cattle at the earliest possible date because the spread of the disease is greater among such animals than among grade cattle. The reason is plain; pure-bred animals are shipped extensively to every part of the United States for breeding purposes. A pure-bred bull or cow may be shipped from Maine to Texas, or from the State of Washington to Florida. If it is diseased and is introduced into a healthy herd, it not only fails to fulfill the purpose for which it was intended—the upbreeding of the herd—but it actually causes heavy damage by spreading the disease to healthy animals.

Accredited-Herd or Honor-Roll Plan.

The breeders of pure-bred registered cattle fully appreciated the above-mentioned fact when, together with the live-stock sanitary officials of practically all the tSates, they adopted what is known as the accredited-herd plan, the principles of which are that herds found to be free from tuberculosis on two successive annual tests are placed on the Honor Roll, and a certificate is given to the owner by the State and the Federal Government. The certificate entitles animals of that herd to be shipped interstate without further tuberculin testing for a period of one year. This plan is becoming well known to breeders throughout the United States. The progress of the accredited-herd plan is given in Table 2.

The methods of eradicating tuberculosis from grade herds are, of course, the same as for pure breds. No owner can rest assured that his herd is free from tuberculosis unless it has been properly tuberculin tested. To make a satisfactory test all the cattle should be in normal condition and, so far as practicable, the cattle should be stabled under usual conditions and among usual surroundings. Feeding and watering should be conducted in the customary manner, with the exception that feed and water should be given only after the temperature has been taken. Careful physical examination of each animal should be made before or during the application of the test. If animals react to the test they must be separated from the rest of the herd.

Eradication From Areas

The unit territory to be worked will depend mainly upon the extent to which the disease has spread. In some States practically every county contains numerous tuberculous herds, so that, to control the disease effectively, all the herds must be tuberculin tested. In other States, however, the disease is confined to the beef and dairy herds recently established or to which new animals have lately been added. In the latter case it would not be necessary to test all the cattle, but the examination of the herds should be sufficient to demonstrate most satisfactorily that no diseased herds are overlooked. This can be done by testing several herds in each section of the county wherever there is a suspicion that the disease may exist.

As a general plan, it is best to take up the work by counties, and substantial cooperation should be obtained from the county government. Each county should pay (1) part of the expense of exterminating the disease by employing inspectors to make the tests, (2) part of the indemnities paid for tuberculous animals, and (3) its share of the cost of cleaning and disinfecting infected barns, stables, and sheds. When a large percentage of the herds of a county are diseased, it is advisable to clean up the herds within a township or possibly one-third or one-half of the area. The progress depends upon the degree of infection found and the cooperation furnished by the owners.

In 1910 the Bureau of Animal Industry took up the eradication of tuberculosis from the herds in the District of Columbia, which has an area of 60 square miles. At that time 1,701 cattle were found. Every animal was tuberculin tested; of the total number,

321 cattle, of 18.87 per cent, were tuberculous. The reactors were removed from the herds and, in most instances, were slaughtered. The infected barns, sheds, and premises were cleaned and disinfected.

Each year since the inauguration of the campaign all the cattle have been tuberculin tested with the result that the infection has almost disappeared.

There are States in which tuberculosis exists to less than 1 per cent among all the bovine population. The plan of carrying on eradication in several counties at the same time in those States is practicable and is being conducted in a number of States.

Before undertaking the work in any area, large or small, the cattle owners should be consulted, and unless they are willing to lend their earnest cooperation and know the sacrifice they may have to make, it is inadvisable to start. The better the organization and the more nearly perfect the plans are made, the more efficiently the work should progress.

The larger herds, especially around cities and those supplying milk locally and for shipment to other cities, should be tested before the small lots. If it is known that the herds are but slightly infected, the intradermal method should be employed, as faster progress can be made with it than with the subcutaneous test. If reactors are found in using the intradermal test, the entire herd should be tested subcutaneously within a short time. The ophthalmic test may also be used in conjunction with the subcutaneous in "check" testing herds. General experience shows that it is sound practice, if there is any doubt, to use all three methods of testing with tuberculin. Such a policy is especially applicable to cattle which have been tested frequently, and among herds which are or have been extensively diseased.

Eradication from Swine

With the gradual elimination of tuberculosis from cattle, the disease among swine will grow correspondingly smaller. It is not necessary to tuberculin test all the swine herds because, with the exception of valuable breeding animals, it is more economical to slaughter the diseased ones when fat than to undertake to exterminate the disease in any other way.

In the case of suspected, valuable pure-bred swine, their freedom from tuberculosis can be determined definitely by the intradermal method, which is practicable and reliable.

The injection is near the base of the left ear; the other ear acts as a check for comparison. A reaction is manifested by a swelling in the region where the tuberculin was injected. The swelling may appear any time from the 24th to the 104th hour after injection and will remain for several days. As in the case of cattle, diseased swine should be removed from the farm, and the sheds, farrowing houses and the lots should be thoroughly cleaned and disinfected.

Measures of Prevention

Since, after many years of study and experience, no satisfactory cure for tuberculosis among animals has been found, prevention of the disease is extremely important. State and Federal Governments have made vigorous efforts to stop the spread of the disease by regulating the movements of cattle, and recently, with that object in view, action has been taken in some localities to regulate the movement of cattle from one county to another. Regulation of intercounty movement should be encouraged because it brings the matter nearer home to the live-stock owner. It is he who must take a very important part all through the campaign of tuberculosis eradication, and if he is in favor of measures to prevent the spread of the disease and faithfully abides by those measures, eradication will be accomplished more speedily.

From what has been said already about the dangers of shipping diseased cattle, it is plain that the movement of tuberculous cattle, except for immediate slaughter or to quarantine, must be stopped whenever possible. After diseased animals are found and removed from the premises, a very thorough cleaning and washing of the inside of the barn and other buildings where the animals have been should be made. This must be followed by the proper application of some approved disinfectant. The use of disinfectants without first doing the necessary and proper cleaning is ineffective for the reason that the germs of the disease must be exposed. All utensils or anything else that may have become contaminated by use around the diseased animals should likewise be cleaned and disinfected. The manure and refuse must be hauled from barnyards or lots to plowed fields, spread thin, and exposed to the sunlight. The yards and lots, including feed troughs, water troughs, and fences can then be sprayed properly with the disinfectant.

All this means much work but it must be done to prevent infection from spreading to the healthy animals. Proper sanitary conditions on premises where live stock are keut is of great importance in keeping the animals healthy and able to resist disease. Sanitation, in its broad sense, includes the admission of abundant sunlight and fresh air properly regulated.

Disposal of Reactors

The disposal of reactors depends largely upon the State laws and live-stock regulations of the State in which the herd belongs. If the animals are pure bred and registered and of unusual merit, they should be segregated, preferably on farms set aside by the State or by the pure-bred cattle associations, for the purpose of retaining tuberculous cattle in quarantine. If the condemned animals are grade cattle, or pure breds not specially valuable for breeding, it will probably be more economical to have them slaughtered than to hold them in quarantine. Of course the fact is recognized that in States and communities where tuberculosis exists extensively the slaughtering of all reactors is impracticable. In such instances the infection can be reduced on all the farms by keeping the tuberculous animals separate from the healthy ones. The tuberculous cattle are kept under quarantine restrictions until no longer profitable; meanwhile the healthy animals are safe from the danger of infection.

Retesting

It is rather uncommon for tuberculosis to be eradicated from an infected herd after one tuberculin test. After the removal of reactors the herd should be retested at the expiration of six months, and a second retest may be advisable six months later, but the practice of testing herds more frequently than that is not usually advised. After two or three semiannual tests the herd should not be tested oftener than every 12 months. While the subcutaneous test is considered preferable for gentle cattle, the ophthalmic and intradermal methods of testing may be employed to advantage as adjuncts to it; and it is believed that in some instances herds may be freed of tuberculosis earlier by the judicious use of all three methods. No general outline can be given as to when all three tests should be employed; the matter should be left to the judgment of the veterinarian under whose direction the work is carried on.

TABLE 2.—Status of cooperative tuberculosis-eradication work, including all herds under supervision, April 1, 1919.

State	Accredited.			Once passed.			One or more reactors.		
	Herds.	Cattle.		Herds.	Cattle		Herds.	Cattle.	
		Pure-bred.	Grade.		Pure-bred.	Grade.		Pure-bred.	Grade.
Alamaba				57	501	803	16	207	310
Arkansas	1	31	44	15	293	73	9	153	51
Colorado							4	76	1
Connecticut	6	83	19	16	135	59	18	460	252
Delaware				3	19	30	4	333	38
Dist of Columbia	139	130	311	130	7	475	9		130
Florida				192	125	2,722	54	86	1,540
Georgia	5	185	14	36	358	733	76	926	3,084
Idaho				148	161	736	28	5	146
Illinois	6	180	17	55	991	313	93	2,837	796
Indiana	15	303	79	105	1,745	703	42	789	712
Iowa				43	1,048	273	51	1,959	353
Kansas				72	1,292	486	33	1,147	425
Kentucky	5	199	39	129	1,618	1,188	24	710	248
Louisiana				44	484	927	34	578	1,539
Maine	21	198	140	427	1,524	3,672	74	447	1,028
Maryland	21	150	413	116	556	1,268	107	762	2,345
Massachusetts	10	152	79	26	441	90	17	649	156
Michigan	25	604	45	62	1,598	81	65	2,627	29
Minnesota	131	3,428	708	259	4,069	3,179	224	4,814	2,491
Mississippi	2		29	643	869	4,358	35	592	1,302
Missouri				3	98	12	4	97	87
Montana	11	265	83	112	784	999	45	1,168	1,362
Nebraska				32	622	117	34	973	181
Nevada									
New Hampshire				7	195	41	4	59	16
New Jersey	1	49		8	240	93	13	410	963
New York	1	16		65	1,204	788	57	1,248	610
North Carolina	4	30	87	255	579	2,869	64	353	2,129
North Dakota	68	1,374	357	684	3,842	4,770	132	2,213	1,481
Ohio	19	710	31	262	3,484	1,140	136	2,965	1,223
Oklahoma				7	1	73	4	18	65
Oregon	19	422	60	74	1,173	603	19	222	459
Pennsylvania	2	207		228	1,297	1,798	67	868	778
Rhode Island				3	18	25	11	184	48
South Carolina	7	60	182	86	441	1,808	48	342	1,608
South Dakota				224	321	1,043	72	1,010	1,068
Tennessee	10	259	32	218	1,957	2,201	64	1,334	1,464
Utah	14	507	12	810	408	5,855	95	6	408
Vermont	16	329	191	190	1,060	2,532	181	2,623	4,574
Virginia	196	1,231	3,914	486	976	6,789	278	952	7,955
Washington	7	255	24	56	901	570	24	590	424
West Virginia	3	203		27	167	237	11	139	227
Wisconsin	17	522	29	118	1,956	1,047	88	2,198	694
Wyoming				2	10	79			
Total	782	12,082	6,939	6,535	39,558	57,685	2,468	40,729	44,800

Marking Animals for Identification.

It is very important to mark properly all cattle which react to the tuberculin test, so that they may be easily identified as affected with tuberculosis. One method that is quite generally used is that of branding; a letter "T" about 2 inches high is branded on the lower jaw, or sometimes it is placed on other parts of the body where it can be seen readily. In addition to the branding it is advisable to tag the reacting animals so that one may be identified from another, and in that way the results of the post-mortem examination can be connected up with the reporting of the tuberculin tests. The tag is usually placed in the ear of the animal and contains a seriol number as well as the word "Reactor."

Another method that is sometimes used is the punching of a letter "T" out of the ear, and it has been quite satisfactory.

The marking of cattle that have passed the tuberculin test is a matter that is being handled in different ways throughout the United States, and it is believed that the present methods of marking will be improved. In some cases a metal ear tag is used and in others certain marks of identification are tattooed in the ear. Tattooing has an advantage over the tagging in that it is less expensive and probably more permanent.

It is not often necessary to require special marks on pure-bred registered cattle, as the owner usually has a method of identification, and this method of marking can be used in connection with the tuberculin test as a record; but on grade animals it is desirable to use some system of marking that will show that the cattle have been tested and found apparently free from tuberculosis.

A system of marking swine so that the origin of those found to be tuberculosis on post-mortem examination can be learned would be very desirable, and some experimental work along this line is now being conducted by the bureau in cooperation with owners and packers. The results so far obtained indicate that the tattooing of a number or some mark of identification into the skin of the hog is the most practicable method but of course it entails additional labor and expense which would amount to a great deal if carried on throughout the country. It is hoped a more practicable and economical means of marking swine for identification will be developed in the future, as much good in the campaign for the eradication of tuberculosis in live stock can be accomplished in that way.

Many shipments which contain tuberculous swine are traced back to the farm by a system of reports kept by the Bureau of Animal Industry. By developing the methods of tracing tuberculous cattle and swine from the abattoir back to the farm where they were raised, efforts can be directed in eradicating the disease from these herds.

Appraisement and Indemnity

In addition to the various benefits derived from eradicating tuberculosis, provision for the appraisement of diseased cattle with indemnity for those slaughtered is a further incentive. Federal legislation and supplementary laws in numerous States now divide the burden of loss, so that the Government, the State, and the owner of the cattle all bear a share of it. Briefly, the Federal law provides that the Secretary of Agriculture may reimburse partly owners of animals destroyed on account of tuberculosis in cooperation with States, counties, and municipalities. The bases upon which Federal indemnities are paid are:

1. No payment shall exceed one-third of the difference between the appraised value of such animal and the salvage value.

2. No payment shall exceed the amount paid or to be paid by the State, county, or municipality.

3. In no case shall any payment be more than $25 for any grade animal or more than $50 for any pure-bred animal.

4. No payment shall be made unless the owner has complied with all lawful quarantine regulations.

Legislation regarding indemnities for tuberculous cattle varies somewhat in different States and, for detailed and current information on the subject, the reader is referred to his State live-stock sanitary officials or to the inspector in charge representing the Bureau of Animal Industry in cooperative tuberculosis-eradication work. The names and addresses of these officials may be obtained by addressing the Bureau of Animal Industry, U. S. Department of Agriculture.

N.S. Fruit Growers in Annual Convention

The Fifty-Six Annual Convention of the Fruit Growers' Association of Nova Scotia, held in Kentville, N. S., opened on Tuesday evening, January 20th, V. B. Leonard, Centre Clarence occupying the chair.

The mecting opened with prayer by the President, Mr. H. S. Shaw, invoking God's blessing on all the deliberations of the organization while in Convention.

Mr. Leonard then called for the President's address, which was given as follows:

President's Address

Members of the Nova Scotia Fruit Growers' Association:
Ladies and Gentlemen:—

It gives me very great pleasure to welcome you all to this the Fifty-sixth (56th) Annual Meeting of this Association. Your executive is not surprised to see so many present on this occasion, as these meetings are increasing in interest and importance with each passing year. This association has become the recognised clearing-house for the latest results of the many experiments being conducted at the various experimental fruit stations located in our valley, as well as the annual meeting point for all the more progressive fruit growers who come to compare notes on the year's successes and failures. Your executive has done their utmost to make this season of the Association one of the best in its history, and will shortly invite your most serious attention to the program which has been prepared for this meeting.

The year has been a most unusual one—one in which the fruit grower has been called upon to undergo trials peculiar to his occupation. The month of April began the season with frosts so severe that many feared that the prospective fruit crop had been totally destroyed; but blossom time brought to us again orchards a perfect mass of bloom, and all soon realized that we were face to face with a record crop.

But just when our hopes were highest, a severe outbreak of scab made its appearance in even the best kept orchards, causing the usual damage to fruit and leaf. To add to our troubles the barrel situation early took on a serious aspect, as insufficient preparation had been made for a record crop. Heroic efforts were made by both manufacturers and dealers to supply this deficiency, but in spite of their best attempts, serious loss as well as much inconvenience was caused the grower as we all too well remember.

Then help was both scarce, inexperienced and expensive, cars in sufficient numbers to supply the more distant markets were impossible to obtain, while S.S. freight rates were excessively high. As a final climax to our troubles, there came the severe frost of October 20th when some 300,000 barrels apples were still on the trees. Truly the season of 1919 was one of trial for the fruit grower and will not soon be forgotten.

From this hasty review of the season's operations I must pass to a consideration of the lessons which the year has endeavored to teach us.

In the first place we have been reminded again of the prime necessity of thorough spraying every year no matter how favorable the year may be for the production of clean fruit. The process of spraying is so disagreeable. The rush of work at the proper time for spraying is so great that the most of us are only too ready to grasp any reasonable excuse to avoid it. The previous year's experience had shown that the first spray was not necessary in the production of clean fruit, so that many jumped to the conclusion that it could be safely omitted in most years. Then the power sprayers in the country seemed to have entered into a general conspiracy to break down at the very time when spraying was most needed, with the result that other sprays were also in too many cases omitted. We are safe in saying that many thousands of dollars are annually lost to the country because orchardists do not pay strict attention to the spray calendar which is annually sent them by the department. In order to insure clean fruit every year we must spray thoroughly even when the weather conditions do not seem to demand it. There is good reason for believing that the lesson of the year is being taken to heart by a large number of our growers.

Then again the season emphased the great value of orchard property. During the war, owing to the urgent demand for food from the starving millions of Europe, fruit growers turned their attention more largely than they had ever been doing, to the production of food stuffs. The splendid prices which rewarded these efforts, as well as the small crop of fruit which wartime brought us, led very many of our growers to depreciate their orchard holdings and ultimately to neglect them; but the phenominally high prices which many growers last year received, after the apple embargo had been lifted, together with the record crop of this year, has called attention anew to the great value of our orchards. Dr. Cumming has truly said that the orchards are the chief asset of the valley.

In regard to location we have all that can be desired; then we have the orchards which with only ordinary care produce large crops; there is also an increasing demand for fruit. Furthermore, we have a short rail haul to the seaboard, which, when reasonable freight rates are again established, can land our fruit in the best markets of the world at a good profit to the grower. Then again our strongest competitor Ontario, has in the words of Prof. Crow, during the last four years, dropped back in orcharding twenty years. Quebec lost two years ago, as a result of the severe winter, almost half of her fruit trees, while British Columbia has a handicap of 3000 miles of a rail haul to contend with in reaching the markets of Great Britain.

It would seem then that the Nova Scotia orchardist has every reason to place a very high value on his orchard holdings.

The season has also witnessed a wonderful increase of interest in the co-operative movement. This has been noticed not so much in the number of new societies organized as in the increase of membership in societies already in existence. Owing very largely to the heavy losses which growers sustained last year through selling out early to spectators, together with the many disadvantages which the independent shipper experiences in these days to market his fruit there has been an unprecedented rush towards the co-operative societies. It has become more apaprent each year that the day of the successful independent shipper is over, for the large buyers who come to us since the organization of the Fruit Companies and who as a rule are our best class of customers, will only go where he can get quantity as well as quality. Then again the transportation companies will pay little attention to the small shipper. Government assistance is only obtained in response to the demands of the well organized. In fact the independent shipper meets nowadays with so little encouragement in his effort to market his own fruit that he sooner or later acknowledges this fact and joins the nearest co-operative association.

It is a very happy augury of the times that there is a much more amicable relationship existing between co-operators and speculators. There should be the best of feeling existing between the two classes, for the speculator represents an organization which has accomplished much for fruit growing in the days that have gone. Not all the hard things which have been said about the dealer are true; when he has acquired wealth it has generally been the reward of industry business sagacity and a willingness to assume risk which the ordinary man will not and dare not assume. It is no secret I suppose that there exists today in this valley a strong affiliation between speculator and co-operator which has already secured for our growers important privileges which they could not have obtained in any other way.

But I must now pass to a brief consideration of some of the more important problems which now more than at any other time in our history confront the fruit grower. In addition to our home and foreign markets as an outlet for apple production, there have sprung up among us of late quite a number of evaporating and canning factories, which number is bound to increase as the years go by. Now these factories are already relieving to a great degree far more than we have begun to realize the pressure on other apple markets. One canning factory at Kingston has alone absorbed this year over 100,000 barrels and this is but one of the several factories scattered all along our line of railway, all planning to do a bigger business next year. Now other canning factories are planning to establish themselves at other large apple centres. When all these factories are at work at full capacity you will readily see that they will require a large amount of fruit to keep them in operation. This means then in the future a very ready market for a considerable proportion of our fruit. Now it is the opinion of those best qualified to know that these factories will in time absorb all the lower grades of apples which we have hitherto been crowding on the English market to the detriment of our better fruit, a practice which this year they are showing their disapproval of by sending us returns which represent a net loss. The evaporators will do a good thing for fruit growers, or, what is truer, fruit growers will do a good thing for themselves if they allow the evaporators to market this class of fruit for them. It will during some years require a considerable amount of courage and perhaps entail occasionally a serious loss, but will taking one year with another result in a net gain to the apple trade.

Then as fruit growers we are up against the most serious problem of increasing cost of production. One item of course which today is reducing our profits almost to the vanishing point is the excessive freight rates which the shippers' merger is imposing upon us. The S.S. owners must be made to see that unless rates are materially lowered apple consignments to Great Britain will cease, for we cannot go to the heavy expense of growing and packing fruit to have all out profit absorbed by the S.S. companies. I hope that some action will be taken by this meeting which will serve to show the S.S. companies that a drastic reduction in freight rates is a matter of life or death to the apple trade.

But there is another item in the cost of production which I wish to call attention to and that is the matter of wages. Each year since the war began has seen a rise in wages. Now, of course, wages are governed very largely by the cost of living. When the cost of living is high, then wages must be high, and vice versa. But the general tendency of labor today is to demand excessive wages. This tendency the fruit grower, if he expects to continue in business, must resist with all the force at his command. I take it that no fruit man would for a moment be a party to paying less than a living wage to his employe, but as a business man he must realize that he cannot afford to pay wages above a certain point. To do so is to court immediate failure.

As the cost of living is bound to remain high for some time to come, we will be obliged for a time at least to pay higher wages than pre-war times; but we can greatly help the situation by engaging our help at the proper time and not waiting till the last moment, and then, in order to insure sufficient help, offering wages above the normal, thus unsettling those who have already made contracts with their employers. As growers we should stand or fall together, so that it is to our own interest to work together in the matter of wages as in every other matter.

But no persidental address will be complete without a passing reference at least to the farmers movement which is making such rapid progress across Canada. If this movement is to acquire the momentum which some prophesy it will, and ultimately sweep the farmers into control of federal affairs, then it stands us in hand to be fully awake to what is going on about us and see to it that we are fully represented by our own fruit men when that day comes. Of course this raises the question of politics, and this being a government aided organization, the matter cannot very well be discussed from this platform, and your president does not wish to introduce it only to call attention to it as one of the great world economic movements in which we are vitally interested.

In conclusion, ladies and gentlemen I thank you for the honor you have done me in choosing me to be your president for the past year, and would ask you to co-operate with me in giving an earnest consideration to all the important subjects which shall be presented to you by the various speakers who have been brought together for your benefit on this occasion.

After the acceptance of the address by the meeting, the President took the chair, which he occupied for the remainder of the evening.

Mayor James H. Yould of Kentville was then called, on and extended the most cordial welcome of the citiz ns of the town of Kentville, to the visiting delegation.

One subject that Mayor Yould hoped would be discussed during the Convention, was the subject of good roads, it being one that all organized bodies should be interested in. He told of work along this line having been started in Kentville, $50,000 already having been expended in the improving of their roads, certainly a progressive movement, and told of other improvements inaugurated in their town, showing that Kentville is forging ahead.

Mayor Yould closed his remarks with the sincere wish that the deliberations of the convention be productive of much good.

Mr. R .S. Eaton, replied briefly to the address of welcome, thanking the Mayor for his cordial welcome to the Fruit Growers' of Nova Scotia, speaking also of the growth and progress of Kentville, the coming of the Co-operative Selling Association to their town, being a sure indication that it is now regarded an active centre.

The Hon. J. Everett Kinsman, Centreville, N. S., then addressed the meeting, first congratulating the president on the very satisfactory and complete address presented.

Mr. Kinsman glanced back fifty-six years to the first meeting of the fathers of this Association, who gave it such a start, and to the growth of the Association during those years, which has made possible the splendid

markets for our fruit, seeing to the quality and shipping and securing for us our Specialists, which are second to none, which have been able to benefit the farmers in so many ways.

But in spite of progress made, he urged further effort. Production should be increased 100% both in apples and strawberries.

By orchard improvement the 3,000,000 barrel mark should be reached. Increased production will bring increased market. He felt the trade now given to British Columbia must be secured, and suggested that the building of warehouses and specializing on the putting up of fancy boxes of apples would be a means to this end. Packing only No. 1's and letting the canners take care of the seconds and thirds. The home market should be secured and held.

The Hon. H. H. Wickwire, Kentville, then addressed the meeting.

Mr. Wickwire said he had followed with pride the growth of the Fruit Growers' Association during the last 33 years, and that though great progress had been made, in this time of reconstruction and unrest it was never more necessary for everyone to give attention to the interests of our common country. It was a time of opportunity for the Annapolis Valley, and individual effort must be made.

In order to re-construct we must produce and pay our debt. Individual effort, unity of purpose, and co-operation of all the thoughtful men of this country was needed for this greater production.

Mr. Wickwire made a strong plea for Education as the foundation for all progress. See that the young men of our country are educated, so that they may compete with those of other countries. Do not make it of first importance to get them at work in the fields; educate them first that they may bring intelligent interest to their work. In any line of work a better job at less cost can be done by the man who is educated.

Mr. Wickwire then spoke of the improvement of roads in Nova Scotia, and told of the way in which this work was being carried on, and how financed, urging that the example of Annapolis Co. be followed, in increasing the road tax from 40 to 60 cents per $100.00.

He said it was certainly to the interest of all to work for good roads, none should be indifferent, it is in the interest of better transportation, and at a gathering of an intelligent body such as this, the matter should be discussed.

Mr. Wickwire in closing his remarks, hoped that the Fruit Growers might have a profitable session, and paid a tribute to the speaker following him that evening, for the large part played by him in all progressive measures.

Mr. Geo. E. Graham, General Manager of the D. A. R., to whom Hon. Mr. Wickwire referred, was the next speaker.

Mr. Graham told of the work being done along the lines of Colonization and Industrial Development, and claimed that an intelligent class of settlers are needed in the Annapolis Valley. To look after this immigration problem the D. A. R. had recently appointed a representative, namely, Mr. D. J. Murphy, whose work consists of locating vacent farms and finding out all information necessary and transferring that information to England, where hundreds of applications for such were being received.

Mr. Graham then spoke of the great need of increased production and the improvement necessary in the Boxing of Apples if Nova Scotia is to get and hold the trade that she should have. Eventually any branch of trade has to study what the consumer desires, only in this way can success be met.

The product must be improved. British Columbia was getting ahead in this, she was developing a wonderful trade right under the nose of the Nova Scotia Fruit Grower.

As a result of the War there is an abnormal taste for luxury in the general mode of living. There is now an eager demand for the best fruits at good prices.

During 1919 Halifax received 15,000 boxes of apples from British Columbia. Washington and California and other cities, such as Montreal, Toronto and Ottawa in like proportion. This should not be, there is no reason why Nova Scotia Fruit should not compare favorably with British Columbia fruit. The apples should be properly graded as to color and size, and boxed attractively, in order to get the trade and to hold it.

The cost of transporting British Columbit apples is 42½ per hundred pounds against your 20 cents per hundred. Nova Scotia should surely have the preference.

Nova Scotia in 1919 transported about 2,000,000 barrels of apples, 43% overseas, 46% West, 11% American points.

The increased use of fruit juices in Nova Scotia since prohibition was over 100%.

After the conclusion of Mr. Graham's address, Mr. Murphy was introduced to the audience, and spoke briefly of the work connected with his department.

This was followed by some excellent moving pictures, showing the beauties of the Annapolic Valley, the proper methods of Apple packing and Bee Culture. After which the meeting adjourned.

Wednesday Morning

Meeting opened, President in chair.

The first business was the appointing of the Resolution Committee, which was as follows: Mr. M. K. Ells, Port Williams, Chairman; Mr. F. H. Johnson, Bridgetown, and Captain Rawding, Waterville.

Election of officers was next in order, which resulted as follows:

President—Mr. V. B. Leonard, Centre Clarence.

Vice-President—Mr. M. K. Ells, Port Williams.

County Vice-President:
Arthur Harris, Annapolis.
J. Howe Cox, Cambridge.
William O'Brien, Windsor Forks.
John Macaloney, Halifax.
J. W. Hebb, Bridgewater.
Goudy Nichols, Digby.
W. H. Corning, Cheggogin.
C. S. McGill, Shelburne..
Prof. Shaw, Truro.
Cameron Bryan, Durham.
Sanford Purdy, West Chester.
F. R. Trotter, M.P.P., Antigonish.
J. A. MacMasters, Boylston.
Mrs. Alexander Anderson, Baddeck Falls.
Dr. A. S. Kendall, M.P., Sydney.
Father MacPherson, Glondale
Donald Urquhart, West Bay.

These Vice-President having been appointed last year, were returned as enbloc.

Secretary—Mr. Frank Foster, Kingston.

The resignation of the former treasurer, Mr. Geo. Munroe, was then read and it was moved and seconded that a resolution be drawn re the appreciation of the Association of the services of Mr. Munroe, who for so many years had held this position with credit.

Prof. Blair, Kentville, was then appointed Treasurer for the ensuing year.

Representatives appointed to the Nova Scotia Farmers' Association: Mr. Ray Clark, Mr. V. B. Leonard.

The Auditor's report was then read, vouching for all accounts and the auditors, Mr. J. E. Smith and Mr. Ernest Johnson, re-elected.

The report of the Transportation Committee was then given by Mr. Ells. felt that the organization should have a representative on the Shippers Association to facilitate better and cheaper transportation. It was pointed out the United Fruit Companies have a representative at the same.

After a little discussion of the question it was moved and carried that Mr. Frank Foster represent the Fruit Growers at that Association.

The Financial Statement for the year just past was read by the Secretary as follows:

Financial Stateent

Nova Scotia Fruit Growers' Association
In account with G. W. MUNRO, Treasurer

CREDITS

1918, Dec. 31—		
Balance on hand		$ 456.09
Glace Bay coupons		80.00
Glace Bay Bond, matured and paid		2,000.00
Received from Departmest of Agriculture		300.00
N. S. Government Grant		300.00
Annual Subscriptions		138.50

DEBITS

Printing and stationery	$ 32.35	
Expenses Annual Meeting	53.57	
Expenses and Services Annual Meeting	169.17	
Annual Report	315.75	
Executive Expenses	7.10	
Railway Commission Moncton Expenses	19.65	
Subscriptions Canadian Horticulturist	8.40	
Subscriptions Maritime Farmer	105.00	
Expenses Secretary	45.47	
Salary Secretary	100.00	
Invested in Town of Dartmouth Bonds, $2,000	1,945.86	
Postage, War Stamps and Exchange	3.85	
1919, Dec. 31—		
Balance on hand	468.42	
	$3,274.59	$3,274.59

Balance on hand Dec. 31st, 1919 $468.42

Moved and seconded that this be adopted.

The Secretary then reported the reinvesting of $2000 Glace Bay Bonds in Town of Dartmouth Securities buying at 97.30.

Acting on the suggestion of Mr. Ray Clark that the Secretary's salary be increased $50, a motion to that effect was carried unanimously.

The death of Mr. Peter Innis, Coldbrook, an old and valued member, was referred to, having taken place since last they met.

The matter of raising the Association Fee was touched on but no action taken.

A Resolution was then read from the Ottawa Garden and Florist Club.

Resolved that it is in the interests of florists and other similar commercial industries throughout the Dominion of Canada connected with horticulture, nursery stock, vegetable and fruit growing, that more greenhouse space be provided at the Central Experimental Farm, Ottawa, for the purpose of experimenting with commercial florists, plants such as carnations roses, chrysanthemums, etc., for experiments with vegetables, and for the breeding of hardy and better fruits, and that the Department of Agriculture be requested to provide these additional greenhouses as soon as possible.

The adoption of this resolution was moved and carried.

Letter read from C. W. Barter, Fruit Commissioner, Ottawa, asking that two representatives be sent from the Association to the Potato and Onion Growers' Convention at Ottawa, February next.

All present seemed to think it a good move, and it was moved and carried that Mr. Harry Palmeter, Long Island, asd Mr. Frank Foster, Kingston, be the delegates at that Convention, and a suggestion was made that the representatives while there should discuss the standard potato barrel.

Prof. Blair then gave a very interesting address on Orchard Management.

Prof. Blair showed how moderate amounts of fertilizer usually gave better results than excessive fertilization and spoke on the two methods used in orchard management, cultivation and sod mulch.

He gave facts and figures of different experiments tried on the Experimental Farm in Kentville. He urged them not to plow too close or too deeply to young trees, and to beware of excessive pruning of the same, which was so apt to be injurious, and to never thin out the young trees just for the sake of appearance, give more attention to the old trees in this line.

Prof. Blair considered 100 lbs. nitrate soda per acre the minimum that should be used in the orchards, and the minimum of slag, 500 lbs.

At the close of Prof. Blair's instructive address, a most interesting paper on "Bees, their Value to the Orchard", was given by F. W. L. Sladen, Dominion Apiarist, Ottawa.

This paper will be printed in full in a further issue.

After this address the meeting adjourned.

Wednesday Afternoon

President in chair .

The first business was the appointing of an Assistant Secretary, which had been left over from the morning business. This choice had been left to Mr. Frank Foster, who chose as his assistant W. L. Harris, Annapolis Royal.

On omtion it was moved and carried.

Cargo Inspector H. D. Johnson of Halifax, then addressed the meeting, telling of many improvements necessary in the packing, brought to his notice as cargo inspector.

The putting of one new prime hoop on each barrel, the redriving of bilge hoops, being careful that the nails were not driven too far in, seeing that the head was properly nailed, the lack of which often causes serious loss, were all valuable suggestions given by Mr. Johnson.

Mr. Johnson had been 7 years in Halifax in his present position, and after seeing the serious damage done by the way in which the apples were handled from dock to ships hold, had at last studied the matter out, and invented an automatic working platform, which carries 6 barrels on their sides to head of gangway, unloading itself when in passing the end of platform at ship's rail, it reaches a descending platform. The barrels rolling off and passing into a series of cages to the required part in the ship hold.

Three cages are built of iron, about square in shape, having steel springs sufficiently stiff to prevent barrel rolling in its descent. These cages are spaced six inches apart to enable the placing of curves in the route by means of ropes at sides to pull to and fro the line of cages.

Making a road in the form of an S and to further regulate or control speed, a hook fastened to the top of each cage can be hooked over the cage above, making a road with shorter curves, this will not likely be necessary, but is there to use if called for. At the bottom a spring padded platform absorbs all shock and rolls barrel out of the way of one following.

This is called an Equalizer and is necessary because of the lack of uniformity in the size of barrels.

Inspector Vroom supported what Mr. Johnson had said; he had seen the working of the apparatus and thought if worked out, it should revolutionize the handling of barrels of apples.

He said Mr. Johnson had not had the support of the steamship people he should have had, and suggested a Committee be appointed to inspect this appliance.

Mr. Vroom said it had been brought to the notice of Mr. Moore, Chief of Market Division, who was very favorably impressed, and promised to see about its use in Montreal.

Mr. Johnson has applied for patient both in Canada and the United States.

Col. McCain spoke favorably in regard to the device which he had seen work, and spoke of the deplorable way the barrels were handled by the workers, no attempt being made to look after a bilge hoop needing attention.

(Continued on page 298)

N. S. Dairymen in Annual Session

The Seventh Annual Convention and Creamery Butter Exhibition of the Nova Scotia Dairymen's Association was held in the N. S. A. C., Truro N. S., on January 22nd and 23rd.

Mr. Harold Falconer, the president of the Association, presided at the session and conducted affairs in a prompt and businesslike manner.

The President's Address

Gentlemen:

It is with much pleasure I welcome you at this opening session of our Seventh Annual Convention, and trust that each and everyone of you will spend a pleasant and profitable time for the next two days. We all take special pleasure in welcoming our old friend, Mr. G. H. Barr.

In arranging or programme we found that we would require considerable more time than we had in former years, as Mr. Barr has a new meature for the convention this year in the samples which he has sent here from th Dominion Educational Butter Scoring Contest. This feature, as you will see by the programme, will be taken up at this afternoon's session.

In reviewing the Dairy Industry in Canada for the past year, the first in the reconstruction period after the great war which has devasted the world to such a great extent, some of the outstanding features are the high markets, the Orangization of the National Dairy Council and the conducting of the Dominion Educational Butter Scoring oCntest. As we all know, the markets for the year just closed have been the highest in the history of the world, so that notwithstanding the high cost of production the returns have been very favorable. In the organization of the National Dairy Council the Dairy Industry has taken a very great step in advance. I might j ust mention one or two things which alone would justify the organization of the National Dairy Council: First is the market reports and news letters sent out by the Dairy Department at Ottawa each week this past summer, and which one Creamery manager told me had saved his Company enough money on one week's butter to enable him to pay the cost of his Company's tax for the upkeep to the National Dairy Council many times over. But there is one outstanding feature which is the outcome of the National Dairy Council, this is the Dominion Educational Butter Scoring Contest where each province in our fair Dominion is putting butter each month during the summer in competition with all the other provinces in the Dominion and a detailed report of the result is sent to each Creamery competing and I understand is available for any who apply for the same.

In reference to some of the problems which will come before us for discusion is, the Financing of the Association, The Maritime Dairy School, The Development of Cow Testing, The Future of the Asosciation as regards place of holding convention and Insurance. These subjects will all be brought up under their proper place during the convention.

In closing I would like to impress on you the importance of getting into all the meetings on time, and if we are to receive all the benefit we should, each and every delegate and member, take part in the discussions.

I thank you for the honor you have conferred on me in making me Prsident, and for your indulgence in listening to these remarks.

I will now call in Mr. W. A. MacKay for his report as Dairy Superintendent.

Mr. W. A. McKay read his eighth annual report as Dairy Superintendent for Nova Scotia. The report shows the splendid progress that is being made along dairying lines. It is so replete with interesting facts that it will be published in full in the next number of the Maritime Farmer.

FINANCIAL STATEMENT 1919

RECEIPTS:

Jan. 1st		
Balance on hand		64.75
Canadian Salt Co. Ltd.	Donations	50.00
R. B. Colwell	"	50.00
Smith & Proctor	"	138.00
Memership Fees		26.00
Dept. of Agriculture	Money in prizes	70.00
Cold Storage Charges		19.19
Sales Exhibition Butter		640.72
A. M. Wheaton	Comm. on insurance	95.06
La Societe d'Industrie		
Laitiere Ltd	National Dairy Council	2.32
Intercolonial Creamery Co. Ltd	" " "	8.10
Cumberland Co-Operative Creamery Co. Ltd	" " "	8.91
Clare Creamery Co. Ltd	" " "	1.72
Brookfield Creamery Co	" " "	22.41
T. D. Blaikie	" " "	11.25
Acadia Dairy Ltd	" " "	13.65
Pictou Co. Dairy Co. Ltd	" " "	14.19
Scotsburn Creamery Co. tLd	" " "	49.14
Baddeck Creamery	" " "	4.78
Margaree Creamery	" " "	3.78
Illsley Brothers	" " "	2.70
LaHave Creamery Co. Ltd	" " "	29.04
Milburn Creamery Co. Ltd	" " "	3.78
Bayview Creamery Co. Ltd	" " "	13.77
Model Creamery	" " "	11.34
South River Creamery Co. Ltd	" " "	5.67
Antigonish Dairy Co. Ltd	" " "	10.26
Yarmouth Creamery Ltd	" " "	26.07
		$1496.60

EXPENDITURES

J. J. Snook	Two club bags	78.00
North Atlantic Fisheries	Storage charges	19.19
Cash Prizes		328.87
Dominion Regalia Co.	Badges	21.00
Maritime Farmer	Printing	4.90
National Dairy Council		200.45
Prizes in Dairy Essay Competition		20.35
Expenses Directors' Meeting		3.75
News Pub. Co. Ltd.	Printing	75.25
Exchange		2.80
Cab charges		1.00
Express charges		1.25
Postage		3.40
Butter in competition		631.52
Balance cash on hand		104.87
		$1496.60

Audited and found correct.

(Sgd.) CHARLES R. B. BRYAN.

Jan. 15, 1920.

We will also publish the report of Dairy Inspector Mr. R. S| McLennan in the same number. Mr. McLennon severs his connection with the Department of Agriculture in the near future, much to the regret of his fellow dairymen, in order to devote his full time to a creamery business which he is establishing in Truro.

Maritime Dairy School

Mr. J. D. McKenzie, chairman of the committee appointed last year to promote the establishment of a Maritime Dairy School at Truro, reported progress. Th old committee was reappointed to continue the work.

Herd Improvement

Mr. H.R. Brown delivered a thoughtful and forceful address on the subject of Heird Improvement. He outlined the work that is being accomplished along Cow Testing lines in Nova Scotia. This work is the basis of increased average production in the herds. Dealing with the breeding phase of the subject Mr. Brown said a lot of depreciative remarks were beinb made about the scrub bull, but his pure bred brother of low production ancestry was not above reproach. Pressure should be brought to bear on breeders of pure bred stock to force them into the system of keeping records by educating the Agricultural Societies and general public to insist when purchasing bulls that they be shown the record of production of the dams. When Societies and private individuals insist on the purchase of only R. O. P. stock the breeders must fall in line or go out of business. The third factor in herd improvement was the feeding problem and creamery men as they converse with their patrons may do a lot of good by conducting a better feeding propaganda. "Every patron a keeper of records," should be the slogan of every creamery man in the province. In closing Mr. Brown thanked the creamery men for their past co-operation and especially thanked Dairy Supt. McKay and the Agricultural Representatives who had very materially assisted him in his work during the past year.

Mr. Geo. Barr, of the Dairy Division Ottawa, expressed his appreciation of Mr. Brown and his work, referring to him as one of the livest wires of the department and one whose work and ideas are frequently held up as incentives to other members of the staff. Every farmer should know just what every cow in his herd is producing and then weed and feed accordingly. Every effort should be put forth to swat the scrub bull whether of the mongrel or pure bred type. Mr. Barr strongly urged the creamey men to do their utmost to get each one of their patrons to keep records. He also led a discussion on the advisability of confining cow testing to one day per month weighings and testing instead of three times per month as at present.

Th Educational Butter Scoring Contest

The work of this commendable featur as carried on by the Dominion Dairy Division last season, as referred in these columns several issues ago, was outlined by Mr. Barr, who had samples of western and Maritime Province butter for examination by the Association. Mr. Barr's summary of this work will appear in a future issue of the Maritime Farmer.

At the Thursday evening session a series of educational motion picture films depicting dairy scenes were shown. Dr. Cumming explained that during the coming season pictures of local scenes would be made and shown in various sections of the province. Dr. Cumming also addressed the audience on the subject of "Rural Problems." Dr. Cumming has devoted a lot of thought to this subject and as a close student of human nature marshalls facts and figures that are especially convincing.

At the conclusion of Dr. Cumming's address Mr. Barr was asked to present the prizes awarded at the Butter exhibition. The addresses were interspersed with a number of vocal selections by Miss Phillips ,of Truro, and Mr. Geordie Cameron, of Scotsburn.

A butter scoring competition was the main feature of the Friday morning session. In this competition the majority of the creamery men present took part. A list of the awards will be published in our netx issue.

Following the competition Mr. Harvey Mitchell led a discussion on the Butter Exhibit. Mr. Mitchell hit straight from the shoulder, without fear or favor and the various defects which were attributable to careless workmanship and disregard of well recognized modern principles were clearly set forth.

Mr. Barr followed in a similar strain during which there was a free and easy discussion of the various butter samples, some of which were good, bad and indifferent. The 96 exhibits graded 5 specials, 28 No. 1's, 33 No. 2's and 30 off grade.

Mr. Barr said three factors must be considered in the butter trade. The manufacturers, the dealers and the consumers. He advised the manufacturers and dealers to get together to produce and put on the market the uniformly good grades that the consumers demand. Referring to the comparatively small percentage of specials at the exhibition he said there was absolutely no reason why all the samples were not in the special class, if due attention had been paid to the essential details of care of cream and manufacturing principles. Pasteurization, he said was the keynote of sucessful butter making. Safety first and safety all the time by proper pasteurization should be the dairymen's slogan instead of pasteurization for special orders only.

Officers for Ensuing Year

The election of officers resulted as follows:

Directors—J. D. McKenzie, Rev. M. M. Tompkins, Ronald Rutherford, R. T. Stewart and R. B. McLennan.

At a subsequent meeting of the Directors Mr. J. D. McKenzie, manager of the Bridgewater Creamery, was elected president and R. B. McLennan, of the Truro Creamery, vice-president.

W. A. McKay, Dairy Supt., was re-elected Sec'y-Treasurer.

Auditor— C. R. B. Bryan.

Delegates to the National Dairy Council: Harold Falconer, Stellarton and Capt. Hugh Dickson, Truro.

It was unanimously decided that the next meeting of the Association be held in Bridgewater and that henceforth from year to year in differ-

(Continued on page 319)

THE MARITIME FARMER

And Co-operative Dairyman
Registered Trade Mark
Fortnightly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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DATES OF ISSUE.

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July	6—20
August	3—17—31
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FEBRUARY 3, 1920

A NARROW NATIONAL POLICY

At the recent meeting of the council of Agriculture and the United Farmers, held in Manitoba, it was decreed that the Dominion Government be asked to continue sales of wheat, until such time as the markets of the world are normal.

This we take it, is part of the **New National Policy**, this particular feature of which has been devised largely for the benefit of the Grain Growers of Alberta, Saskatchewan and Manitoba.

The Maritime Farmer does not propose to criticise the demand, except to absolutely condemn the restriction which surrounds it.

A guarantee of the price of wheat was a war measure and as such was accepted loyally by the farmers of the Maritime Provinces.

Then when the United States in 1919 decided to guarantee $2.26 per bushel for wheat, Canada was, through the demands of the Grain Growers, forced to adopt a very similar policy.

Again, the farmers of Nova Scotia, New Brunswick and Prince Edward Island fell into line and "paid the piper."

The war is over now and if prices are to be guaranteed for farm products, then in the opinion of the Maritime Farmer, the generosity of the people of Canada should be taxed as well for those farmers who do not grow wheat, as for those who do.

If we are to have an inflated price for wheat —then let us have the same measure of protection extended to the dairy and other products of the Maritime Provinces.

If this thing is to be perpetuated, in the name of all that is fair and reasonable, insist that the Dominion Government fix a minimum price for our milk, butter, cheese, potatoes, apples, etc., which farmers must produce in the Maritime Provinces.

The **New National Policy**, of which so much has been said, invites Maritime Province farmers to continue to pay fifteen to twenty dollars a barrel for flour, from fifty to seventy dollars per ton for feed, any old price for oats, and at a time when investigations are being conducted with a view to lowering the price of milk, the production of which depends on a supply of mill feeds at open market prices.

Recently the farmers of Eastern Canada have been compelled to pay increases for flour and feeds, because the Grain Growers, having agreed to accept a fixed price for their wheat, demanded a new arrangement the minute the terms of the original agreement ceased to favor their pockets.

Has anybody a guarantee that the same loose methods will not be followed in 1920, provided the Dominion Government is foolish enough to adopt the suggestions of the Grain Growers, or as they are now styled, The United Farmers of Alberta. Saskatchewan and Manitoba.

With these organizations we have no quarrel. But when they solemnly ask that the one commodity they specialize in be given special preference, while the farmers of Eastern Canada are to be taxed to the hilt to pay the bill, the Maritime Farmer protests to the utmost against such a rank injustice, unless the same consideration be given our own farming industries.

Before this outrage is permitted, Maritime Province farmers should insist upon a hearing at Ottawa. The various farm organizations should send delegates to Ottawa to call for a fair deal all round.

Boost wheat prices if you will, but protect the farmers of the East is the motto of the Maritime Farmer.

The Maritime Farmer has bought hundreds of thousands of dollars worth of feeds for farm organizations in the Maritime Provinces, during the past few years, and it knows only too well how the pockets of the farmers of the East will be taxed if this feature of "The New National Policy" is brought into effect.

The Maritime Farmer is intended to serve the interests of **ALL The Farmers of the Maritime Provinces.** It knows no class and takes its orders from no political organization.

When the Grain Growers' Guide sought to buy the Maritime Farmer (and we might have sold for a big figure), we declined to sell, preferring to maintain our independence in order that we may best serve the farmers of Eastern Canada and maintain a Maritime Province viewpoint.

We have no interest in the price of wheat except to offer the strongest possible opposition to any proposal which will cost the Maritime Provinces hundreds of thousands of dollars in 1920-21, provided this policy as suggested at Winnipeg be adopted.

When we decided that a farm paper in the Maritime Provinces, (absolutely independent of western control) might be a good thing for the Maritime Province farmer to have, we little thought that the need would be so quickly and effectually established.

If we must have artificial prices for wheat let us have artificial remuneration for milk, butter, cheese, eggs, potatoes, apples, and the other produce of the farms of Nova Scotia, New Brunswick and Prince Edward Island. If we are to be specially taxed for the benefit of the West, then the West must be taxed on our produce.

Maritime Province farmers would do well to look after their own interests. We understand them better than they do in Winnipeg, and are therefor in a better position to present our side of the argument. Let us do that. The farm associations of the three provinces should wake up.

We invite an expression of opinion on this subject, one which means so much to this part of Canada.

It was said that New Brunswick was represented at the Manitoba conference, which decided on this injustice to non-wheat growing provinces. The representation would seem to have been of a very doubtful character. New Brunswick may well pray to be preserved from such advocates of her interests.

If you agree with this article, drop us a line. If you don't, write us in any case and give your reasons for desiring to heavily tax Eastern farmers for the benefit of a class, the members of which have more crop failures than any other branch of agriculture in Canada.

Possibly it may be that we are to be asked to pay for the Western Crop disaster of 1919.

Well, the Maritime Farmer is against that, as strongly as the English language will enable this paper to express its opposition.

Just think a little more of the Maritime Provinces. The West should take care of itself.

So far as organization of the farmers is concerned, the Maritime Farmer has done its bit to bring that about. We believe, however, that organization should be achieved along sane lines, and in our own interests. We have as much brains here as in the West. Then let us use them in our own defence against such wild schemes as that with which this article deals.

GREATER PRODUCTION CANADA'S NEED

"While we and the rest of the world are failing to produce on a sufficient scale to provide for human comfort and to pay our debts, the price of everything has so increased, that although all clearing-house and trade returns show higher figures in money, these generally represent transactions based on smaller quantities of merchandise, and because we think in terms of dollars and not of merchandise, we are living in a fool's paradise."

These striking words are from a thoughtful and comprehensive address which Sir Edmund Walker, president of the Canadian Bank of Commerce, delivered on Tuesday, 13th inst., at the annual meeting of the shareholders. Sir Edmund is not a pessimist. On the contrary, he is an optimist, and in respect to the potential possibilities of the Dominion no one is more confident in his faith.

But he is an expert diagnostician in respect to financial, industrial and economic subjects, having for it by a practical banking experience extending over a period of more than half a century. And as such he is able to discern the weak as well as the strong points obtaining in the industrial, social and economic life of the country to-day.

Like other close students of the situation, Sir Edmund realizes that while on the one hand the financial requirements of the Dominion are greater than at any time in its history, we are not, on the other hand, producing at even normal capacity. True, the factories of the country are busy, but it is somewhat rare to find a plant running to full capacity owing to the shortage of labor and the indisposition of a proportion of work-people to bend their energies to securing the maximum of production. The writer was informed only a few weeks ago by one of the best authorities on the subject that quantity production in Canada was on much about the same scale as five years ago, when the capacity of the plants of the country was much smaller than it is to-day.

Unless there is a continuation in the development of the industrial resources of the country of that same spirit of superb co-operation which was manifested in winning the war, Sir Edmund points out that "we may lose all that victory seemed to secure by indulgence in countless theories, many of them aiming at the disintegration of

society, instead of again co-operating in one ideal—the restoration of order and the improvement of social conditions, so that the happiness of the greatest number may be secured. The rising curve of prices cannot be made to turn downward without an increase in production nor can we face the heavy obligations left by the war except by greatly increasing production."

Further on he gives us a glimpse of what some of these obligations are. The public debt, for instance, will be $1,950,000,000 when the current fiscal year ends in March next compared with $336,000,000 six years ago, while the sum total of the interest charges on the aggregate foreign debt of the country now amounts to about $190,000,000 annually, of which $125,000,000 is payable in Great Britain, and Europe, and $65,000,000 in the United States.

Besides urging the necessity for increased production, Sir Edmund pleads for a curtailment in imports, and particularly in merchandise designated luxuries, in order that both a favorable trade balance in the external trades of the country may be maintained and that the interest charges on money borrowed abroad may be liquidated without our having to resort to the harmful expedient of shipping gold, a contingency that would seriously impair Canada's credit. Provided Canadians bend their energies in the right direction, Sir Edmund Walker is quite confident that the country will be able to win out in spite of its heavy obligations.

Sir John Aird, the general manager of the bank, also gave a careful and lucid resume of the situation during the course of his address before the shareholders. His reference to the situation in respect to foreign exchange was particularly interesting and illuminating. As to the cause of the abnormal rates obtaining he said: "It has perhaps become fairly generally known among these who take an interest in the matter that our imports from the United States greatly exceed our exports to that country, and that in the case of Great Britain, the reverse is true, our exports greatly exceeding our imports. Therefore, in the case of our trade with the United States, there is a scarcity of bills receivable which we can set off against our bills payable to that country: while in the case of our trade with Great Britain the reverse is true; and the bills receivable exceed the bills payable to such an extent that she has been forced to obtain credit from us for many of her purchases of foodstuffs produced in Canada." Sir John points out that a still further factor is the credits granted France, Belgium, Greece and Roumania, and to some extent Great Britain, for manufactured goods, the raw materials for which are largely imported from the United States, and have to be paid for in each. Still another factor is interest payments on our foreign debt. "The rehabilitation of our dollar," he declared, "can only be accomplished by saving, economy and greater production."

Sir John again referred to the gold mining industry, and urged that in order to increase production the Government should take steps to encourage the exploration and development of the gold-bearing areas of the country.

Dealing with his own bank he showed that its net profits for the year, at $3,074,000, were the largest in history.

INCREASE ORCHARD PLANTINGS NOW

This is an opportune time to extend our plantings of apple trees. The experience of recent years in this province has demonstrated that commercial production of high quality apples that are in good demand on a variety of markets is practicable and fraught with no greater dangers than in many other apple sections of the Dominion. The ability of our growers to realize top prices for their apples on the largest competitive market in Canada, (Montreal), and to do that practically at the first attempt, has added greatly to their confidence in their own province and its climate as being adaptable for commercial apple production. Thus, our growers have added confidence in their ability to grow good apples and market them successfully in open competition with the apples from long established fruit growing sections, hitherto considered as more favorably adapted.

Speaking of the apple industry in Ontario, in the October issue of the Canadian Horticulturist, Professor J. W. Crow said, "The disposition of our apple orchards has been so serious that Ontario will soon be reduced to the necessity of importing apples to meet our home requirements. Our orchards have not been taken care of as they should have been, and many of them are rapidly dying out. This condition existed even previous to the war, and during the past five years has been intensified by the shortage of labor. Possibly not over 1 per cent. of the orchards of the province have been given proper attention during the past few years. Added to all this the heavy freeze the winter before last has had a disastrous effect. In Northumberland county, which is one of the heaviest apple-producing sections of Ontario. I am inormed that 50 per cent of the apple orchards have been destroyed. The loss among even the better cared for orchards runs as high as 30 per cent. There is no reason to believe that conditions in Northumberland county are exceptional. It is evident from this that the industry has suffered a severe blow and that many years will be required before normal production will be restored."

In the Province of Quebec the situation is far worse for a recent census of apple trres there showed a loss of approximately 1,000,000 trees since 1911, or nearly one-half the bearing trees. This was due to the the severe winter of 1917-18, but the cause went farther back than that as many orchards were dying through old age and neglect previous to that winter. As yet, this great loss is not being replaced by new plantings.

In the State of Maine about one-half of the Baldwin trees were killed by the winter of 1917-18.

The orchard situation is extremely backward in Europe, having suffered heavily from the war. The bearing trees have been neglected and are ruined in the war area, and in great areas where the actual fighting did not take place, they have been very much neglected.

It is highly improbable that the price of apples will ever get back to pre war levels. In the great neglect of European orchards, the shortage of seedling stock, increased prices for everything and the great damage done to orchards in Quebec, Ontario, Maine and the Eastern United States, by the severe winter of two years ago, lies the opportunity of the present for the enterprising fruit grower in New Brunswick and eastern Canada—in contrast to the bogey of over production preached so often a decade ago.

There is a great scarcity of fruit trees and small fruits and in most places the prices for apple trees have doubled since last year. The enormous reduction in the amount of French Seedling Stock available for propagation purposes and the consequently greatly increased price of same, plus the increased cost of all other steps in the making or growing of the trees, have caused this large advance in prices. **By spring or before then the prices of the most popular varieties will, no doubt, have advanced—and some varieties will not be available at any price.** There is no probability that nursery stock will be any cheaper in 1921 or for the next three or four years, so if you have been thinking of planting more orchard or filling in vacancies, don't delay doing so in the expectation that prices will be cheaper.

Prices for apple trees are running from 50 to 60 cents in Ontario and from 75 cents to a dollar in the United States but are still quite reasonable here at from 35 to 50 cents according to the varieties and size of order.

If you want any nursery stock, write immediately to the New Brunswick Fruit Growers' Association, Fredericton, N. B., stating your requirements and asking for a list of available varieties and prices. Already a number of the varieties are practically unobtainable so send your orders in at once—not in two or three weeks time, but now—otherwise you will very likely not able to obtain what you want.

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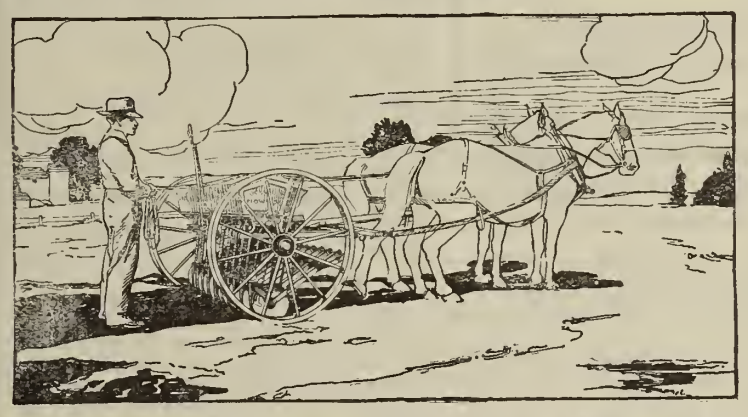
Proper seeding and efficient fertilizing are big factors in securing a bumper crop

The use of commercial fertilizer at seeding time is a common-sense method of restoring your land's fertility. The best skill of our designers, coupled with actual field experience, has resulted in the Cockshutt Grain and Fertilizer Drill, with positive, variable feeds—acting entirely independently, handling any kind of seed and fertilizer and depositing them in the ground in any desired quantity



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The underlying principle of all Cockshutt construction—light draft with an ample margin of strength—is secured by all-steel construction, high grade bearings and ample provision for oiling. Both wheels are drivers, so a maximum of power is secured and proper work is done at all times. The multiple Disc Gear is a most accurate device for controlling the flow of the seed. The fertilizer feed can be changed to suit any fertilizer used. The Discs are set at just the right angle to open a proper furrow for the seed and fertilizer. They do splendid work. Made in either Disc type with 9, 11 or 13 discs with 7" spacing, or 9, 11 or 13 Hoe type with 7" spacing, and zig-zag feature.

The choicest of seed and the finest land will not give you a proper crop unless you seed right. For best all-round service you need a Cockshutt Fertilizer Drill—it's great popularity is due to merit only. See it at your dealer's or write today for Pamphlet "Cockshutt Fertilizer Drills."

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N. S. FRUIT GROWERS IN ANNUAL CONVENTION

(Continued from page 294)

S. C. Parker suggested the best way to look after the bilge hoop was at home.

Dr. Cumming then made a few brief remarks, which he did not consider in the way of an address.

As the Association was largely responsible for the Agricultural College, he thought they would be interested to know that this year, as far as attendance and interest, is the best. They have had 105 students enrolled in courses as compared with 43 last year, with 48 returned soldiers additional taking special work.

The Short Courses were very successful, 146 farmers and their sons, with 50 returned soldiers, being in attesdance.

Dr. Cumming told of attending the Seed Selling Fair, recently in Prince Edward Island, and how six different men had spoken of getting their start in improved seed growing and improved methods of farming at the Agricultural College. He spoke also of the real effort being made by the College to get the farmers to grow Clover Seed in Nova Scotia.

Prof. Brittian, who was to have addressed the meeting, being on leave of absence, taking a post graduate course at Cornell, Mr. Good representing him gave an address on General Results from Orchard Spraying and Dusting.

Mr. Good thanked the fruit growers for the assistance they had always given them in their work and spoke of their indebtedness to Mr. Sanders for many suggestions and helpful criticism.

He first referred to the appearonce of the apple sucker in Nova Scotia which had been discovered in Wolfville. In appearance it resembeles the apple aphis and was a destructive pest causing leaves, blossoms and young fruit to drop, but at the present time there was no cause for alarm as it had made no great headway. Although it was an unwelcome settler there were others that were worse.

Mr. Good told of the methods of combating these insects and fungus pests and of the good results obtained from the use of lime sulphus, espescially in the control of apple scab.

He warned them against too heavy spraying in the case of the fourth application as it was apt to be very injurious. The method of employing the lime sulphur had more to do with the results than the strength. Do not use lime sulphur at high pressure, always in form of a mist.

The spray should not be blamed always for the dropping of the apples. Very often it was due to imperfect fertilization.

If a spray was wanted that could be used any way at any time Mr. Good suggested 2-10-40 or 3-10-40 Bordeau, the best results at less cost being received from this, than from any other formula.

The question of dusting or spraying was then taken up by Mr. Good, who claimed both were alright, properly applied, the posibilities of either method had by no means been exhausted.

He had found the best results from dusting obtained when done in the early morning before the dew is off.

A discussion of this paper followed arguments being brought forth for and against. Mr. E. H. Johnson, Wolfville, had only one year's experience in dusting but obtained good results; he had found from experience that put on the dry leaf it was practically no good, the time to dust was when the trees were wet, and he considered that one point in its favor, it can be done in bad weather, whereas the spray has to be put on in fine weather, when perhaps the time was needed elsewhere. Where he had dusted well he had almost perfectly clean fruit. Mr. H. J. Johnson, Lakeville, said he was very well pleased with the dusting results, found it saved a lot of time over the spraying method. Found it best put on the trees when wet and a heavy breeze not favorable to dusting. He had applied 4 dustings to his orchard, 72,000 lbs. in all. His Gravensteins were perhaps not as good as in 1918 when sprayed but on the whole was as well pleased with results. Mr. Ells had applied three or four dustings, but in so sketchy a manner, as he did not have a dusting machine of his own, that he was not qualified to speak of results.

Mr. Foster then read a letter from J. P. Raymond, Berwick, who claimed very good results rom dusting, but complained the price of dust was too high. He had used sulphur dust from Niagara Spray Co., also from United Fruit Cos., keeping plots separate through the season. As far as he could tell one gave as good results as the other and both very good. Perhaps the Niagara dust spent a little farther, as it apepared to be more finely ground. He had been dusting for the past three years.

A very interesting discussion followed on the paper given by Prof. Haden in the morning on "Bees, Their Value to the Orchard." In answer to the question as to which variety he would advise, Black or Italian, Prof. Slader said in his locality it made little difference, perhaps the Italian Bees resist disease best, are also more asily handled and more profitable. In a climate where the summers were below 70 degrees Black Bees were more favorable.

To the question if it was feasible to import by the one or two pound package, he said it could and was done but it was best only as a last resort. If so parcel post was the best way to have them imported, a week before dandelions bloom the best time to receive them and of course the combs must be ready to give them.

Besides the danger of them dying on the way, dealers were not always reliable and very often disease was introduced among them.

Here's the Evaporator to Solve the Syrup and Sugar Problem

Thousands of grove owners do not work their groves for very little reason. Lots of them just can't make up their minds. Yet if we were to put a proper outfit in their grove and they saw it work so easily and the money there was in it—for one season—they would fight to prevent us taking the outfit away again, even if the cost were a good deal more. An unworked grove these days is like an untapped reservoir with thirsty people around. A big demand and no supply. Why not put a

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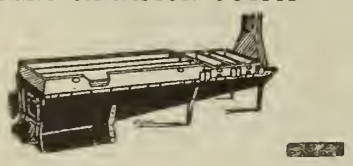

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One man and team with an Eureka Potato Planter needs no hired help to plant the whole crop. Whether you plant 4 acres or 400, the Eureka Planter will pay for itself many times over. Better than hand planting. Increases yield. Does 5 operations at once, automatically—accurately.

Opens furrow, drops seed any distance and depth, drops fertilizer (if desired), covers up and marks next row. **Furrow opens and seed drops in plain sight**—an equal distance apart, at uniform depth, with **absolutely no injury to seed.** Easy to operate in any soil, made of steel and malleable iron—assuring long life, light weight and few or no repairs.

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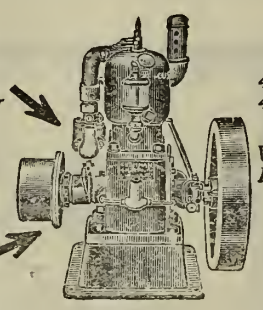

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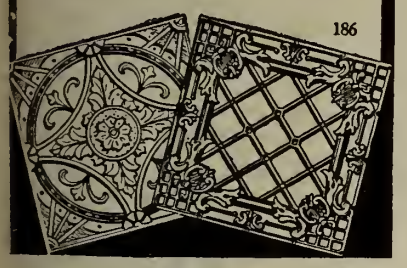

Prof. Slader said the best way was to take care of your own and bring them up and invest in an Italian Queen. Good management of bees more to be urged than race.

It was moved and seconded that in the publication of the new report that the picture of the ex-president as well as of the new president be included, the ex-president's picture not having been printed in last year's report as has always been the custom.

Mr. Foster drew the attention of the meeting to the fact that all had not paid their dues and urged all who were not already members to join. A one dollar fee for which they received their choice of the Maritime Farmer or Canadian Horticulturist for a year, the yearly printed report and the honor of being a member of the organization.

Meeting adjourned.

Wednesday Evening

President in the chair.

This meeting opened with an address by Prof. W. T. Macoun, Dominion Horticulturist, on "Recent Experiments of Interest to Nova Scotia Fruit Growers." Prof. Macoun told of travelling through every province in Canada and visiting the thirty Experimental Stations and sub stations throughout.

Owing to the wire variation of climate in Canada what method would do for cultivation in one part would be of no use in another. He said that he was not afraid to say that the fruit growers of the Annapolis Valley were second to none in intelligence and if they did not live up to their knowledge it was not because they did not understand. Prof. Macoun said the best time for the germination of fruit pollen was when the temperature was at from 70 to 75 degrees Fahrenheit.

Wet or cool weather is adverse to fertilization. More experiments are needed in the different soils. It had been shown that moderate thinning gave the best results and that severe pruning retarded fruitfulness. Every fruit grower should be a constant reader to keep in touch with the best results.

Prof. Macoun drew attention to the origination of new varieties of apples at Ottawa which were being tested out at the Experimental Station at Kentville for use in the Annapolis Valley.

Mr. Osborne, Mr. Margeson and Mr. John Buchanan took part in the discussion following this paper.

Mr. McMahon asked what varieties were found most suitable to Nova Scotia and was told that the Milwaukee had been proved by Prof. Blair to be the hardiest, getting 125 barrels to the acre. Appearance and quality of the red variety seem to take preference.

Prof. Macoun said there were 30 men in America breeding new apples. He himself had already named 100 new varieties and he prophesied that in the next 25 years the varieties they will have will be entirely different from those they now raise.

This discussion was followed by an address on "Transportation and Co-operation," by A. E. McMahon, Kentville, manager of the United Fruit Growers Co. Mr. McMahon in opening his remarks hoped that Prof. Biair would introduce three or four varieties of apples that would take

(Continued on page 314)

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Instead of *pricing* the next fertilizer you buy—investigate first the **quality.** For it is *quality,* not mere bulk, that gets results. The time to ask the price is when you have made sure of quality.

We can prove to you—and the proof we furnish will be borne out by your own experience later—that Monarch Fertilizer is the best that money can buy.

Its qualities are the result of knowledge—not guesswork. It contains Nitrogen or Ammonia, Phosphoric Acid and Potash. The Ammonia, which is the plant grower, is derived from materials which dissolve in the soil-water in proper order as the season progresses. This results in a crop that is not only larger, but better in quality—and stronger.

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DAIRYING.

CARING FOR THE DRY COW

It is not so very long ago that the dry cow received very little care or feed from her owner, but by this time dairymen have learned that the dry cow needs and must have as much feed as is given to a producing cow. And she also must be well cared for during the entire period of pregnancy.

Sixty-five per cent. of the total development of the embryo calf takes place during the period of gestation—and most good, well managed dairy cows are dry for less time than this—so, during this time the cow must receive enough feed to maintain her strength, and enough more to produce from seventy-five to one hundred pounds of live flesh. The feed that goes to produce the embryo corresponds to that which the producing cow expends in making milk and butter fat.

The cow that is left to shift for herself in the old way in an old field or dry pasture may look fairly well because her prodigious appetite at this time enables her to consume lots of very coarse feed, but when the calf is dropped, it will be found that it takes a great amount of feed and much time to get such a cow to producing profitably again. Besides this the cow is injured permanently, and her producing life is shortened. Also the calf from a cow carried through the dry period in such a manner is seldom of any great value, being a weakling from the start.

On the other hand, the cow that is carried through the two or three months in which she is dry on a good pasture, with plenty of feed to keep her in condition or on a good stable fed ration, comes into milk under circumstances that make for maximum production from the start. In the matter of feeding, there is a saving of feed in keeping the cow in condition because she produces from the start on regular feed, while the thin cow must be fed the maximum ration for some length of time before she proddces at all profitably. The cow treated in such manner produces well for some time longer than the other, remaining dry the next time for only a short while, and in addition she lives long and bears up well. Also, her calf is a good one and such as will help to build up the herd, while by the other methods the effects of years of careful breeding are undone.

However, the too fat cow seldom has a good calf, and much may be wasted in keeping the cow too fat. Fortunately there is a safe medium ground, and it is not hard to find.

The feed for dry cows need not differ materially from the feed given producing cows and the amounts need not differ much. To prevent overfattening at the expense of lessening the bone and muscle of the embryo, the dry cow should not be fed as much fat producing grain concentrates as the producing cow. Oats and bran are the most excellent concentrates for feeding the dry cow. As calving time approaches the cow needs some laxative feed. Oil meal is an excellent concentrated laxative. Silage is a good succulent laxative, especially in winter.

The chief rough feed should be good legume hay, preferably alfalfa, or ,in its absence, clover hay. Not too much of the coarser roughages should be fed, though some is good to make the feed more bulky.—K. Perkins.

WE HAVE NOT TOO MANY GOOD COWS

The high price of good cows does not indicate that there are too many cows. When it costs from $100 to $125 to buy an ordinary cow. it looks as if they were not very plenty. You cannot buy a good cow for less than $125, and pure bred cows command a stil higher price.

Nor is this too high a price, the way feed and labor are. It costs heavily to raise a cow from the calf up. The figures named do not much more than pay the farmer for what he has actually laid out to get his cows. This is not speculation, then, but good common sense on the part of the farmer when he says, "I must have so much for this cow. I know what she costs me, and I feel that I have a right to expect cost back, with some margin for profit."

It is very possible that we have too many poor cows. That has always been the case. Few farmers but will admit that they have some cows that are not doing as well as they should. The cost of feeding and caring for these inferior cows is just as great as it is for the best grade of cows. Here is the real test of the situation. Shall we not put better cows in the place of the poor ones? If not, why not?

So what we want is not fewer cows but better cows. All the poor ones ought to go, not to take their places in the pastures of new owners, but they should be put entirely out of the way. To do this will call for a great widespread inquiry into the qualities of all the cows of the country. Cow testing should be pressed by individual farmers and by organizations for that purpose. Nothing the dairy farmers of any comunity could do would be more worth while than to constitute themselves an investigating committee of the whole, to determine which are the cows to keep and which are the ones to let go. At a very small expense per member farmers can find out just what any cow of their herd is doing. These inquiries ought to extend over a period of time long enough to prove without doubt the real worth of every cow; and that settled, definite action may be taken.

No, we have not too many cows, but we do need better cows.—E. L. Vincent.

GROOMING CATTLE GOOD BUSINESS

There is nothing that will improve the general appearance of a herd of cattle more than the frequent use of the currycomb and brush. It sleeks them up, puts their hair in fine condition, and goes a long way towards keeping them healthy and free from vermin.

Currying cows and heifers regularly was not a common practice in our own herd until a few years ago. It was not considered necessary, and required, as we then believed, too much time to be profitable, but that is not the case today. A visit to the farm of one of Canada's most prominent breeders some few winters ago found the owner and his men busy brushing off the finest herd of cattle it has ever been my privilege to inspect. They were as clean and sleek as a well-groomed horse, and the owner told me that he could not afford to keep them otherwise. He explained that his cattle were healthier, were better feeders, and produecd more milk as a result of the regular brushing they received, and that he would not think of keeping a herd without grooming them regularly. I was impressed with what he told me, with the sight of his herd, but most of all with the financial returns he was obtaining from them, consequently I decided to employ some of his methods of management on our own herd as soon as I returned home. Regular grooming was one of the methods immediately adopted and the results have been far beyond my expectations. The cattle are producing better, lice and vermin are unknown, they look better, are easier to keep clean, and the milk is more cleanly and wholesome. In short, regular grooming and frequent clipping has made a marked change in the results obtained from our herd and more than pays for the time required. The work can be done in a very few minutes provided it is done regularly, and no manure is allowed to cake on the flanks or lower parts of th eanimals.

The work is best done, I believe, by the use of a circular comb and a stiff brush. With us the latter is used for removing the finer particles of dirt and dust; it should used exclusively around the legs and under parts. The comb is used in parting the hair and allowing the brush to reach the animal's head. After brushing, an old bran sack or woolen cloth rubbed over the animal wil remove

(Continued on page 320)

The world's welfare will be, to a great extent, determined by the dairy farmer's efficiency in the production of dairy foods.
(Signed)
P. M. SHARPLES
"There are no substitutes for dairy foods."

Does your present separator skim clean at any speed?
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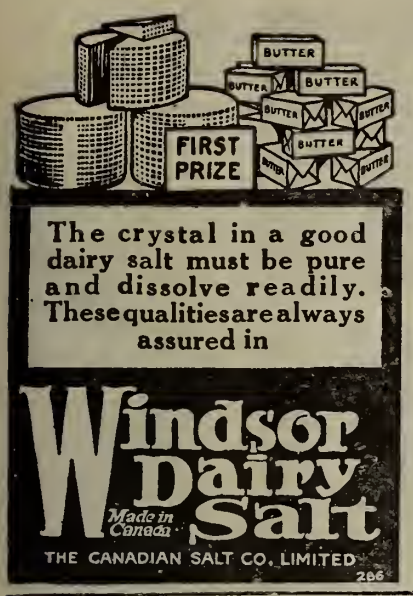
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The crystal in a good dairy salt must be pure and dissolve readily. These qualities are always assured in
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Made in Canada
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THREE CHEERS AND A TIGER FOR PERCY H. MOORE ANO HIS FAMOUS COW

Not many men connected with Maritime Agriculture is beter or more favorably known than is Mr. S. G. Moore, of Truro, N. S. Mr. Moore farmed extensively and practically in the rich Shubenacadie district, where he conducted dairying operations successfully with a high grade of Guernseys. He was also a breeder of Oxford Down Sheep and a prominent exhibitor at the Halifax exhibition along these lines.

It is only quite natural that a live young man brought up in an environment of this kind should early in life follow up the practical teachings and ideas gleaned on his father's farm by taking the opportunity of a two year course at the Nova Scotia Agricultural College and rounding out his B. S. A. degree at the Ontario Agricultural College. This was the coruse pursued by Percy H. Moore, one of Mr. Moore's sons, who not only made an enviable record for himself in his college career but has also made good in his chosen avocation since leaving college.

After graduating he was for a time connected with one of the United States Departments of Agriculture, from which position he received a call to become Dairy Commissioner for British Columbia. His next call was to superintend the Dominion Experimental Farm at Agassiz, B. C. From Agassiz he went to take charge of the Colony Farm at Essondale, B. C., where he is still in charge.

While looking over a recent copy of The British Columbian, published in New Westminister, B. C., we were pleased to note that Mr. Moore had recently been appointed director of the Holstein-Friesian Association of Canada for British Columbia, to fill the vacancy caused by the resignation of Dr. F. S. Tolmie, following the latter's appointment as Minister of Agriculture for Canada.

The British Columbian said: "A firm believer in the value of Holsteins from a milk producing standpoint, Mr. Moore has acquired a reputation since he took over the management of the Colony Farm some years ago. Mr. Moore is also secretary of the B. C. Holstein Association."

Depicted in the same page on which the above mentioned notice appeared was a splendid photo of the Holstein cow Zarilda Clothilde 3rd De Kol, developed and owned by the Colony Farm. This cow has recently completed a great record of performance which has smashed all previous Canadian milk production records. She gives first place by just an ace to only one cow in the world, Tilly Alcurtra, of California. Zarilda Clothilde 3rd following a record second to none in following a record second to noe in Canada. The British Columbian says: "Yesterday official word was received from the headquarters of the Holstein-Friesian Association of the United States, giving statistics of Zarilda's performance during the past three hundred and sixty five days, during which time she was on an official test under the auspices of the Canadian government stock department. During the year Zarilda has produced not less tan 33,153.6 lbs. of milk or 1194.17 lbs. of butter. This is 88 lbs. of milk less than the record of Tilly Alcartra, a California Holstein which bids fair to smash a world's record this year. Zarilda's nearest Canadian competitor is Jemima Johanna, of Rierside, a Holstein owned by W. C. Houck and Sons, of Black River, Ont., which has a record of 30,373 lbs. of milk to her credit.

For the past five years Zarilda has been topping off records on a par with an Olympic runner, but this year is her best. Incidentally it will be her last official test, for Mr. P. H. Moore, superintendent of the Colony Farm, beliees Zarilda has played her part in attracting the attenion of Canada and the United States to British Columbia and more particularly to the farm, and he will now devote his attenion to several promising Holsteins which he is grooming at the present moment and from whom he confidently expects to grab off a world's championship during the next two years.

Despite the fact that she lost out to Tilly Alcartra in the recent test, Zarilda holds quite a few records herself which have yet to be approached either in Canada or the United States. These are for six months, one, two and three years. Her average during the past three years is: Seven days, 822 lbs. of milk and 29.68 lbs. of butter; 365 days, 31,145 lbs. milk and 1,082.17 lbs. of butter.

As a two year old she broke a Canadian record with a seven day test, which resulted in 445.1 lbs. milk and 18.39 lbs. of butter.

At four years and two months she broke a world's record for seven days, viz., 817.4 lbs. milk and 28.87 lbs. butter. This record has never since been approached. At six years she broke still another world's record which stood until last year when it was captured by a California cow. These figures were: 7 days, 831.3 lbs. milk, 31.12 lbs. butter. In 30 days she produced 3331.7 lbs. milk and 122.25 lbs. butter. In 365 days she produced 30,-467.3 lbs. milk and 1,071.34 lbs. butter.

No other cow in Canada and only one in the world has ever produced over 33,000 lbs. of milk in a year, or 63,620 lbs. in two years, or 93,400 lbs. in three years.

Upon receipt of the wire from W. H. Gardiner, superintendent of advanced registry of Holstein cattle, of Delavan, Wis., Mr. P. H. Moore was naturally elated at the success fo Zarilda. To the British Columbian he stated that this is a concrete example of the value of purebred stock as compared with grades. ' farmer who invests, if only in one or two thoroughbred animals, to form the nucleus of a pure bred herd, is going to be o winner,' states Mr. Moore. 'They cost money to purchase, but the results justify any dairymen going in for blooded stock, if only for purely commercial and not for show purposes.' "

WHY
DE LAVAL
CREAM SEPARATORS
ARE BEST

There's a reason for everything, and surely one for the superiority of DE LAVAL separators.

The DE LAVAL was the first continuous discharge centrifugal cream separator. Invented in 1878, it has led ever since. The great DE LAVAL shops in both America and Europe are devoted solely to the production of centrifugal separating and clarifying machines.

Large staffs of DE LAVAL experimental and developmental engineers, in both America and Europe, constantly devote their time, skill and knowledge to the further improvement of the DE LAVAL Cream Separator.

Every single step of cream separator advancement, for forty years, has been DE LAVAL conceived or developed.

On the other hand, practically every feature of construction ever used in any other cream separator has been one that run-out DE LAVAL patents let free. Such features have then always been out of date in the later improved DE LAVAL construction, and most of them were never quite good enough to have been actually used in DE LAVAL construction at all.

It might aptly be said that DE LAVAL has forgotten more about cream separators than its imitators and would-be competitors ever knew.

And then it must be remembered that the cream separator, with its necessarily high revolving speed, great capacity, ease of operation, simplicity and durability, is a very difficult machine to build right, and can only be built right with long experience, highly skilled employes and a vast amount of special equipment. Hence there's nothing strange about the fact of DE LAVAL Cream Separator superiority.

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BUTCHERING THE GOOD SIRE

Aaggie Cornucopia Pauline Count 13th was a purebred Holstein bull, who met a premature fate at the hands of the butcher before his real worth was known. This herd sire was sold for $50. While he headed the herd of his owner, he sired 11 daughters who, it was later found, averaged in yearly production 572.1 lbs. butterfat. When the daughters were of breeding age, the sire was sold to avoid inbreeding. At three years, one daughter, Springdale Clothilde Vale, produced 18,829 lbs. of milk and 735.25 lbs. of butterfat, more than 900 pounds of butter in a year, making a state record for junior three year olds. Colantha Clover Lawn, another daughter, produced 15,300 lbs. of milk and 597.4 lbs. of butterfat. The lowest production among these 11 daughters is 508.9 lbs. made by a two-year-old. Five daughters were three years old, six two years old, when records were made. Co-operative bull associations would prevent the loss of such valuable herd headers.

Stringy milk is generally caused by bacteria which enters the milk after it has been drawn from the cow. It is not caused by feed or any abnormal condition of the cow. Milk affected in this way is not unhealthful, but it certainly is not appetizing. The bacteria which causes the trouble live in water ordinarily, and may enter the milk from the cows' bodies or from utensils. Where trouble is had from this condition, the utensils, especially the strainer cloth, should be boiled. If this treatment does not eliminate the trouble, the fresh milk should be heated on the stove to a temperature of 100 degrees, let stand for 20 minutes after, then cooled as quickly.

There were 80 cows entered in the dairy test at Guelph this year, and the first three places were won by Holsteins, with a Jersey in fourth place. The champion cow was Roxie Colantha Queen, a four-year-old Holstein, owned by Mrs. C. C. Best, of Jarvis, Ont. She produced in three days 253.5 lbs. of milk testing .4 per cent. butter fat. Her total score was 280.6 points. Lady Comet Ormsby won second place for J. G. Currie, of Ingersol, with 278.84 poits, while A. E. Hulet, of Norwich, Ont., captured third money with Butter Girl Schulling. Fourth place was taken by a Jersey, Brampton Bess Bevan, owned by J. A. Bagg & Sons, Edgley, Ont. Her production was 173.2 pounds of 4.9 per cent. milk and her total score was 259.10 points. Fifth place was taken by another Holstein, Cornish Lodge Margaret Mercedes, owned by Haley & Lee, Springford, Ont.

LIVE STOCK.

SHEEP AND EXTERNAL PARASITES

The production of a good crop of wool depends upon the farmer's feeding management and general winter care given shoop. It is not generally realized that a relationship exists between feed consumed and wool production. When a sheep is well nourished and thrifty, the wool fibre pushes out strong and full, and there is sufficient flow of oil from the root to keep it bright and smooth. When a sheep is poorly nourished, on the other hand, the wool is poorly nourished also, and it is thin, weak and dull. The man who wants to produce ether much wool or good wool must keep his sheep well fed. A sheep produces its best wool, as well as its larges amount at the age of one and two years. After that time the wool begins to grow coarser, duller and less in quantity. In extreme old age a very poor wool is frequently produced, for the reason that the fibre is poorly nourished. In this old wool there is often times no opening or medulla in the centre of the fibre, and it therefore fails to take a dye in the process of manufacture. There are far too many lambs sold every year out of the farm flock while many aged ewes are retained that might much more profitably be disposed of than the fine wool-bearing youngsters.

External Parasites

It is as necessary to take precautions against the external parasites that play such destruction, not only to the wool crop, but the general health of the flock. Dipping is the only way to free a flock from pests. Ticks cause the flocks untold annoyance, and for these dipping is thoroughly effective. Ticks and red lice do more damage than many are aware of, because the evidences of annoyance that they give sheep are not so marked as in some other troubles, but they are none the less a severe check to their well doing. Dipping, followed faithfully each year, will completely remove the baneful results from the presence of these parasites. For the eradication of scab, thorough dipping stands first among remedial measures.

Dipping does more than destroy the pests. It also cleanses the skin, cleans the wool, and, particularly encourages the best growth of the latter. To get the fullest returns in these directions, dipping should be done twice each year—in the spring shortly after shearing, and again in the fall. Not only is the growth of wool better from the semi-yearly dip, but it adds to the function of the fleece as a protection to the sheep.

Sheep that are dipped never have ragged fleece; dipping keeps the fleece intact. There is no call for them to rub against wagon wheels and other implements left around where sheep have the run of the yard. It also lessens the tendency for sheep to lose their wool in spots too early in the season.

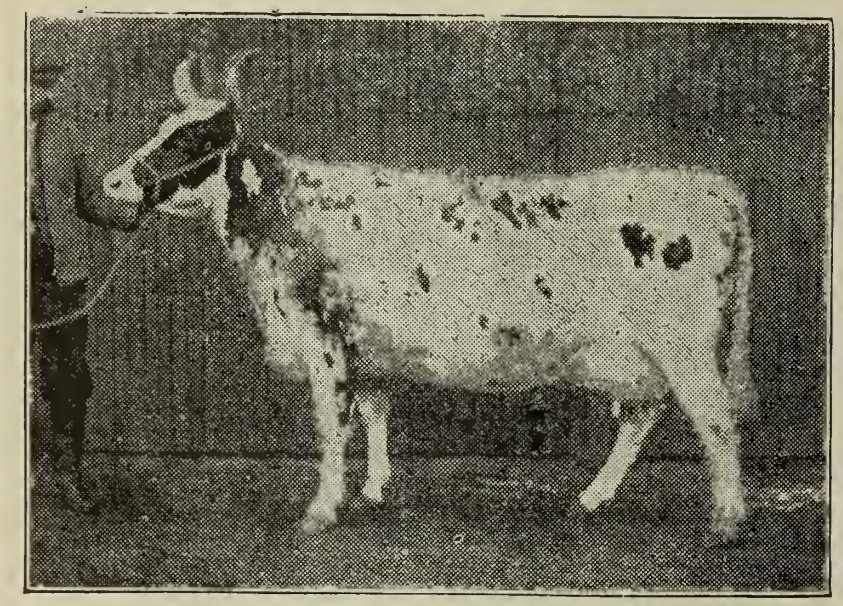
Necessity of Fall Dipping

It is hard to measure the damage that is done to the fleece alone, to say nothing of the thrift of the sheep, by overlooking dipping in the fall. It is quite common to see sheep around the farm in the wintertime with fleeces badly torn through irritation from parasites and dirt that collect. Such fleeces are also likely to become cotted, especially if the sheep have not been dipped in the spring so as to encourage the secretion of the wolk.

A fibre of wool is covered with scales that overlap each other similar to the shingles on a roof. To keep these scales down and prevent them from warping, there must be a liberal supply of yolk in the fleece. If this yolk is not secreted, owing to the unthrifty condition of the skin, the scales rise and the fibres become matted, and finally so bad as to be known as cotted.

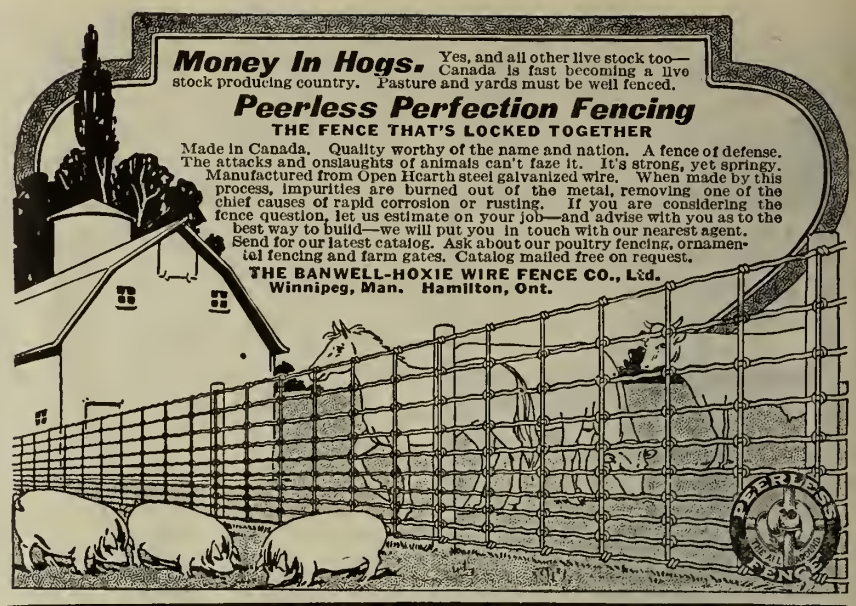
Ticks and red lice are not the only external parasites; there is the scab mite that is so small that it requires the aid of the microscope to see it. Though invisible to the naked eye it is perhaps one of the most troublesome and unthrifty of parasites. It is easily spread through contact with affected animals, or with objects against which they rub. Any appearance of the ailment should be promptly treated. An animal suffering will dig itself with its hind feet, or rub against some object until the skin is lacerated. One sure sign that the sheep are affected is the presence of sweat spots in the fleece. Dipping twice, with a period of a week or so between dipping times, will generally accomplish a cure; but all the places in the yard or sheep barn that they have come in contact with will require to be disinfected and lime washed.

But if a farmer finds that his sheep are badly infested with ticks and lice in the winter time, dipping by plunging them in a tank is entirely out of the question. The difficulty can be overcome by pouring the dip along their backs and rubbing their sides with both hands so that the whole of the under part of the wool is saturated. But even in doing this, shelter inside a barn or shed free from draughts must be provided for them, till the sheep are dry. Several applications by this means, about a week apart each time, will be necessary before the tick trouble is overcome.



The above is a picture of "Gardrum White Floss"—45352—the Ayrshire cow owned by the Nova Scotia Agricultural College at Truro, N. S., which won in the Dairy Test over all breeds at the late Winter Fair at Amherst, N. S.

In 72 hours under test she gave 198.1 lbs. milk, 8.74 fat, scoring 270.97 points. She is by Gardrum Prince (Imp.) and is strong in Garclaugh blood in Scotland. Her dam, "Scottie's White Floss", had 2 R. O. P. records made at 3 years and 5 years of 8233 lbs. milk, 341 lbs. fat, testing 4.1%, and 12, 166 lbs. milk, 512 lbs. fat, testing 4.5% respectively, and was sired by "Scottie"—19718—who has 24 daughters qualified in the R. O. P. The granddam of "White Floss" was "White Floss of Brookside" out of Royal Star of Ste Annes.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CANADIAN SHEEP BREEDERS' ASSOCIATION

The following agreement has been made between the Canadian Sheep Breeders' Association and the American Shropshire Registry Association by which there is a mutual reciprocity in registration.

1. Animals from the United States, American bred or imported from Great Britain, sold to a resident of Canada, must be recorded in the American Shropshire Record in the name of the Canadian purchaser. American Certificate of Registration must give date of sale and delivery and, in the case of females, servce certificate, if bred. It is understood that animals, on entering Canada, must be ercorded in the Canadian Sheep Breeders' Record.

2. Animals from Canada, Canadian bred or imported from Great Britain, sold to a resident of the United States must be recorded in the Canadian Sheep Breeders' Record in the name of the American purchaser. Canadian Certificate of Registration must give date of sale and delivery and, in the case of females, service certificate, if bred. It is understood that animals, on entering the United States, must be recorded in the American Shropshire Record.

3. It is understood that the recording of ancestors to complete pedigrees is to be discontinued immediately by the American Shropshire Registry Association and the Canadian Sheep Breeders' Association, respectively.

4. It is further agreed that the Canadian Sheep Breeders' Association will not accept for record Animals lambed in the United States, unless such animals are first recorded in the American Shropshire eRcord.

5. It is further agreed that the American Shropshire Registry Association will not accept for record animals lambed in Canada, unless such animals are first recorded in the Canadian Sheep Breeders' Record.

Sheep Feed Loses its Virtue

While it is of the utmost necessity to dip breeding sheep so that they are entirely free from parasites at lambing time, it is as necessary for the health and growth of feeding sheep. With the breeding flock the ticks invariably migrate in great numbers onto the lambs, and a serious loss to early maturity is thus fostered. With the feeding sheep there is a great loss sustained in the use of concentrated feeds, when fed to tick infested sheep. Sheep lose that thrifty condition that is necessary to rapid gains where ticks prevail and extra feed will not give the expected returns. It is good policy to take it for granted that feeding sheep are in need of dipping, rather than wait for the evidences of it, which usually comes along when the sheep are offered for sale.

VITAL FACTS AND FIGURES FOR THE PROSPECTIVE SHEEP BREEDER

(Experimental Farms Note.)

Many enquiries are being received from prospective sheep breeders, principally returned soldiers, as to the number of sheep which certain types of land will carry and the possible profits from sheep farming. Arable land of good quality and productiveness used exclusively for sheep can be made to support from 5 to 8 ewes (with their lambs until marketed) per acre. On rough or hilly pasture, with sufficient adjacent arable land for the growing of winter feed, 5 ewes per acre should be considered a maximum and possibly not more than 3 per acre should be put on at the start until full carrying capacity of the land is determined. For every ten ewes there would be required for winter feed the

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following or its equivalent:—5 tons clover hay; 4 tons roots; or 2 tons each of roots and ensilage; 18 bushels oats; 300 pounds bran; and 150 pounds oil cake meal. To grow these crops, with the exception of the bran and oil cake meal, would require at least 2½ to 3 acres of arable land. As the sheep will receive a certain amount of pasture as well as the winter feed from the arable land, it may be presumed that for each acre of rough pasture land, carrying from 3 to 5 head of sheep, there should be one acre of crop land. On this basis a 100 acre farm, half rough pasture and half tillable land, should carry 150 to 200 breeding ewes with their lambs, together with three horses, 3 cows, and 2 calves per year.

The farm flock is a source of revenue twice per year. In the spring the wool clip yields on an average of 7 to 10 pounds per ewe which at the conservative price of 60c per pound nets about $4.50. Again lambs consisting of wethers and ewes not reserved for breeding purposes, are marketed in the early fall. These do not require much feeding other than the milk of their dams and good sufficicnt forage such as can be had on any farm at that time if plans are laid properly. Such lambs weighing from 70 to 100 pounds at time of shipment in late August and September, have brought as high as $17.50 per cwt. In September this year they brought $14.00 per hundredweight or $11.20 for the average lamb. The cost of feed for a ewe for one year is around $5.00. Against this there is a revenue of $15.70 or a profit over feed of $10.40. This is on a basis of one lamb per ewe. The extra lamb often obtained will take care of all losses and still help to swell the profits. If pure bred sheep are handled and the choice ram lambs are sold for breeding purposes this income per ewe would be considerably increased.—Geo. M. Muir, Assistant in Animal Husbandry.

CANADIAN SHEEP BREEDERS' ASSOCIATION

The following Directors for the Canadian Sheep Breeders' Association for the year 1920 were elected by mail votes counted in the presence of a Notary Public in the office of the Secretary, Parliament Buildings, Toronto, on December 22nd, 1919. The Directors for Ontario will be elected at the Annual Meeting to be held in the Carls-Rite Hotel, Toronto, at 8.00 p.m. on Tuesday. February 3rd, 1920.

Alberta—R. Knights, R. R. No. 1, Calgary, Alberta.

British Columbia—S. F. Tolmie, R. F. D. No. 4, Victoria, B. C.

Manitoba—George Gordon, Oak Lake, Manitoba.

Maritime Provinces—W. B. Bishop, 85 Germain St., St. John, N. B.

Quebec—James Bryson, Brysonville, Quebec; Arsene Denis, St. Norbert Station, Quebcc; Victor Sylvestre, St. Hyacinthe, Quebec.

Saskatchewan—Fred T. Skinner, Indian Head, Sask.

CANADIAN SWINE BREEDERS' ASSOCIATION

The following Directors for the Canadian Swinc Breeders' Association for the year 1920 were elected by mail votes, counted in the presence of a Notary Public in the office of the Secretary, Parliament Buildings, Toronto, on December 22nd, 1919. The Directors for Ontario will be elected at the Annual Meeting to be held in the Carls-Ritc Hotel, Toronto, at 8.00 p.m. on Monday, February 2nd, 1920.

Alberta—G. H. Hutton, Lacombe, Alberta.

British Columbia—Albert G. Marshall, South Westminster, B. C.

Manitoba—W. H. English, Harding, Manitoba.

Maritime Provinces—J. F. Roach, Sussex, N. B.

Quebec—Frank Byrne, Charlesbourg, Quebec; M. Ste. Marie, Compton, Quebec.

Saskatchewan—Philip Leech, Baring, Sask.

TIPS FOR CO-OPERATIVE BUYERS

Feeds—The Maritime Farmer will buy feeds, flour, oats, etc., for your Agricultural Society in car lots, and have them delivered to you at cost.

Seeds—We have part of a car of No. 1 Timothy seed to offer at an attractive price to farm organizations.

Hay—We offer 150 tons of good hay in Nova Scotia.

Mixed Fertilizers—If you want mixed fertilizers at cost, car lots, write us, we can give you the closest price on the market.

Auto Tires—Write us for your supply in 1920. We can save you many dollars.

Organize—And avail yourself of the benefits of Co-operation. It has saved other farmers tens of thousands of dollars. It will save you just as much.

BULL SOLD FOR $5,000

At a live stock sale held at Brandon recently, 102 Shorthorns sold for $54,200, an average of $537. "Lavender 47th," a prize Shorthorn bull, sold for $5,000 to Chas. Beeching, at De Winton, Alta. It is stated American buyers offered $8,000 for this animal, but the breeder, John Barron, would not consent to it going out of Canada.

THE DECEPTIVE DISPERSION SALE

When a person states to the public that he intends to quit breeding cattle and advertises a dispersion sale, the public has a right to believe that a statement of fact is being made. No man has a right to advertise a dispersion sale unless he intends to dispose of his entire herd. It is misleading; it is dishonest to so advertise, and then retain the best animals either by bidding them in at the sale or otherwise retaining them.

We regret there are breeders who have advertised dispersion sales when in fact they had no intention of selling all their cattle. The word carries in meaning that all animals will be sold, both the good and the bad, and that there will be opportunity to purchase some at bargain prices, because everything is to be offered to the public. The owner in holding a dispersion sale believes he can obtain a better average price for his stuff at a pubic dispersion sale than by private sale. The public is attracted to a dispersion sale because it believes that opportunity will be offered to pick up a few bargains. The occasion becomes inviting because the owner is playing for the best prices he can secure and the public is using its wits to drive good bargains. This method of buying and selling is fair, provided the owner does not offer diseased or unsound cattle and holds none in reserve. The seller takes his chances on receiving a good price and the buyer in paying a low price. Such sales have their advantages as they sharpen the wits, stimulate interest, and provoke a deeper study of animal values.

When the seller, however, lays plans to retain the choicest animals without notice to the buyer, he is taking an advantage which cannot be sanctioned by honest and fair-minded men. It is nothing more than deception. It is cheating. Such sales help to destroy the confidence in all sales and rob men of their just rewards. A dispersion sale should never be advertised as such, unless the owner intends to sell all his cattle. The word dispersion should never be used when the purpose is to dispose of only the culls of a herd. A man who would dispose of culls in this way is no gamster; he is not willing to play fair; he would bribe the umpire in a contest that his team might win. Gain obtained in this way does not measure the ability of the man or enrich him in the confidence of his fellowman.

A dishonest bargain is always a poor one no matter how great the gain. The largest and most substantial wealth is good character.—Hoard's Dairyman.

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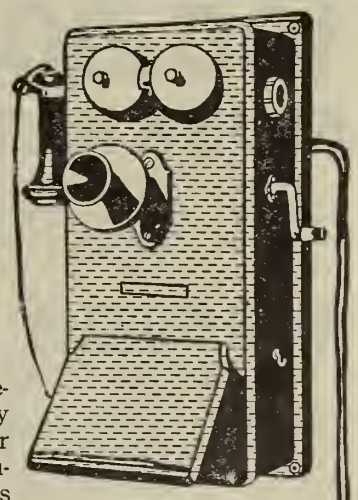

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THE HORSE

HANDLING KICKING HORSES

Their Making and Breaking

Common Cause of Kicking

The most common cause of kicking in horses is bad treatment. At some period of their life, even when in colthood, before hitching them up they have been subjected to an unfair deal by some senseless individual. There are still some men who treat their horses as they do their machinery, act as if horses had no feeling or any mental activity. They have no sympathy for the animal, and have no interest in studying its temperament. Some horses are born vicious; they get it from their parents, but more are made vicious from a lack of sympathy for the domesticated animal's comforts or feelings.

Some horses are not naturally of a vicious or sulky disposition, but have learned to kick solely as a result of some untoward or thoughtless act on the part of the owner or caretaker. Th eproper thing to do in such a case is to try to re-establish the confidence of the animal, and make him forget his hostility by consistently kind treatment, combined with frequent attentions when the horse is in the barn. If the habit is not of too long standing and has not become completely ingrained in the horse, it may be eradicated by these means.

Making the Kicker

When a horse gets a raw deal from a man who lacks horse sense in dealing with him, he uses the methods that nature provides him to defend himself. If he is held by a halter, he kicks, and if in the field or free, he runs away. Speed is the horse's chief means of fighting or escaping his natural enemies, and kicking is his tactics at close quarters. It is his only way of expressing his feelings towards cruel treatment, and it is the horseman's duty to find out the cause. Invariably it is his fault.

An illustration of what very often is the cause of starting a horse to kick lately came under the writer's notice, which may have some points in similarity with the case of your horse. A young driver that had done specially well in harness for a few months, all at once developed a mania to kick. His first outbreak was when he was one day hitched up in the buggy. He struck out when his owner got seated in the buggy for the start away. After that the rest of the outing for that day was done without any further signs of the vice. The next time he struck out was when the harness was being put on in the stall. This led the owner to do some thinking, and it led to connecting the harness with the newly acquired vice. He made a minute examination, and discovered a very small blister, just behind the armpit, that had been made by the bellyband. The animal was a keen, sensitive, intelligent horse, and when the wound was healed he showed less resentment to harnessing and hitching, but ever after when anything was wrong with the harness in the hitch up he always used his feet to express his resentment. In a case like this the use of a whip would have made the horse a confirmed kicker. Always do some thinking and close examination before using the whip.

When to Punish

In regard to actually punishing horses when they kick it depends entirely upon circumstances, and discretion must be observed. In many cases, actual punishment would certainly make matters worse, and serve to aggravate the habit instead of counteracting it. To hit a horse in the stable with a whip is often a very sure way of making him a kicker; many a horse has been turned into a pronounced kicker by this custom. After some horses are subjected to a whipping in the stall, they get suspicious of every person that passes behind them with a fork or cane in their hand, and immediately take on teh defensive. In some cases, however, the infliction of punishment on an incipient kicker by means of a cut with a whip, whenever the animal kicks, is attended by satisfactory results and helps to stop the habit.

But all success in dealing with kickers depends upon the disposition of the horse, whether it is advisable or the reverse to inflict punishment in the stable with vice or youthful unruliness. In any case great discretion must be exercised in regard to kicking and in the majority of cases punishment will be out of place and harmful. With many horses plenty of hard work is all that is needed to render them more amenable and better behaved, and stop the undesirable habit. But that does not mean bad usage, where hard work and under feeding go hand in hand. A well fed and well cared for horse, though grain hard and regular work, will not resent the treatment, while an underfed, overworked horse will contract a sour and sulky disposition, and show his resentment by kicking. On the other hand the fact of a horse being "lifey" owing to too little work and too much grain feeding, is very apt to bring out any vicious tendencies which may be latent in his nature.

In dealing with vices of all kinds found in horses, it is necessary to take advantage of the limitation in his mind, that makes him reason almost wholly from experience and convince him that after all man's will is superior to his, and that he has no alternative but to obey. But the better reasoning powers of man should be able to diagnose the case, and know whether the habit of kicking at persons without any real provocation is due to excessive high spirits or the result of sheer vice.

One thing certain the tendency to vice in horses is hereditary and whatever other good qualities they may have, the vicious animal, male or female, should never be bred. Indication of a good disposition is not one of the least points to look for in horse judging, and in choosing for breeding it should have more votaries among breeders.

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EFFECTS OF SWEAT PADS AND ILL-FITTING COLLARS ON FARM HORSES' SHOULDERS

The number of queries directed to The Maritime Farmer asking advice regarding galls and shoulder sores on horses has prompted the writer to devote an article on the question of fitting the collar, and the effects of using Sweat Pads. Observant horsemen find that every horse is a problem in himself so far as his collar is concerned. The collar is the most important part of the harness. To some men the collar is just a collar; so long as it has the semblance of that article, it is put on to any horse regardless of its size or shape to fit the animal's neck. The horse has to wear it even though it only touches the shoulder at one or two points. If this practice is common, it is not any wonder that there are so many horses and colts with ugly collar bruises.

The Fault of the Collar

In the majority of cases the prevention of these blemishes lies in the first working year of the colt. The normal shaped shoulder can be made accustomed to the friction of the collar, if the collar fits as it should. There are all sorts of necks and shoulders. There are the prominent shoulder blades which are the hardest problems a farmer has to meet in collar fitting. But every shoulder, whatever its shape, can be fitted, if the farmer takes the trouble to do so and uses a little consideration taken from his own experience, where a hard starched collar on his own neck, a size too small or too large, causes irritating friction, and unbearable firing, that soon gets the cure in consigning the collar to the rag bag. The case of the horse is far worse, for his collar is not hung on to him as an ornament.

Sound shoulders in a horse at all times is to be had only by having a collar that, in size and shape, fits the neck and shoulder. The collar is nothing more than a cushion to protect the shoulder from the hames, and keep them from cutting and injuring the skin and muscle. It must be made so that the thickest part will be opposite where the shoulder is heavily covered with muscle. This will be found two-thirds of the way down from the top of the shoulder. If the collar is heav-

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ily padded on the parts of the shoulder that have but skin covering the bone, then there will be trouble. Also if it presses on the windpipe, the case will equally be bad. All pressure must be kept from this part of the neck, as pressure closes the windpipe and stops the breath of the horse. When a collar is a perfect breast fit, one should get the hand in flat ways between the collar and the breast.

Another part that must be kept free from pressure is the point of the shoulder where there is no cushion of muscle to cover the bone; any pressure on this part will very quickly cause a sore. The part of the neck that has the thickest covering of muscle is on the upper part of the shoulder blade, and it is here where the pressure of the collar must come. It is the point that the draft on the hames is placed, and the hames are the business part of the neck harness.

The Use of Sweat-Pads

Regarding the use of sweat-pads there is a great difference of opinion. They are a part of harness that is never used in Scotland, and perhaps the writer may be accused of prejudice, but his opinion of them is, that they are a poor makeshift for a bad fitting collar. The sweat-pad may be of some value in changing the fit of the ill-fitting collar in either length or width, but a well fitting collar never will require this arrangement, and no horseman should ever put an animal to work without seeing that the collar fits snugly. It is also used to change the seat of pressure, but it is much more advisable to use a smooth leather surface to preserve a healthy condition of skin. The hot, sour, sweat-soaked pad is much more apt to scald the skin. It is not commendable to use pads even in an attempt to heal shoulders already sore. The pad will absorb the exudations from day to day, and during the night they will harden into an instrument of torture. A readjustment of the collar is preferable to the use of sweat-pads. The use of the sweat-pad is advocated by some as necessary when the horse's neck gets thinner as the work progresses during spring time. But here again it is the fault of the collar. The case is bad indeed that cannot be handled better without the pads, the pad being mostly an excuse to fill too large a collar. A perfect fitting collar is half the battle.

How Snoulders Have Sores

Too many collars are far too thick on the upper half where the skin only covers the bone, and are also fixed with a strap and buckle at the top. A proper collar is a firm one, made complete in one piece, and not divided at the top. This necessitates the horse having to aid in getting it over his head, btu that is a very minor part in his training, and never causes any difficulty when practiced. The collar should taper up very thin at the top, so that little difficulty will be found in adjusting it to meet the shrinking neck. The writer never used anything more elaborate than a small triangular pad at the tip of the collar to bring the lower part to the required position opposite the hames draft point. This also brought the hames to the proper position, and saved the point of the shoulder from becoming sore. If the hames draft is on the point of the shoulder, it does not take long for a gall sore to arise. The sore that arises directly on the place where the hames draft should be, is due to the collar cushion not being firm enough at that point, and the thickness of a sweat-pad is not enough to supplement a suitable collar pad. If the soreness is farther up the shoulder, it is due to too thick padding of the collar over the part where the skin lies over the bone. If the collar is too loose it will cause friction; if too tight, it will choke the horse, and also cause sore withers.

The hames should also fit the collar; if too long, they will probably be buckled too tight at the top, and in this way the collar will be made to pinch the horse at the top. Sores thus produced begin by a pimple or very small boil, often overlooked because the mane covers it.

The best collar fo rthe mature horse, whose weight does not vary much throughout the year, is the leather collar. But for most horses, the best collar is the one stuffed with hair and covered with ticking. With this collar, if the horse's shoulder becomes sore at any point, the lining of the collar can easily be ripped, and the hair removed or pushed aside at that point, so that no pressure will come on the sore place.

Keep Skin and Collar Clean

But collar fitting is not the last work in keeping horses' shoulders free from sores. Collar fitting must be accompanied with keeping the skin on neck and shoulder clean, and free from dust and dried sweat. Every night in the busy season the shoulder should be bathed in cold water in which there is added a little vinegar or salt, which will help to toughen the skin to stand the pressure. Never use a curry comb, on the horse's neck or shoulder; the brush is quite sufficient to keep that part clean, if the cleaning is done before the sweat gets into the hardened and pasty condition. The curry comb is too sharp, and will irritate the tender skin around the head, neck, and shoulders. And by all means keep the inside of the collar clean. Everytime the collar is taken off, have it wiped dry with a cloth kept for that purpose. If the horse is warm at the noon hour, the collar should be taken off, wiped clean on its facing, and set out for a few minutes to dry in the sun. The shoulder should also be bathed in water and dried. If the harness is not taken off at noon, the collar facing and the shoulder should get attention, and what cleaning it is possible to give. Many horses that have become confirmed "balkers" have been made so by no other method than the hot and blistered shoulder.

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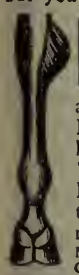

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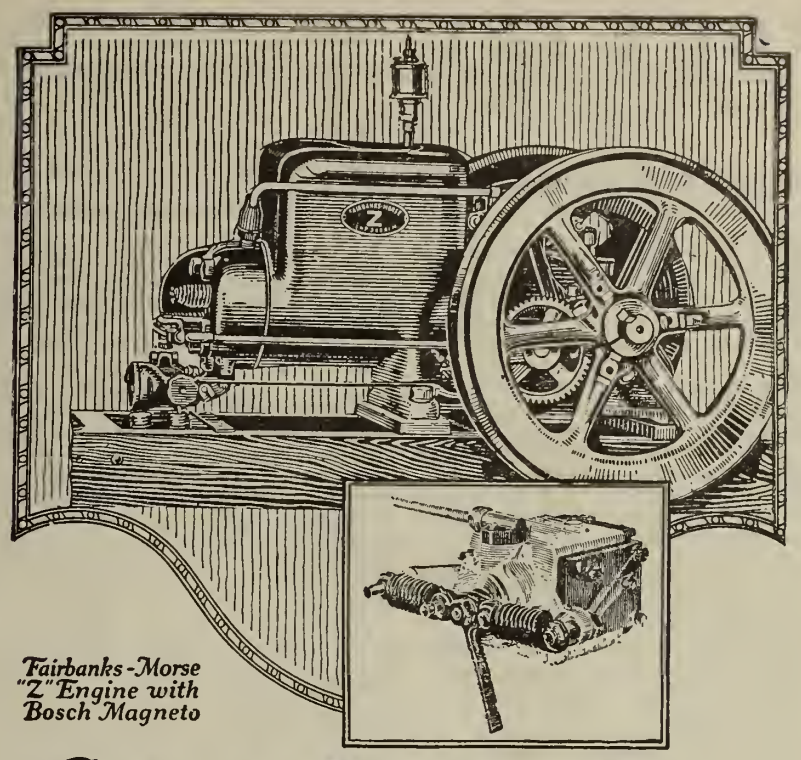

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MARE SWELLS IN HIND LEGS

I have a mare that swells up in hind leg when standing in stable. What is the cause and how should she be treated? J. S.

Evidently your mare is suffering from stocking, a trouble common in badly drained and badly ventilated stables, and young horses are more subject to it than older ones. It is often the symptom of some disease that requires attention. Give your mare the following tonic, one powder night and morning in her feed, made as follows: one and a half ounces pure sulphate of iron; two ounces of nitrate of potash, powdered and mixed together, and divided into twelve powders. Do not wash the legs in winter weather. Bandage them tight with flannel bandages when she comes in from work or exercise. Remove the bandages when going out for work and give her legs lots of hand rubbing. Do not use irritating or blistering applications.

You make no reference as to how you feed her, but her ration should include succulence which can be given by roots, clover, or alfalfa hay. Half the quantity of grain that is necessary when working, is enough when idle. Overfeeding with hay is treated in an article appearing this same issue of the Farmer. Look it up and read it.

HORSE MEAT FOR BELGIUM

Newspapers state that a Calgary firm has secured orders from the Belgian Government for 500 barrels of horse meat. It is reported there are 50,000 horses in Western Canada of little or no use, which could be used for this purpose.

POULTRY.

THE NEWFOUNDLAND POULTRY SHOW

Several years ago the Editor of The Maritime Farmer had the pleasure and privilege in company with Prof. J. P. Landry of the N. S. A. C., of visiting a Poultry Show at St. John's, Newfoundland. We have always looked back with pleasure to the days spent in the Ancient Colony, despite the fact that we had to pay our toll to the god Neptune. A more friendly class of people we have never met. They certainly know how to make the stranger feel at home in Newfoundland.

The Newfoundland poultry men can make a splendid showing of their feathered friends and all the public men from the Governor of the Colony down, take an active interest and encourage with their patronage any progressive movement that the good people of the Colony may stage.

Prof. Landry had judged at the St. John's Poultry Show on a previous occasion and received many expressions of welcome from friends made on that occasion.

We were interested a day or two ago in a personal letter sent to Prof. Landry, giving details of a poultry show just recently held at which Frank E. Jackson of North Sydney was the official judge. The letter in question shows that the Newfoundland poultry men are still going strong. It also shows that the assistance given by Prof. Landry in past years is much appreciated by all classes in the Ancient Colony.

Prof. Landry must pardon us for making the following extracts from a personal letter.

"The Seventh Annual Exhibition of the Newfoundland Poultry Association took place in the new Mon's building, Queen St., on the 26th, 27th. 28th of November, and was opened by His Excellency the Governor and Lady Harris, and was in fact the most successful exhibit held by us. The attendance was upwards of 3000 people, and from all accounts they were pleased with results and interested throughout.

We had an unusual visitor at the show this season, a Camel, "Dr. Campbell, our new Minister of Agriculture," and the response he received from the "high fliers" fully justified the encouraging words he said about them. The Governor and our new Premier addressed the gathering, both of whom were accorded a cordial reception.

No doubt you have often heard of a live wire in poultry matters, and if one exists in Newfoundland, it is in the person of our energetic Treasurer, W. R. Beetle. To him we owe much of our success in getting off our annual show this season, for he has given every moment of his time in making the exhibit as attractive and interesting as can be.

He has been very successful at the Exhibition and I feel sure every person of the Association is delighted that he has met with such success in the past as well as the present. This year the management of the Show was left entirely in his hands, and the manner in which he conducted the work and attended to a score of details connected therewith, places him as the only show manager we have in the Association that "Confidence and Ambition" is his unbounded desire. May the day be far distant when we will lose the services of W. R. Beetle from the management of the Exhibition or from the Association in any form.

From a general make up we have a splendid class of poultry enthusiasts that can be found anywhere, and in this connection I do not think it would be amiss to mention the name and person of Mr. G. R. Williams. You have often heard it said that "ones face speaks for itself." It is so with G. R. Williams.

It is a face of straightforwardness, honesty, and one possessing rare qualifications and high ideals, a gentleman in every sense of the word—that makes life easy to be in company with.

Then again, we all hold our dear old President in great respect and admiration, that no words of mine can fully justify his manly traits of character.

I am delighted to say that every one was pleased with Judge Jackson, and I feel sure his awards were well and truly placed. Unfortunately I happened to be away from the Shop when he called to see me on his departure, for I would have wished to bid him farewell and may we meet again. He is a fine, interesting fellow and we liked him well.

Your letter of the 11th inst. received today, and I am deeply grateful for words contained therein, as also for the photo of the Laying Contest pens, and for placing my name upon the mailing list of the Weekly Egg Laying Contest, which is of vast interest to our welfare. I assure you, my friend, that I appreciate it most thoroughly and no doubt our friend, Mr. Williams, as well as the general run of boys interested in poultry. My good wife requests me to say that Mrs. Landry and yourself are welcome to remain with us if at any time she or you care to take a trip to Newfoundland.

I am living in hopes that this Egg Laying Contest will be over by the time we will be enquiring about a judge for our next years Exhibition.

Personally, I am longing to see you again, and I feel sure the boys will be thoroughly charmed if it will be your good luck to come and judge our Show next year. So please bear it in mind and do your very best to be with us, as we will surely bid you welcome.

By the way—how many birds are in each laying pen?

Enclosed you will find full list of winners and a slight expression on the various classes competing.

I will take up the largest class first and continue along accordingly.

Rhode Island Reds

The Rhode Island Reds was the largest class about 67 birds, and a mighty hard contest took place between our much respected President, Mr. LeMessier and our energetic Treasurer, Mr. Beetle. The 1st cock was a bird of good display—rich in surface and under color, with a good head, long body and being of extra size and shape. The first cockerel gives promise of something good, rich in surface and under color, large and of good shape, and when matured will show to greater advantage.

The hens were of fine type and color, so also were the pullets. The pullets were a credit to any show and were easy winners. It was first thought that Mr. LeMessier and Mr. Beetle would tie for the Cup, but the report showed that Mr. Beetle had wone by "one point" and thus secured the Cup for the second year.

The former holder, Mr. Emberley, took his defeat in a manly way, having had it for two years, so next year will witness a keen competition between the three mentioned gentlemen. It may be possible that a dark horse will step in next year, as was the case in the Barred Rocks. Mr. Beetle and Mr. Emberley have now two years service each on the Cup and a win for either of them next year will acclaim the side ownership.

Barred Plymouth Rocks

The second largest class were Barred Rocks and brought out some very fine specimens. We are delighted to note the improvement in this variety of recent years, and future exhibitions will bring this noble bird in much more prominence in shape and quality than heretofore exhibited.

Mr. Chancey from Grand Falls came in with a fine string of birds and barred the two year holder of the Cup, Mr. Duff, from final ownership. This will assure us of another hot contest next year and every effort will be made by each competitor to regain their former position. Thus the Barred Rock Cup leave the City to adorn the surroundings of Mr. Chancey's home, in honor of his winnings at the Newfoundland Poultry Exhibition.

White Orpingtons

The quality of White Orpingtons exhibited by Mr. Williams and Mr. White were a credit to them in every respect and would hold their own in many exhibitions. In the class of "hens", Judge Jackson remarked that every bird was worthy of a prize. It was with the greatest difficulty that he placed his awards in this class, so alike were they in every particular. The palm, however, fell to our genial friend, Mr. Williams, who captured the Cup for the second year. His remarkable winnings are worthy of comment, for when a person can capture nine prizes out of eleven, it is a conclusive proof that he handles goods of quality.

It was my pleasure to witness Mr. Williams' first exhibit, and the improvements he has made during the last few years, speaks in glowing terms of his ability in knowing how to breed for the quality thus displayed.

The Orpingtons and White Leghorns exhibited by him were beautiful in extreme, and great credit and every success is due him for which he has fought and honorably won.

Although he has lost the Leghorn Cup this year, I feel sure he will take possession of it next year without the slightest trouble.

The Second Prize Hen won by Mr. White, was a bird of exceptional quality, and strongly commented upon by Judge Jackson.

White Leghorns

You will be surprised to witness the improvement in this grand little variety. After a very hot contest between Mr. Williams and Mr. Perry, the honors fell to Mr. Perry, and thus captured for the first time the much sought for Silver Cup. Mr. Perry is quite proud over his success, and remarked (with a thump) that he was 7 years after the owner of the birds and the prepared, (meaning myself). However, Mr. Williams, did not envy him his success, and I can assure you, Sir, there are few exhibitors that can take a defeat in man fashion like the genial G. R. Williams.

Mr. Perry might just as well cherish that Cup as often as he can during the year he holds possession of it, for as sure as the sun shines, I hardly think it possible he will win it another year.

The cockerels in this class were exceptionally good, beautiful in shape and color, and fit to represent any poultry show.

In the pullet class I would consider them somewhat below tsandard requirements, but for shape and color were exceedingly good. I would like to point out a thing or two in this particular breed, but further thought would be better displayed in putting it into affect in the show room.

White Rocks

The exhibit of White Plymouth Rocks was comparatively a small class in quality and numbers, and not by any means compared to former shows.

It is regrettable that this noble bird —the bird of distinct shape and beauty —was not so well represented, for there is no bird that ever adorned the walls of any poultry exhibit that can show to the advantage as the White Plymouth Rock.

If possible I will endeavour to enter the arena again next season, and bring in prominence those beautiful specimens which has heretofore pleased your exacting eye.

White Wyandottes

We deeply regret the small representation in this good all round bird. and one of the most attractive show birds there is in existence.

Although small in number, the class brought forward some fairly good specimens in hens and pullets. We predict next season will bring more interesting competitors into this breed that will place them in the forefront to which they are so well deserving of.

The balance of the classes were not so well represented as they might

(Continued on page 320)

Pratts Poultry Regulator
PRATTS POULTRY REGULATOR
12 lbs. Pratt Food Co.
Get more Egg money this Winter
Egg prices will soon be at the highest point for the year. You can keep your hens laying heavily all winter if you give them
Pratts Poultry Regulator
Makes your fowls healthy and vigorous, sharpens the appetite, aids digestion, improves circulation, and tones up the egg-producing organs.
Used successfully for nearly 50 years, Pratts has been imitated often, but equalled never.
Try it to-day at our risk.
Costs about one cent a month per bird.
At your dealer's in popular priced pkgs., also in money-saving 25-lb. pails and 100-lb. bags.
MONEY BACK IF NOT SATISFIED.
PRATTS Roup Remedy, used in the drinking water, is guaranteed to prevent and cure colds and roup. At your dealer's in powder or tablet form.
Write for FREE book on the "Care of Poultry."
Use PRATTS ANIMAL REGULATOR.
The Guaranteed Stock Tonic.
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POULTRY
LEG BANDS & EAR TAGS FOR STOCK
25
Poultry Leg Bands and Ear Tags for Stock. Tag your stock and mark your poultry. Best means of identification for Sheep, Cattle and Poultry. Name address and number stamped on tag Samples and prices on request.
THE BIDEAU SPECIALTY CO., Smiths Falls, Ont.
HEROSS

Royal Purple Stock and Poultry Specifics and Foods

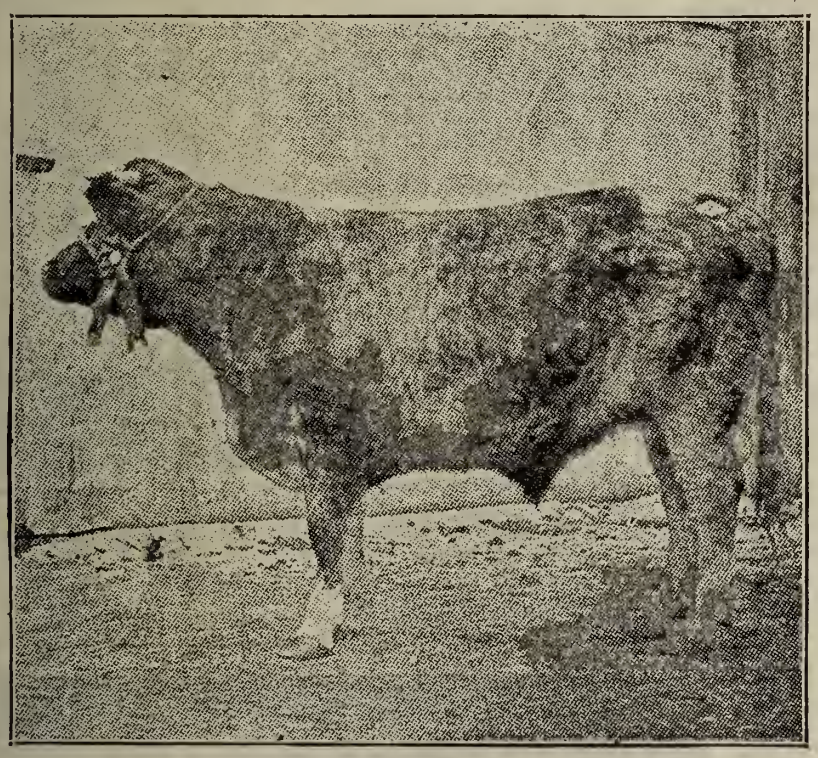
In the manufacture of all our Stock and Poultry Condition Powders and Remedies we eliminate the cheap filler which is used by many manufacturers to make up a large package, and give you pure material which you can adulterate yourself if you wish. Mr. Farmer, how does this appeal to you?

Royal Purple Stock Specific

is a pure unadulterated condition powder, it is not a dope. It can be used throughout the entire feeding season and will not do your animals one iota of harm, works entirely on their digestive organs, causes them to assimulate the foods properly and digest every particle of food value. Fifty-five to sixty per cent. of food value is a fair average of what the animal takes out of its food without this condition powder: it makes their coats sleek and causes them to take on a healthy appearance in a very short time.

What We Claim For It

Cows will give from three to five pounds more milk per day during the winter months. You can fatten pigs a month earlier, have larger and better pigs and save a month's time and feed. You can fatten horses ready for sale in four to six weeks. If you don't believe us try a 60c package on the worst animal you have on your place and be convinced. How many times have you said to yourself, "No matter how much I feed my animals they do not seem to thrive." This, Mr. Farmer, is because your animals are not in a healthy thriving condition. Royal Purple Stock Specific will compel them to put on a thrifty appearance in a short time and yet it will cost you less than 15c. per month per animal to use it. Put up in 60c. packages, $1.75 and $6.00 tins. If you have a lot of stock buy the large tin. It contains sixteen 60c. packages.



PURE BRED STEER under 1 year, entered in Lot No. 3, Toronto Fat Stock Show, Union Stock Yards, Toronto, Ont., Dec. 11-12, 1919, and awarded 1st Prize. Also entered for Royal Purple Calf Meal Special, and awarded 1st Prize. Fed and Exhibited by Mr. Oril Williamson, R. R. No. 1, Jarvis, Ont. Sold for 33c. lb. by Auction. Weight, 1190 lbs.

Royal Purple Laying Meal

During the many years we have been making our high-class Stock and Poultry Specifics, we have had thousands of letters from Poultry raisers all over Canada, wanting to know what to feed their poultry. A hen is just like a factory. If you have lots of material in your factory, you can get out the finished product. The hen requires so much Protein, so much Fat, Ash Lime, etc., to make an egg and supply her bodily needs. Ordinary grains will give her a supply for herself and to make one egg every two to three days. For the accommodation of our customers, we have produced a Laying Meal which contains high-class meat meal, grains, etc., that will give her everything she requires for her bodily needs and produce an egg per day. If you cannot get this material from your dealer in your own town send us $5.00 for a hundred-pound bag and we will ship it to you direct. This product certainly fills a long felt requirement for the poultry man and simplifies the matter of feeding.

MANUFACTURED BY

W. A. Jenkins Mfg. Co., Limited

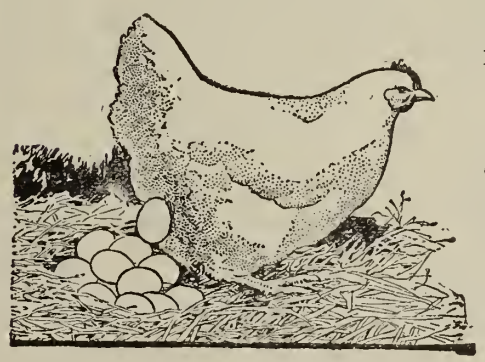
LONDON, ONTARIO

Royal Purple Calf Meal

There is probably no mixed feed on the Canadian market that the farmers have been buncoed more on than Calf Meal. You cannot make a substitute for milk with less than 10% Fat or over 20% Protein. Calves are entirely different from grown animals. You must supply them with material as much like milk as possible. In our Royal Purple Calf Meal we have a product on which you can raise calves after they are eight days old just as well as though you used new milk. At the Toronto Fat Stock Show this year there were eight calves shown not over a year old that averaged over one thousand pounds each, that were fed on this meal. If you will write us for our new booklet we will send you the full particulars and photographs of all these calves. Mr. Farmer, when you want calf meal you see that it contains over 10% Fat. Unscrupulous dealers and manufacturers are making meals that do not contain more than 7% fat and a large percentage of protein. Many of these meals are no better than ordinary dairy feeds. Fat costs two and a half to three times as much as protein in any market, but you must have it in calf meal to make a substitute for milk. Our Royal Purple Calf Meal is put up in 25, 50 and 100-lb. bags.

Royal Purple Poultry Specific

If your hens are not laying after the first of January it is because they are not housed properly and are in an unhealthy condition. There is no excuse for hens not laying if they are fed and housed properly. Our Royal Purple Poultry Specific, if used in the mash given them, will make them digest their food properly, make their digestive organs healthy and active and will produce the eggs for you as well in the winter as in the summer. The eggs are formed in batches from ten to fifteen, from the large egg down to the size of a pin head. If the hens are not healthy nature will lie dormant. As soon as our Poultry Specific is used nature becomes active. This is why so many people get eggs in a few days after using our Specific. If you do not get eggs it is your own fault. This Specific is put up in 30c and 60c packages $1.75 and $6 tins



Royal Purple Chick Food

made from all kiln dried white grains. You can raise 95 to 98% of your young chicks with this food, put up in packages and bags.

We also manufacture the following valuable brands:

Royal Purple Lice Killer in 30c and 60c. tins.
" " Cough Cure in 60c. tins.
" " Sweat Liminent in 60c bottles.
" " Disinfectant in 35c., 65c. and $1.40 tins.
" " Roup Cure in 30c. and 60c. tins.
" " Worm Powder in 30c. and 60c. tins.

Every article we make is guaranteed to do exactly as represented.

For Sale by reliable dealers everywhere. If you cannot get any of the above articles from your dealer write us direct.

FREE Write us and we will send you one of our new books that are now being published, giving you all the common diseases of stock and poultry, how to treat them how to build a hen house, and wilderness of valuable information.

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to houschold science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

MEN AND MONEY.—A STORY WITH A PURPOSE

(Continued from last issue.)

The Browns, like other people, had dissensions and mutinies at times within their ranks. No four healthy people ever lived together in perfect harmony for an indefinite period, and the number could be lowered again, and yet again, without upsetting the truth of the statement.

To try to bring about harmony, Mrs. Brown had made it the rule to have Saturday afternoon a free time for the boys, but sometimes, by failing to do the work on Saturday morning, Saturday afternoon had to be broken into by unfinished businesss, and this was the cause of the frown which hung heavily on Tom's face, as he put strings on the sweet peas in front of the house.

"We've got too many flowers," he said grumblingly, "they always need to have something done to them. I like flowers that just grow, and look out for themselves—without bother to anyone—and spoil all his fun. If we hadn't any; I'd have more fun."

Mrs. Brown was cleaning the veranda, and his remarks were addressed to her.

"That's so, Tom,' she agreed, "and if we didn't have the veranda — I wouldn't need to clean it, and if we didn't have any clothes I wouldn't need to wash them, and if we didn't have anything to eat, I wouldn't need to cook, and then I wouldn't have to wash the dishes. We're certainly in hard luck having so many things, you and I."

Tom worked in silence, thinking of what she had said, but his heart was with the gopher hunt.

"There are lots of the boys who never has a thing to do. Joe Peters has no cow to feed, or hens to look after, and they never bother with flowers. They just go out riding in the car every night, and I wish we were like them. The boys don't even need to go to school if there's anything else they want to do. Their house doesn't look nice, but they sure have fun."

Just then, the afternoon mail came in, and in it there came a letter to Mrs. Brown from home. It was from her mother, and, as usual, she seized it with delight.

"Dear Stella,' 'it began, "we had a family gathering today, and we had every member of the family but you, and so we have decided that we really must have you at the next one. You have been gone for fourteen years now, and you have not been home even once, and now we want you to come to us for at least a month. Your boys are big enough to leave now, and we know that Billy has always wanted you to have a holiday, but you are so conscientious about doing your duty to the boys, that you forget to do your duty to yourself.

"Now let me tell you what we have to offer in the way of inducement.

" We will all be here; father is very well this summer, and greatly enjoying his new Ford. He will take you all over to see the friends. The brothers and sisters are all wanting you, dear Stella, and they are full of plans for giving you a great time. The cotn will be ready then, and I hear talk of a great cornbake in the maple-bush, the first night you are here. The woods will be beautiful in September when the maples and the beeches begin to turn."

Mrs. Brown had sat on the veranda step to read her letter and at this point in the reading,a cry broke from her.

Tom ran to her at once—"Mother," he cried, in alarm—"what is it?"

Never in his life had he seen his mother cry.

She was herself again in a minute.

"It's nothing at all, Tom," she smiled—"only I just got homesick for a minute. Your grandmother wants me to come back home, and of course, I can't because it would take too much money; but I got lonesome for a moment, and I wanted to see the apple-trees and the plums that I planted, and I wanted to see the milk-house with the stream running through it, and the hollyhocks and hydangeas, and I wanted most of all to see mother and father and all of them. But I couldn't leave you and John and Daddy here all alone, even if we had the money, which we haven't, but we'll have lots of it when you and John are through school, and then we'll all go and see the old folks, and we'll stay a year, and motor all over Ontario in our Studebaker—and—"

The tears were still hanging around his mother's gray eyes, and Tom could feel them, although they were not visible.

He went back to the sweet peas, and soon had them all provided with good supports.

When he came into the house, his mother, shelling peas for dinner, was singing as usual.

"Mother," he said cheerfully, "is there anything else I can do? I don't mind work—I'd rather work, and I'm not going out with Joe Peters at all this afternoon—I want to stay with you—I'm sorry you can't go—but I'll hurry up with school—and we'll soon have lots of things."

"We have lots of things now, Tom," his mother laughed happily. "We have health, and each other—and lots to eat and enough clothes, and a good school for the boys, and I'm very happy. When we go home we'll all go, I couldn't go away for a month and leave you two boys. I would be thinking all the time that your knees were out, and you had forgotten to wash behind your ears, and had gotten into poison ivy for something. O! I am not homesick now, Tom, I am just thinking what a great time we will have when we all go back home to see our folks and your Daddy's people,and how proud I will be to show my two boys."

John and Tom Brown went through all the grades in the Public School, and when they entered the High School their record was something of a triumphal progress. They were able to take their matriculation from the High School, and then came the first real break in the family, when the boys went to the city to begin their college work. John was ready one year ahead of Tom, but he taught a year to help the family finances, and to let his brother catch up to him. The city was only fifty miles away, and the boys came home each week end, on their bicycles, in the sumer time.

In May, 1914, when the University reports came out, it was found that the one hundred dollar scholarship had been awarded to John Brown, and Tom had taken the second one of sixty dollars. Both boys were at home when the reports were published, and the little house, in need of repairs, fairly throbbed with delight. Mr. Brown brought the paper home at noon, and laid it on the table before his wife. The headline told the story.

"Brown brothers take first and second scholarship for proficiency," it said.

"The returns are beginning to come in, Mother," said John, with a smile, as he kissed her.

"Boys," she said, "the returns have always come in. I got my reward every time either of you gave me a smile—or a hug and every time I heard you laugh, every time I saw my boys learning how to do their part in life—I was repaid a hundred times. Your father and I have had a great time raising you two big fellows—you've kept us young, and well, and happy, and now you're bringing our rosiest dreams to pass. Talk about returns, Here!" And she kissed both boys and put the loudest kiss of all on her husband's bald head.

"Billy—old man—what sort of a time have we had—raising these two boys?"

"The very best," he cried, "the very best!"

That was in May, 1914.

In August came the war!

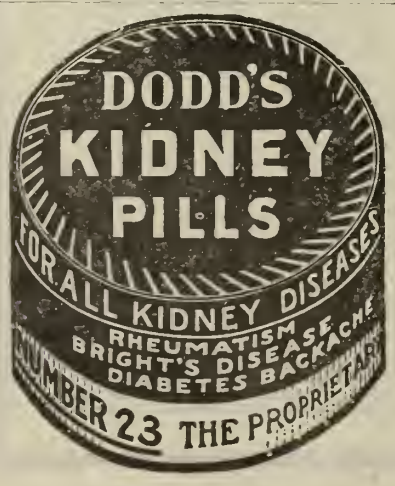
At first no one believed that a real war had come; the time had gone by. It would be settled. The little groups of men who gathered on the street corners were unanimous in predicting that it would all be over by Christmas.

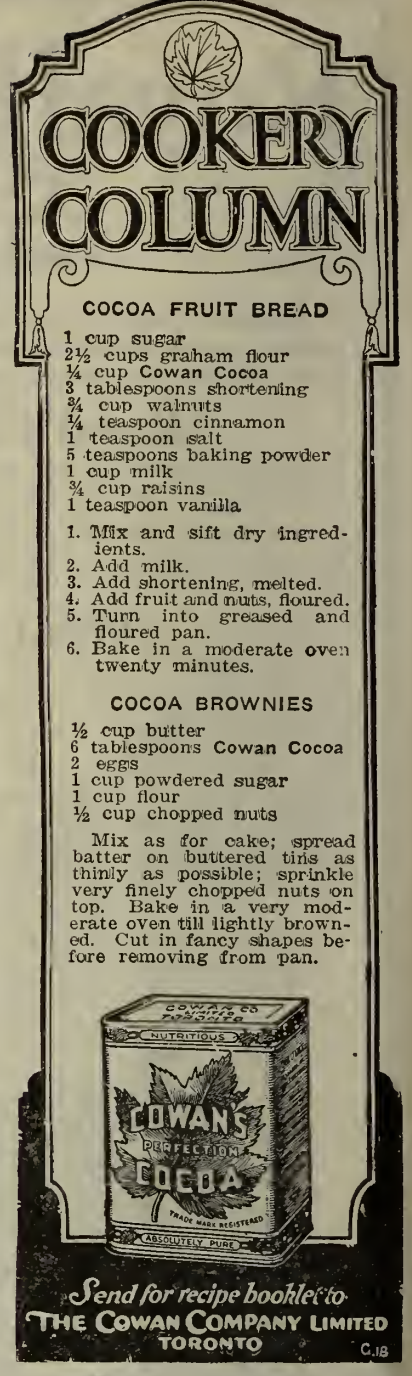
Every day, Billy Brown brought the paper home, when he came for lunch, and it was an excited group that read the war news, and traced on the new war map, which an enterprising newspaper had sent out, the places mentioned in the reports.

When the neighbors light-heartedly discussed the war, predicting its early and successful ending, Mrs. Brown was silent and absorbed. One awful possibility held her heart in its cruel grip, and darkened her days with fear.

They might have to go!

There was no thought of conscrip-




COOKERY
COLUMN
COCOA FRUIT BREAD
1 cup sugar
2½ cups graham flour
¼ cup Cowan Cocoa
3 tablespoons shortening
¾ cup walnuts
¼ teaspoon cinnamon
1 teaspoon salt
5 teaspoons baking powder
1 cup milk
¾ cup raisins
1 teaspoon vanilla
1. Mix and sift dry ingredients.
2. Add milk.
3. Add shortening, melted.
4. Add fruit and nuts, floured.
5. Turn into greased and floured pan.
6. Bake in a moderate oven twenty minutes.
COCOA BROWNIES
½ cup butter
6 tablespoons Cowan Cocoa
2 eggs
1 cup powdered sugar
1 cup flour
½ cup chopped nuts
Mix as for cake; spread batter on buttered tins as thinly as possible; sprinkle very finely chopped nuts on top. Bake in a very moderate oven till lightly browned. Cut in fancy shapes before removing from pan.
COWAN'S
PERFECTION
COCOA
NUTRITIOUS
ABSOLUTELY PURE
Send for recipe booklet to
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tion by the State, but there is a more inexorable law than was ever written down in cold type, and it was that law which was now driving the gladness and joy from the heart of many a man and woman.

It is the low of conscience—the conscription of conviction.

Somtimes it comforted and reassurred her to watch the men who walked the streets, the men who were older than her boys, and yet unencumbered with family cares, and apparently idle. Surely they would go before there was a call for boys at school. She tried to think of the thousands and thousands who, all over the British Empire, were hastening, at the call. Hers would not be needed. Indeed, she said to herself, there would not be training schools enough to train those who were offering themselves; there would not be a call for men, when there were no facilities for training them.

And besides, it would soon be over.

The boys went back to college when the Fall term opened, but their week-end visits had lost all their joyousness. They talked of nothing but the war! Recruiting officers had come to the college, and urged every boy over eighteen to enlst.

"Why don't they go to the barrooms and pool rooms?" Mrs. Brown cried indignantly. "Why do they not make their speeches to the idle men on the street corners. . . . ."

"This isn't a job for pool-room loafers, Stella," said Billy Brown, gravely, "this is going to take the best we have, and I'm afraid—all we have."

This was the first time he had admitted his fear that the war would be a long one, and there was something about his words that fell on her heart like the clay on a coffin.

The thing she feared, had come—Billy ha dadmitted it——

But it was like her not to cry out or complain. There was no outward manifestation of the storm which swept over her soul, except that as the days went on, her face seemed to shrink and wither.

The Brown boys enlisted in December, 1914, and went to Montreal for their training. The morning they left the station was packed with people. Six other boys went with them, all under twenty-three years of age.

Some of the neighbors said they thought it queer of Mrs. Brown to go to the station. The neighbor who lived in the house next door, who had no one to send, was perfectly sure she could not have gone, if it had been her two boys who were going away. She was too sensitive and full of imagination. But some people, she agreed, were not so fine in the grain, and it was well for them.

It was a dull winter morning, with a cloudy, red sunrise, and deep white frost on the trees, when the boys went away. A winter morning before sunrise is always dull and shivery, and does not make for cheerfulness; but there was no voice steadier than Mrs. Brown's when she said goodbye to her two boys.

Mrs. Wilson noticed how she trembled, when she helped her into the back seat of their car, but it was not Mrs. Brown who was crying as they rode together on their way back from the station.

Mrs. Wilson did not try to frame any casual word of sympathy as she watched her friend, in deep admiration. At the top of the street they stopped to watch the train as it throbbed its way across the prairie. The smoke wreath lay against the sunrise, and was touched by the first beams that come over the edge of the earth.

"There's nothing more beautiful than smoke!" said Mrs. Wilson absently.

Mrs. Brown did not hear her. Her eyes were fixed on the disappearing train, and her ears were strained to catch catch the last echo of its strident whistle.

When it was gone from her view, something like a sob broke from her, but she sat very straight, and her voice was steady when she said, as if to herself—

"It seems right that they should go together."

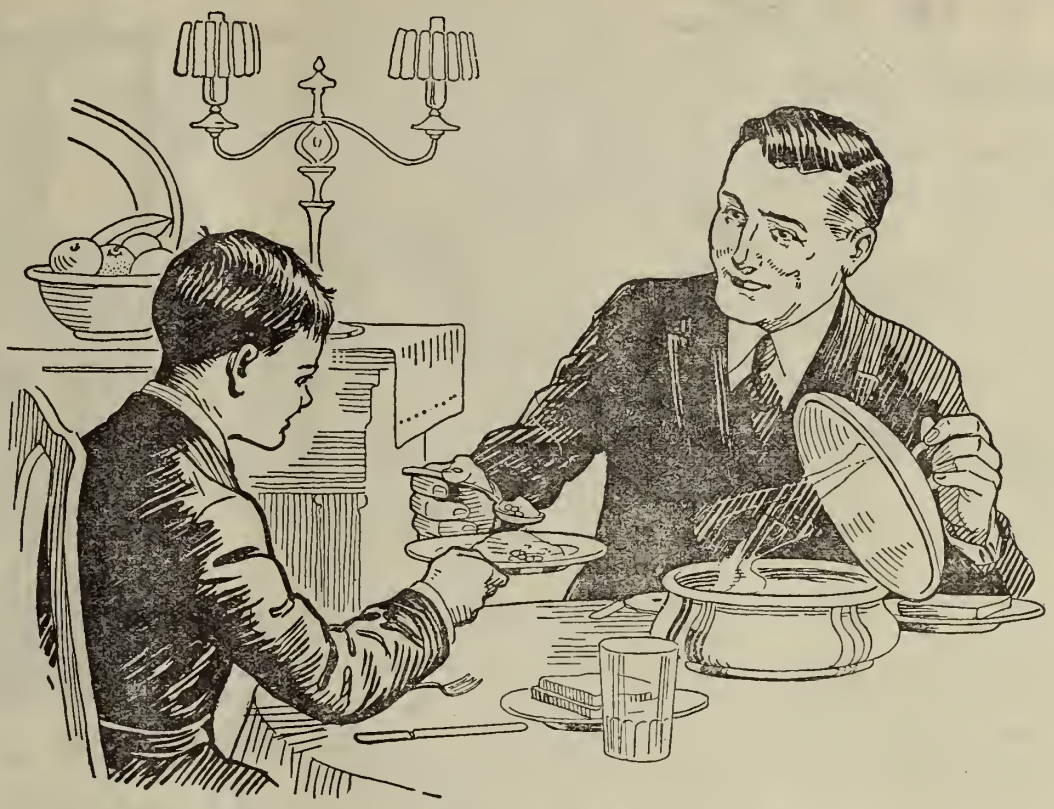
In the front seat, Mr. Wilson was speaking.—

"Brown, I congratulate you with all my heart. It's a wonderful service, to fight for the liberty of the whole world, when a terrible danger threatens it, and you're able to send two men to fight for all of us. I'm not going to tell you I sympathize with you, —I don't, I envy you—and I'm very humble, in your presence."

'Billy Brown's face was pale and twitching with many emotions, but he made no reply. He probably did not hear what the other man said. There was a little scene being enacted in the dark recesses of his memory, and he saw himself opening the door of his house and calling:

"John Brown!"

From a litter of homemade toys he saw his eldest son, in a blue romper suit, with a tangled head of yellow curls, rise to his feet, and placing



"I Am Glad to See You Pass Back, My Boy"

"WELL, I'm hungry."

"Good. It is a long time since I knew you to be hungry, unless it was for candy or some fancy dishes."

"Guess you are right, Dad."

"And what makes you so hungry?"

"I don't know, unless it is the Dr. Chase's Nerve Food mother is giving me."

"Something is making you look better, anyway; you have more color and seem to have more snap about you. Have you been weighed lately?"

"Yes, I have gained six pounds since I began taking the Nerve Food. Mother weighs me every week."

"That is fine. Now I hope you will be able to do better at school. I would like to see you at the head of your class or near it. I guess you did not have a fair chance before. You were half starved and we did not know it."

"That was no fault of yours, Dad."

"Perhaps not, in a way, for there was always plenty to eat, but the trouble was we did not see that you got what was good for you, and you got away under weight."

"One thing certain, I am feeling a lot better now, so I guess it must be from using Dr. Chase's Nerve Food.

"Yes, we shall give the Nerve Food credit for doing a whole lot, for I am sure you would never have gained up so quickly without it."

"Who told you about it, Dad?"

"I read in the paper that one boy in every three was under weight from malnutrition, and that was why so many boys were nervous, irritable and backward at school. Then I began to think about you and decided that you were not having a fair chance."

"You will not need to worry about me any more."

"No, I hope not, and I am going to warn other people of the risk they are running of having their children becoming physical and nervous wrecks for lack of proper nourishment. You had better go out and get some fresh air now before dark."

In order to be sure of getting the genuine Dr. Chase's Nerve Food it is only necessary to see the portrait and signature of A. W. Chase, M.D., the famous Receipt Book author, on the box you buy. 50c a box, 6 for $2.75, all dealers, or Edmanson, Bates & Co., Ltd., Toronto.

LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

A MESSAGE TO WOMEN!!

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.

Mrs. M. Summers, Box 309 Windsor, Ont.

Hot Flushes, Fainting Spells.

So Weak and Nervous Could Not Sleep.

Mrs. Philip H. Ryan, Sand Point, N.S., writes:—"I have been a great sufferer from nerve trouble. I was so weak and nervous I could not sleep at night, and my appetite was very poor. I could not walk across the floor without trembling all over. I had hot flushes and fainting spells. When I was on my second box of Milburn's Heart and Nerve Pills I began to feel better and kept on until I had used six boxes when I felt like a different person. I am never without them in the house and recommend them to all who suffer with their nerves."

Milburn's Heart and Nerve Pills are 50c per box at all druggists or dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

his little heels together, and lifting one plump pink hand in token of salute, answer:

"Present."

"They have answered the call," he said brokenly. "They have answered!"

It was a lonely house when the boys were gone, although Mrs. Brown did not spend a moment in idile grieving. She went bravely to the boys' room that afternoon ,and carefully put away all their things, sometimes pressing a kiss on a cap or coat.

Her neighbor across the fence ran in to see her that afternoon, and found her in the midst of her work. She took it as a further proof of Mrs. Brow's lack of sentiment. "She never seems to think anything will happen, and actually talks of when the boys come home. I can't understand a mother being so composed at a time like this. And she's going to take boarders! I would have thought she would want to keep that room just as the boys left it, with everything in it to remind me of them. I know ifit were my case I couldn't bear to touch a thing. But then—every one isn't like me!"

By her efforts in keeping boarders Mrs. Brown was able to supply her two boys with many comforts, and the thought that she was able to follow them, with the ministry of her love, comforted her in many a tragic moment, when the horror of it all seemed more than she could bear. The nit was that, to keep the biitter waters from going over her head, that she sang as she worked, sang—to keep herself from thinking—and her neighbor, hearing her singing, wondered at her lightness of heart. She forgot that people sometimes whistle going past a graveyard, and it isn't because they are light-hearted, but only frightened.

When the First Victory Loan was launched, there were many reasons why Herbert Wilson was made the Chairman of the Committee. He knew the business men: he had time: he had enthusiasm: he was a good speaker: he was a heavy subscriber.

His first addresss made a great impression.

"I have, unfortunately," he said, "no one to send"—and his voice trembled with deep emotion. "I am one of those, whose life has not been blessed with children—but I will fully, freely, gladly give myself and of my means, to the cause of human liberty!"

To the first loan he subscribed twenty thousand dollars: His picture was published in the city papers: A large poster hung in the plate-glass window of the drawing room in the big house!

The war is over now. The Armistice is signed. The nations are explaining!

If this were a story—a piece of fiction—a romance—I would give it different ending!

But it was not my story, and I have no option.

It was in August, 1917, when the sweet peas were spilling their perfume all over the garden, and the tomatoes were turning red upon the vines, that the news came!

Mr. and Mrs. Brown had come in from church, and were getting dinner as usual. Two S. O. S. boys, working on farms near by, had come home with them for dinner, and to them Mrs. Brown was telling an episode in Tom's life, when he had run away to the swimming pool, and some of the boys had stolen his clothes, an dhe had to stay hidden until it got dark enough for him to make his way home unobserved, and how he had dressed himself in his best suit, and gone out to find the gang who had robbed him.

They were laughing so much, they did not hear the door-bell, and the boy with the telegram came around to the back door.

The telegram regretted to inform them that Private Thomas Brown had been hit by a piece of shell and instantly killed on August 1st.

The next Sunday the other telegram came. It regreted to inform them that Private John Brown had been hit with a piece of shell on August 8th, and instantly killed.

In the front window of the small house, still in need of repairs, the scarlet leaves of the Service Flag have been changed to gold. A small woman, whose hair is all gray now, goes softly about her work, often stopping absent-mindedly, as if she were listening for some sound which she does not expect to hear. The springiness has gone from her movements, and the neighbor across the fence says Mrs. Brown is "ageing." But she still has a smile when her husband comes home, and to him she often says: "It seems right that they should go together!"

At the desk in the inside office of the implement house, Billy Brown still keeps the accounts of the firm. People say he bears up wonderfully well. Sometimes when he is all alone, his shoulders sag a little, and he has been knwn to talk to himself, generally, just a word, a name, "John Brown!" he whispers. . .. and then away back in the garden of memory he sees a chubby fist go up; he sees a sudden flash of blue eyes—and a toss of golden curls—and then he hears a childish voice make answer:

"Present!"

"They did not fail," he whispers—"when their country called—they answered."

He is not unhappy, for the past has its pleasures too, as well as the present.

The asigned pay ceased when the boys were killed; and there are no pensions paid, for their mother is not a widow, neither were they the sole support of anyone. There came, however, from the Department at Ottawa, two typed letters, just alike, expressing polite sorrow!

The Wilsons have enlarged their house again, and Mrs. Wilson has her own car now. Why not? The money which they loaned their grateful country, has been a good investment. It pays five and a half per cent. interest, and is free from taxation. Twice a year the cheques come, which speak a nation's gratitude.

For the loan of money our Nation is very, very grateful. It is only the gift of men, that is forgotten!

Gets Instant Relief After Four Years

TORTURED WOMAN TRIED DODD'S KIDNEY PILLS

Kidney Disease and Insomnia Had Made Her a Nervous Wreck Till She Used Dodd's Kidney Pills.

Dunvegan, Inverness Co., N.S., Feby. 1st—(Special).—Women who are dragging wearied limbs around, weighed down with a suffering and tiredness that can find no rest, will find sunshine and hope in the message Catherine McPherson of this place sends to them.

"I have just used one box of Dodd's Kidney Pills," Miss McPherson states, "But they did wonderful good for me.

"For nearly four years kidney disease tortured me. It finally developed into diabetes. I became a nervous wreck and insomnia was added to my troubles. I was so weak and tired and irritable that every trifle added to my discomfort.

"Dodd's Kidney Pills gave me instant relief. They are a wonderful medicine. I shall recommend them to all my friends."

Dodd's Kidney Pills are purely a kidney remedy. They put the kidneys in shape to strain all the impurities out of the blood. That's why they bring health and restful sleep in their train.

O.V. BRAND
Pure Wool Underwear

O.V. (Ottawa Valley) brand has been worn for fifteen years by Canada's nation builders—on railroads, farms and the Empire's battlefields; in mines and in construction camps. Made for warmth and durability, in medium and heavy weights, in combinations and two piece suits. Guarantee with every garment. Moderate prices.

Sold throughout the wholesale trade only.

KNITTING MACHINES FOR MONEY MAKING HOME, & RED CROSS WORK
Catalog free. CREELMAN BROS., Mfrs., Box 818 GEORGETOWN, ONT.

VALENTINE COOKIES

Small cakes appeal to the hostess who at this time of year wishes to carry out especial ideas in design and color schemes for her social functions and she may, with a small outlay of time or money, produce innumerable concoctions of fascinating shapes and appetizing flavors. They may be made in the shape of hearts, darts, Cupid arrows, and love wands, either by baking in the little fancy pans that are sold for such purposes, or baked in a thin sheet and then cut to suit individual fancy. The manner of icing then depends, of course, upon how they are to be served.

Maple Jumbles

These are made by mixing thoroughly two cupfuls of sugar, one of butter, one of sweet milk, four of flour and three teaspoonfuls of baking powder. Drop from a large spoon on butter tins, thickly sprinkle with grated maple sugar and bake.

Hearts' Delights

A sweet which is unexcelled for tea. Boil a cupful of confectioners' sugar and half a cupful of water until it breaks when dropped into cold water. Then beat in the stiffly beaten yolk of an egg, add a cupful of dried currants and one of minced nut-meats; beat to a stiff frothy paste spread on heart-shaped crackers and brown in the oven.

Love Puffs

The whites of six chilled eggs and a pound each of sugar and walnut kernels will make quite a number. Beat the whites of the egg to a very stiff froth, gradually add the sugar, then the nuts; drop on greased paper and bake forty minutes in a slow oven.

Dice Wafers

Take the whites of ten eggs, one and a half cupfuls of sugar, the same of flour and a teaspoonful of baking powder. Beat the whites stiff, sift the flour, sugar and baking powder together four times and stir lightly into the eggs. Flavor with orange and bake in a long, shallow pan, and afterward cut into squares. When cool, ice, flavoring the icing with orange, and, while soft, dce with English walnuts.

THOSE WHO COME BACK

(Concluded from last issue)

Those who come back have acquired unconsciously, too, a wider vision and what may be termed a broader culture. They have looked out on wide horizons. They have rubbed shoulders with the world. The great majority of those who have returned would never in the ordinary course of peace events have crossed the Atlantic. Many of them had never before been beyond the borders of their native village. It has meant a wider vision to have walked in Westminister Abbey, or to have stood in the stillness of the Colosseum, or to have looked in silence upon Napoleon's tomb. It has meant a different outlook even to have rushed with the crowds in Picadilly, to have strolled down the Champs Elysees in the golden Paris afternoon, or to have watched the swans and the play of foreign children in the Tuileries Gardens or the Bois de Boulogne. It has meant a broader citizenship to have visited the home of his ancestors among the heather in the Highland mists or on the English downs, or on the green hills of Ireland, or on the flowered slopes of Normandy. He will not love Canada the less as a result. He will have a greater realization of the toil and the adventure and the great vision of his ancestors in the making of his new country. And he will have greater pride in his home land. He will realize more deeply then before his country's kinship with the world, her duty to humanity, and the meaning of her place in the League of Nations,—a place which he himself has helped to give her. He will realize more fully too, that the hope of his ancestors in their great adventure has not been unfulfilled.

Those who come back are changed, too, in other ways; they are greater and better in spirit than when they went away. The war was more than the "great adventure" it has so often somewhat flippantly been termed. It was likewise the great test of men, the fire in which men were tried. In the past we have perhaps known all too little of the fine qualities of our youth, even in the communities where they resided. The war has emphasized or disclosed these qualities. It was the place of death, but it was also the place of opportunity. It sent away boys who came back men in other and better ways than years. It developed self-confidence and self-reliance; it taught patience and endurance under great trials; it necessitated quick decisions by young minds and the acceptance of great responsibilities by young shoulders; it instilled self-reverence, self-knowledge, self-control; these three qualities which lead in the end to power. It showed the weak his limitation as it showed the strong his strength. It always brought out the best if there was any best to bring out, but it was merciless, too, in magnifying weakness, perhaps by the laws of contrast. It would be absurd to say that the war improved every boy and man who went away. The truth of the old Japanese proverb, "dress a monkey in a soldier's uniform and he is a monkey still" had many living witnesses in the army, both at the front and behind the line. These "monkeys dressed as soldiers" were not in the ranks alone; some of them wore tabs. These are the men who hoped that the war would last forever, for there they were, like Shakepeare's clown, for the first and last time "dressed in a little brief authority." Now that the war is over they will sink back into the foilage of obscurity from which were it not for the social influence or political faovritism or the "old gradation" of rank they would never have been drawn. They should not be regarded as typical of the great body of our army.

What, then, will be the result in our national life by these home-coming men? What will be the influence on Canada of those stronger half-million men with their wider outloook on life, their tolerance, their broader culture, their new conception of Canadianism? This will be considered in a later article.—Major Cyrus MacMillan, O. C. 6th Canadian Siege Battery, C. E. F., in Canadian Courier.

Mother Meant What She Said

"What do you think of my bread, Mother?"

"Why, these loaves look perfectly lovely. Since you have a home of your own you have become a wonderful cook. I'm getting envious, Edna. Why, I believe I like your bread and biscuits better than my own!"

"Mother, you old flatterer!"

"No! I mean it. I've really never eaten better bread than yours."

"Well now, I refuse to take *all* the credit. I'll let you in on the secret, Mother. I use

Cream of the West Flour

the hard wheat flour that is guaranteed for bread

Maple Leaf Milling Co., Limited

Toronto, - - Canada

10

Mr. J. A. McFarlane of Napanee, Ont., had chilblains so bad that he couldn't wear boots. Egyptian Liniment relieved them. Don't suffer from chilblains this winter. This liniment is also for Frost Bites, Burns Scalds, Cuts, Bruises, Sore Chest and Throat, Neuralgia, etc.

DOUGLAS' EGYPTIAN LINIMENT AT ALL DEALERS 35¢ BOTTLE

DOUGLAS & CO MANUFACTURERS, NAPANEE, ONT

PILES Do not suffer another day with Itching, Bleeding, or Protruding Piles. No surgical operation required. Dr. Chase's Ointment will relieve you at once and as certainly cure you. 60c. a box; all dealers, or Edmanson, Bates & Co., Limited, Toronto. Sample box free if you mention this paper and enclose 2c. stamp to pay postage.

The publisher of the best Farmer's paper in the Maritime Provinces in writing to us states:

"I would say that I do not know of a medicine that has stood the test of time like MINARD'S LINIMENT. It has been an unfailing remedy in our household ever since I can remember, and has outlived dozens of would-be competitors and imitators."

Obstinate Coughs
Obstinate Colds

The Kind That Stick,

The Kind That Turn To
BRONCHITIS,

The Kind That End In
CONSUMPTION,

Become a Serious Matter
IF NEGLECTED.

All obstinate coughs and colds yield quickly to the curative powers of

Dr. Wood's
Norway Pine Syrup.

This old and well-known remedy has been on the market for the past 30 years.

You will find that a dose or two will stop the cough, soothe the throat and bronchial tubes, and if the cold has become settled on the lungs the healing properties of this famous cough syrup will soon bring complete and permanent relief.

There are many imitations of Dr. Wood's Norway Pine Syrup on the market. Get the original when you ask for it. Put up in a yellow wrapper; 3 pine trees the trade mark; price 25c. and 50c.

Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

TILL THE DOCTOR COMES. — WHAT TO DO IN THE CASE OF EMERGENCY

Probably the difference which telephones and motor cars have made in our life has never been realized more gratefully than in case of some emergency when a doctor must be summoned as quickly as possible. But despite the aid which is so welcome and which only the rash refuse to use in any case which shows serious signs, there are certain things which we should know for ourselves and be prepared to do. There are times when even the most timely assistance is too late, and when life may depend on immediate and proper care. If the baby has swallowed the contents of a pill box, you can hardly afford to sit and look at her till the doctor drives out.

Then besides these rare emergencies there are those instances when a little care at the beginning when nothing serious is apprehended may save untold troubles later. If all cuts were properly dressed we would have fewer cases of blood poisoning. Again, even in cases of severe illness. it is not always possible to have a nurse and the home-maker must have a certain knowledge of how to care for her patient.

All told, both as regards previous measures and subsequent actions under the doctor's directions it is well to have at least a rudimentary knowledge of home nursing.

These ideas have suggested themselves upon the reading of a little book called the "Home Nurse," which has recently come to hand, and which seems to give in a simple and easily understandable form the chief things that should be known in regard to this subject.

A word of caution, however,. I have noticed a tendency among people to consult a book in preference to a doctor. This is the height of folly, and is, of course, in opposition to the spirit of this book, which, being written by a doctor, naturally insists on the part played of necessity by the physician in any illness. The book simply seeks to give guidance in those cases when the experience of the nures should supplement the wisdom of the doctor.

I have thought that it might be worth while to put in order certain things which should be remembered in regard to all illness and emergencies.

First of all it should be remembered that prevention is better than cure. This sounds trite, but as long as people go on taking mediciness in the dark, or leaving poisonous drugs within the reach of children, it must be repeated. It is really criminal to run risks in such matters.

Again, it is well to keep on hand a supply of the ordinary remedies which may be needed in case of sudden accidents. For example, a reliable disinfectant should be kept on hand to use in disinfecting cuts or wounds. Here are some of the commonest disinfectants:

Bichloride of Mercury or Corrosive Sublimate: This ih a powerful disinfectant, and is used in one part to a thousand parts of water. It is poisonous and decomposes metal therefore, it must be kept out of reach and should not be kept in a metal vessel.

Carbolic Acid: It is also a poison and burns readily. Its strongest solution in common use is one part to twenty of water. This is generally diluted to a third of its strength.

Peroxide of Hydrogen: This is a safe disinfectant, and may be readily employed. A three per cent. solution is generally used.

Boracic Acid: This is a weak disinfectant. It is used in a five per cent. solution.

So much for the disinfectants. In addition one should have on hand a supply of linen cloths, such as old handkerchiefs and the like which can be used for bandages. These can be sterilized by ironing with a hot iron or by boiling. They are the nsafe to use in the dressing of a wound.

A supply of obsorbent cotton, that is wadding which has been sterilized and treated with some disinfectant, should also be kept on hand. This can be bought at a drug store, and may prove useful. z

There are a few general principles in connectoin with the treatment of wounds or cuts swhich everyone should understand.

First, the cut must be cleaned. Many serious cases have resulted from a disregard of this rule. Too often the whole aim is to stanch the blood, and the wound is closed with flour or even cobwebs in seeking to do this. Such a treatment endangers infection, the very thing against which one should guard most carefully. The cut should be well washed even if it bleeds profusely. Boiled water should be used if possible, if not at hand, use the cleanest water that can be had. Bleeding can generally be prevented if the cut is in the limb, by tying a handkerchief tightly between the cut place and the heart. A disinfectant may be added to the water with which the cut is bathed. Any disinfectant, but salves and ointment should be avoided as they may close the wound and so shut in any germs which may still be lodged there. The cut should then be wrapped in a slean cloth, and it is probable that no further trouble will follow.

If the cut is a bad one, it may be necessary to use strips of plaster to bring the edges together. Of course, if it is very bad the doctor will have to be sent for to dress it and to put in stitches if needed.

If one's finger is pricked it is always wise to suck the spot at once. Poisons often enter the system in this way, sometimes through the most trivial causes. While one searches for a disinfectant any poison would

The Beginning of the Trouble

Is the Time to Stop it—And the Means of Stopping it are Provided by Dodd's Dyspepsia Tablets.

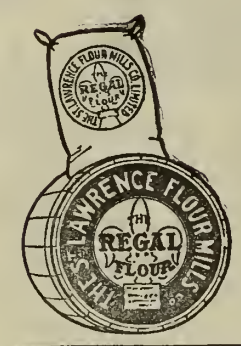
Have your meals become of interest to you simply because of the trouble they bring? Is your appetite gone? Do you get up in the morning with a dark brown taste in your mouth. Is your head muddled and sort of half aching? Is your day's work a burden? Do trifles worry you?

If you have any of these symptoms it is time to pay attention to your stomach. It has been overworked and needs help. Attend to it at once or you will drift into Indigestion, and from that to Dyspepsia. Help your stomach with Dodd's Dyspepsia Tablets. They tone up the stomach and bring it back to a healthy condition.

Mrs. Jos. A. Collet, Girouardville, Kent Co., N. B., says: "Two boxes of your Dodd's Dyspepsia Tablets cured me of Dyspepsia."

Dodd's Dyspepsia Tablets, 50c a box, or isx boxes for $2.50, at all dealers, or The Dodd's Medicine Co. Limited, Toronto, Ont.

The Big Value in
FLOUR



PLACE on your table, bread made of "REGAL FLOUR" and see how your family will like it. The test of the table is the supreme test.

The St. Lawrence Flour Mills Co.
Limited
MONTREAL

I KNOW A WOMAN'S SUFFERINGS

I am a woman.

What I have suffered is a far better guide than any MAN'S experience gained second-hand.

I know your need for sympathy and health.

And the treatment that gave me health and strength, new interest in life, I want to pass on to you, that you, too, may enjoy the priceless boon of health.

Are you unhappy, unfit for your duties? Write and tell me how you feel and I will send you ten days' FREE trial of a home treatment to meet your individual needs, together with references to women in Canada who have passed through your troubles and regained health; or you can secure this FREE treatment for your daughter, sister or mother.

If you suffer from pain in the head, back, or bowels, feeling of weight and dragging down sensations, falling or displacement of internal organs, bladder irritation with frequent urination, obstinate constipation or piles, pain in the sides regularly or irregularly, bloating, dyspepsia, extreme nervousness, depressed spirits, melancholy, desire to cry, fear of something evil about to happen, creeping feeling up the spine, palpitation, hot flashes, weariness, sallow complexion, with dark circles under the eyes, pain in the left breast or a general feeling that life is not worth living, I invite you to send to-day for my complete ten days' treatment entirely free and postpaid, to prove to yourself that these ailments can be easily and surely overcome at your own home. without the expense of hospital treatment, or the dangers of an operation. Women everywhere are escaping the surgeon's knife by knowing of my simple method of home treatment, and when you have been benefited, my sister, I shall only ask you to pass the good word along to some other sufferer. My home treatment is for all,—young or old.

Read My FREE Offer:

To Mothers of Daughters, I will explain a simple home treatment which speedily and effectually dispels green-sickness (chlorosis). irregularities, headaches and lassitude in young women, and restores them to plumpness and health. Tell me if you are worried about your daughter. Remember it costs you nothing to give my method of home treatment a complete ten day- trial, and if you wish to continue, it costs only a few cents a week to do so, and it does not interfere with one's daily work. Is health worth asking for? Write for the free treatment suited to your needs, and I will send it in plain wrapper by return mail. Cut out this offer, mark the places that tell your feelings and return to me. Write and ask for the free treatment to-day, as you may not see this offer again. Address:

MRS. M. SUMMERS, Box 309 Windsor, Ontario

probably have entered the system, so the more homely expedient is in this case the safe one.

The bite of a dog should be touched with nitric acid or acetic acid at once. This presupposes, of course, that this is on hand for use.

Some one asked some time ago what should be done in cases of ptomaine poisoning. The best thing to do is to avoid getting poisoned. The housekeeper should be scrupulously careful in using canned meats to be sure that they are perfectly good. They should, of course, never be left in the can, but should be removed as soon as the can is open. No food should be served if there is even the slightest suspicion that it is tainted. These simple precautions go far to make ptomaine poisoning impossible.

If, however, it is suspected that such has occurred the doctor should be sent for at once. This is most emphatically a case for his need. Violent pains, accompanied by nausea and vomiting may indicate ptomaine poisoning. If it is thought that poisoning has occurred quantities of warm mustard water may be given to the patient, also a dose of salts. This is probably all that one can do until the doctor arrives.

Burns are of occasional occurrence in every household. When this happens the first thing is to stop the burning. For instance. if your foot was scalded you should thrust it into a pail of cold water ,as this will prevent further burning. Afterwards the foot and stocking can be cut away. Then the burn or scald must be dressed so that the air will be kept out. That is why oil is commonly used as the basis of all dressings for burns.

In every house there should be a bottle of linseed oil and another of lime water. These should be mixed in equal quantities and poured on the burn and on the cloths in which it is wrapped. Carron oil, as this is called will soon soothe the pain. It should be applied freely during the earlier stages of healing. Later a drying salve may be used, but soft salves such as vaseline should be avoided.

So much for some of the commonest emergencies; a word now as to one of our most ordinary ailments for which a doctor is as a rule not called. Colds probably cause more discomfort than any one other ailment. Habitual colds are also very dangerous, as they are apt to lead to the other more serious troubles.

Prevention is again the best remedy. People who take reasonable care in regard to sufficient clothing, who always sleep with the windows of their bedrooms open, and who are in the habit of taking a cold bath in the morning are much less liable to cold than are those who liev in hot, stuffy rooms and shun cold water.

Here is the rule for curing a cold which Doctor Lowry gives in the book to which I referred at the beginning:

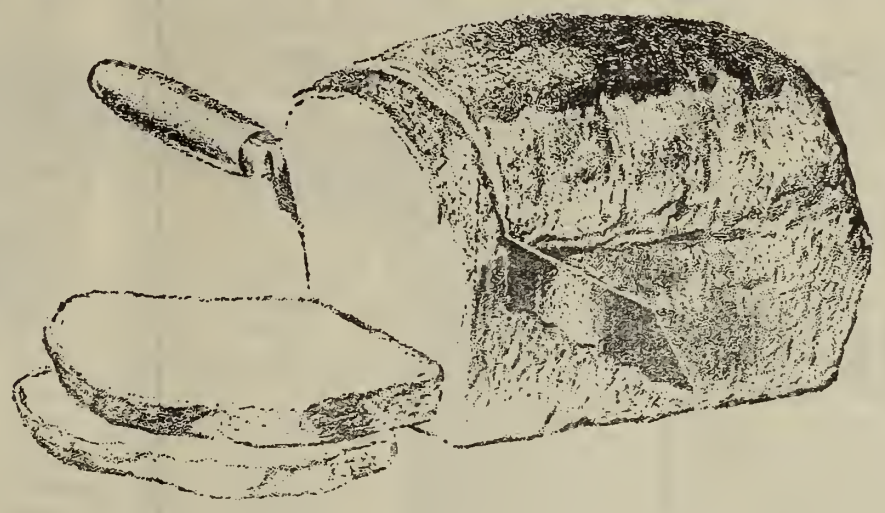
"The cure of a cold can be summed up in one word, eliminate. Eliminate by the skin, by the lungs, by the kidneys, and by the intestines."

He goes on to point out that a laxative should be taken to produce elimination by the intestines; that the drinking of plenty of water will help elimination by the kidneys; that the old fashioned remedies of a mustard foot-bath and hot lemonade will induce sweating and so help the skin to throw off its poisons; and that finally, plenty of fresh air will enable the lungs to do their work. A cold may be checked in its incipient stages by deep draughts of fresh air into the lungs. Doctor Lowry ends with a wise warning against patent remedies for colds. The simple ones which have been mentioned are perfectly safe, and are all that are needed.

Probably most people take far too much medicine. The present tendency among physicians seems to be to discourage the use of drugs and to place emphasis on an understanding of and comformity to the laws of health. Fresh air, sunlight, pure and nourishing food, and plenty of sleep are within the reach of most of us, and in these things lies the correction for many of our ills.—Contributed.

FIVE ROSES FLOUR

for Breads - Cakes - Puddings - Pastries



CARVE thick, satisfying slices for famished children—cut thin, dainty slices for the "five-o'clock"—all from the same fat FIVE ROSES loaf. A nutritious and economical bread-producer, FIVE ROSES makes a luxury out of a necessity.

PRUNE GOODIES

Soak prunes over night in cold water, boil until tender, not allowing them to break, and take out the pits. Grate a squaer of chocolate, mix with the beaten white of two eggs and three tablespoons of powdered sugar. Dip prunes one by one in the mixture, and put them, without allowing them to touch, on a butter tin. Bake ten or fifteen minutes and serve hot.

CREAMY CUSTARD

Three pints of milk, three eggs beaten separately, scald the milk in a pan of hot water, beat egg yolks with a little salt and then add a cupful of sugar, a small teaspoonful of flour mixed with the milk, one teaspoonful of vanilla and the well-beaten whites; stir into the scalded milk and bake thirty minutes with the dish set in a pan of hot water.

TEA COOKIES

Stir one half cupful of butter, seven tablespoonfuls of powdered sugar and yolks of three eggs until creamy. Mix in one cupful of almonds grated and one and one-half cupfuls of finely sifted flour. Sprinkle the baking board with flour, roll out the dough to ⅛ inch thickness, cut with a round cutter, brush with yolk of egg and tablespoonful of milk and bake on floured tins.

RELIEF AT LAST

I want to help you if you are suffering from bleeding, itching, blind or protruding Piles. I can tell you how, in your own home and without anyone's assistance, you can apply the best of all treatments.

PILES TREATED AT HOME

I promise to send you a FREE trial of the new absorption treatment, and references from your own locality if you will but write and ask. I assure you of immediate relief. Send no money, but tell others of this offer.

Address

MRS. M. SUMMERS, Box 309
Windsor, Ont.

MARVEN'S
WHITE LILY BISCUITS

Are popular because they are pleasing to the palate

They are the standard by which other biscuits are judged

SOLD IN BULK—IN PACKAGES—IN TIN PAILS

J. A. MARVEN, LTD.
BISCUIT MANUFACTURERS
MONCTON HALIFAX ST. JOHN

N. S. FRUIT GROWERS IN ANNUAL SESSION

(Continued from page 299)

the place of the 150 varieties they already had. In taking up his subject he said co-operation has been a success wherever tried out. Nova Scotia was the last to adopt co-operative measures and the trials and troubles which they had met with had been many.

In 1907 the got their first co-operative market, in 1911 succeeded in forming the United Fruit Growers Ltd. In 1913 the first lot of fertilizer was brought in, about 100 cars. This was the first attempt in speculative lines, but did much to establish them in the minds of the people. 7,000 tons are now handled besides grass seeds and insecticides at 30% less than they can otherwist purchase it. The cost of spryaing has been reduced on third this last year.

The time has come when co-operation must spread, when a greater activity along these lines is necessary. Something must be done about the transportation question, the Dominion Atlantic Railway had handled the 1919 crop well, olthough there was difficulty in procuring the cars for transportation- but the ocean rate is excessive and all must co-operate to get their just dues. This will eventually work out but the Fruit Growers are now losing by not being able to present their fruit in proper condition. There has not been proper refrigerator service.

Mr. Shaw having to retire, Mr. V. B. Leonard, the newly elected president took the chair.

Discussion on the address

In the absence of Prof. Trueman, Mr. M. K. Ells opened the discussion on the possibilities of the Tractor for orchard work. He had purchased a Cleveland Tractor and had had good success. Initial expense was heavy, about $2,000, including tractor, harrows, ploughs, etc., horse drawn instruments not being satisfactory. He could not see how it would pay the average farmer. He had put in 35 acres in 2 days, which shows it was a great factor in getting your work done at the earliest opportunity, the matter of the crop being put in at the proper time meaning a great profit or a great loss. Summing up, if you have about 30 days fall it is a profitable proposition, if not he would not think it would pay the small farmer.

Mr. A. S. Banks, Waterville, who owned and operated a tractor said that although on the small farm it seemed a heavy expense, still when not in use, it cost nothing to keep. It will do the work of three heavy teams and is a fine reserve power to have on the farm. They used it for loading hay and grain also.

Mr. Sherwood, Port Williams, had two years experience with a Ford Tractor and said it did his work for one-half what he could do it with a horse and quite satisfactorily. The upkeep nothing to date and the outlay in his case $1,050 or $1100.

With a good pulley it had ample power to run anything . He used it for running his ensilage cutter and mowed his hay with it in three quarters of the time he could have done it with a horse. He found it no good for hauling on the road. In plowing and harrowing very good. He thought perhaps caterpillar type better for ploughing and the Fordson type perhaps better for harrowing.

The Ford Tractor, he pointed out, was very flexible and therefore easily abused, and should not be driven at too great speed.

Mr. Ells stated that the Quebec Government, after investigating all makes, purchased 1000 Cleveland Tractors, and are putting them out at cost, $1100 to their farmers.

Prof. Blair said he had two years' experience with a Ford, and found is satisfactory, particularly in harrowing. He thought the tractor a profitable inlar type.

The President then introduced an old friend of the Association, Captain Allen, who, during the war sailing the seas had his ship sunk and was made a prisoner of Germany.

Captain Allen had many experiences to tell, and was thoroughly enjoyed. After three hearty cheers and a tiger, the meeting adjourned to repair to the Strand Theatre, where they were entertained with moving pictures, at the invitation of the town of Kentville.

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First Great Sale of Raw Furs
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Offering immense quantities of fresh, original, unculled Canadian Furs—the Best in the World—UNMIXED with inferior southern varieties, the company will sell to the highest bidder of hundreds of eager buyers from all parts of the United States and Europe.

You get the world's best prices on the WORLD'S BEST FURS, your CANADIAN goods, at our sales.

We do not issue extravagantly-quoting, misleading price lists, but we do see that your furs bring absolutely top prices. Eager inquiries reach us daily from the world's chief buying capitals.

Buyers from London, Paris, New York, Chicago and other great distributing centres have already arranged to attend the MARCH SALE.

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Last day of receiving for this sale is MARCH 1st.

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Thursday Morning

President in chair.

Mr. Foster read a letter from F. C. Baxter, Ottawa, in reply to one written by him to Mr. Baxter, in behalf of the Fruit Growers' complaining of the model of the standard barrel. Mr. Baxter begged to leave it over until the present meeting of the Association when the subject could be thoroughly discussed.

Report of Resolution Committee followed.

Resolution re better storage facilities moved by Mr. Foster, seconded by F. H. Johnson. After discussion, carried.

Resolution re new loading device moved by Mr. Ells, seconded by Mr. Vroom, and carried.

This was followed by an address by Mr. J. M. Robinson, Kentville, on the thinning of fruit.

Mr .Robinson proved from experi-

ments conducted that thinning always paid, the percentage of No. 1's from the thinned tree being much in advance of that from the unthinned, besides being a better product, and sited experiments carried on in Mr. Johnson's orchard at Bridgetown on the Blenheim and Gravenstein, which resulted in a profit of $35 per acre from thinning, with a decrease of number 3's, 11½ per cent.

An experiment had been carried on in Wagner's last year at the Experimental Farm, 1 acre, 3 rows, 36 trees in each row, thinned every other tree.

No. 1's thinned were 11% over those unthinned, and as the trees were only in the 8th year, results were not as marked as they would be later.

Experiments show that thinning will give you trees that will provide annual crops.

The best time to thin is right after the so-called June crop. Do thinning with a narrow, sharp pointed pair of shears, that can be bought for 45 cents, rather than by hand.

In summing up, Mr. Robinson said, the number of No. 3's put on the market is going to brand the Nova Scotia Fruit, thinning is necessary to get rid of some of these No. 3's.

The fruit is of good flavor, but lacks the finished appearance that the British Columbia and other apples have. Thinning is needed to bring it up to the standard.

A box of No. 1 thinned fruit will bring a better price and grading unthinned fruit costs more.

In conclusion he hoped each member would get a pair of shears and thin all that he thought would not be No. 1's.

Mr. Geo. E. Sanders followed this paper with a carefully prepared address on the Cost of Spraying Materials.

Mr. Sanders, who is an authority on spraying materials, was listened to with great attention.

Hiss address will appear in full in a future issue.

Soem little discussion followed on this subject, after which Mr. G. H. Vroom, Chief Fruit Inspector for Nova Scotia, spoke on the Handling of the Nova Scotia Fruit Crop in 1919.

Mr. Vroom spoke of a trip taken through the Valley in company with Mr. Sanders and Mr. Campbell, Assistant Director Horticulture for New Zealand. Mr. Campbell, he said, thought the rough handling of the fruit a deplorable loss to the fruit grower, and Mr. Vroom said he agreed that it was time something was done.

The Trade Commissioner at Liverpool cabled that 40 to 60% of the Nova Scotia shipment were slack, and in some cases the whole shipment, and the tight barrel of course gets the largest price. Is it not worth while to take more care to have tight barrels. Effort should be made to rectify this condition.

The abuse of the apple grader is often responsible for this; the apple grader has not improved the pack in Nova Scotia. If apples are properly racked and headed, the percentage of slacks will be small.

Double tailing is necessary. It takes time but will pay in the end; it keeps barrel tight and prevents bottom of barrel from bruising.

Mr. J. A. McGee interposed that he thought too great pressure caused most trouble, he had found no trouble with jumble tailing.

Mr. Vroom advised all to drive bilge hoops tight and nail with four short nails before fruit is put in.

He said the matter of the Standard Apple barrel should be looked into, there had been too much variation in the barrels, and he wished to state that undersized fruit packages of any kind would not be tolerated next season. This included strawberry boxes and all fruit packages of any description.

There had been many faults found with the new boxes, and these must be remedied.

Mr. Vroom said No. 3 apples had not cleared expenses last season, so why send them out?

Mr. Frank H. Gillis was then introduced to the audience, and spoke for a short time on Cabot's Quilting, now used so extensively in the United States for lining box cars.

Cabots Quilt is frost proof, and with its use apples could be shipped at any season. He told of the United States Government having investigated it, and its adoption for use in Washington, Oregon and other places.

Cabots Quilt is a heavy padding of eel grass, prepared in a manner to withstand either heat or cold.

He told the method of lining the car, in the States they figure it costs at the rate of 15 cents a box, but is well worth the extra money spent. The apples are loaded when the cars are warm, then sealed and no heater is needed in the car. It is 3 feet wide, comes 250 sq. ft. to a roll, with a cost of about $9.50 per roll.

At the conclusion of Mr. Gillis' remarks, meeting adjourned.

Thursday Afternoon

President in the chair.

Resolution re Daylight Saving moved by Mr. Cox, seconded by Mr. Osborne and carried.

The discussion on the Standard Apple barrel was then opened by Mr. Vroom, who said that at the next meeting of the Legislature it must be seen to that a law was enacted to compel the manufacturer to make a standard barrel.

He presented to the audience a barrel conforming in all particulars to the law now governing the making of the Standard barrel.

These measurement are 64 inches around the bulge; 28½ inches length. The head 17⅛ inches in diameter. The barrel shown was a fifteen stave barrel.

(Continued on page 318)

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A Review of the Year 1919

—o—

Extracts from an Address delivered by Sir Edmund Walker, President of the Canadian Bank of Commerce, at the recent Annual Meeting of the Bank.

We have pasesd through a year in which the daily surprises have been as perplexing as during the war, and in which the anxieties have been as great, except that sometimes they affected rather the mere happiness of the world than human life itself. War, however, still continues in many countries, and there and elsewhere many have died from lack of food. The war has been won by the most superb co-operation in the attainment of one ideal—the winning of the war. We may lose all that victory seemed to secure by indulgence in countless theories, many of them aiming at the disintegration of society, instead of again co-operating in one ideal—the restoration of order and the improvement of social conditions, so that the happiness of the greatest number may be secured. It is not by standing idle while we discuss methods that we can get out of our present troubles. If the call is to "man the life boat" we do not wait for academic discussion before the boat is launched on its life-saving mission, and too much argument between capital and labour, just now, is madness in view of what we seek to save. The rising curve of prices cannot be made to turn downward without an increase of production, nor can we face the heavy obligations left by the war except by greatly increasing production. The man who does not do his best at his particular job is not merely helping to barricade the only pathway that will lead us out of our troubles, but he is helping to raise or to maintain, the cost of the necessities of life for his own family. I may be called a friend of capital for saying this, but I am on record elsewhere as an advocate of many changes in the present relations of the employee and employer, all of them in favour of the employee.

Insufficient Production

While we and the rest of the world are failing to produce on a sufficient scale to provide for human comfort and to pay our debts, the price of everything has so increased, that although all clearing-house and trade returns show higher figures in money, these generally represent transactions based on smaller quantities of merchandise, and because we think in terms of dollars and not of merchandise, we are living in a fool's paradise. The imperious demands of war rapidly raised all prices, and payment was only possible by inflating the currency; unfortunately inflated currency sustains and further increases prices. If with our own currency we bought only goods made in our own country, the minimum of harm would be done, but possessing more currency and fewer commodities than usual, we are acting like the drunken sailor newely come ashore, and buying everything that fancy suggests, whether necessary or not, without regard to whether it is made in Canada or abroad. For every purchase of goods made abroad, whether in Great Britain or China, or anywhere else, we settle through New York, and the rise or fall of the rate of exchange, about which we are so much concerned, is the expression of our failure, or the reverse, to pay cash or its equivalent. In this connection the speaker has for many years, at these annual meetings, presented the facts of our foreign trade, the peculiarities of our relations with the United States, the sales of our securities abroad to pay for the excess of our imports and the danger of mortgaging the future of our country, and has given frequent warnings as to the character of many of our imports.

Our Exports

The excess of our exports over imports for the year ending 31st March was $343,491,000, as compared with $623,647,000 for the previous year. Although so much smaller than for 1918, the excess was larger than in any previous year. The difference of $280,156,000 is more than accounted for by a falling off of $320,874,000 in our exports to Great Britain, and this again is due to a decrease of $297,893,000 in exports of agricultural products and of $87,318,000 in manufactured articles. For the six months ending in September the exports for the two half years are almost equal, while the imports were $33,571,000 less. It is gratifying to notice that, apart from the decrease in agricultural production, our figures have not been much altered by the cessation of the manufacture of munitions. Food is in greater demand than ever and our factories are behind in the production of almost every line of manufacture, while nearly every form of raw material is difficult to obtain. Our total foreign trade for the fiscal year was $2,176,378,000, as compared with $2,548,691,000 in 1918.

It is clear that, if our foreign trade were on a cash basis, we could pay the interest on our foreign debt and settle for our excess purchases from the United States without difficulty, but Europe cannot pay just now, and we must therefore limit our purchases from the United States wherever that is possible. Doubtless the markets for our securities in the United States will gradually widen, and it will become easier to adjust our accounts, but this will be a poor remedy. We cannot afford to increase our debts to foreign investors in view of the taxation we shall have to bear.

Curtail Imports

Let us consider a few items in our imports which at least suggest great possiblities of curtailment, if we are prepared to restrict our pleasures for the common good. Under the head of apparel we bought abroad to the extent of $8,500,000, including headgear alone for over $5,000,000; under fancy goods, $4,000,000; fruits and nuts, $25,000,000; furs, $4,500,000; gramaphones, over $2,000,000; silk in various forms, $21,000,000; tobacco, nearly $12,000,000; in all, $77,000,000, mostly luxuries. Then we are yearly face to face with enormous imports of material, part of our requirements of which we already produce, or which it would be natural for us to produce. It is obvious that our national finances would benefit if we could either produce the following items ourselves, or avoid in any way their importation; bricks, clays and tiles, over $4,000,000; coal, coke and charcoal, $79,000,000; breadstuffs, $26,000,000; all foodstuffs, $121,000,000—much of this is doubtless absolutely necessary, but surely there is room for a large reduction; iron and steel in all forms, $161,000,000, including machinery $45,000,000; textiles in all forms, $168,000,000; motors, railway cars and other vehicles, $18,000,000. We have repeatedly drawn attention to items of this character in past years but, we fear, without much effect. At present, however, the people of Canada are feeling rather keenly the result of their indifference to their own affairs, and it seems worth while to press these facts once more on their attention.

Imports from U. S.

There is one comforting feature about our trade with the United States. While in 1913 we bought $2.70, last year we bought only about $1.50 of goods for every dollar's worth bought by the United States from Canada. While our purchases have increased in value of 65 per cent, theirs have increased by 180 per cent. Comparing the totals, the imports for 1919 are less by $46,000,000 than in 1918, but as in the item referred to in past years, military stores, there is a decline of $80,000,000 and another decline of $17,000,000 in pork, both due to the cessation of the war, the imports for ordinary purposes are much larger than ever before. The most notable increases are in traction engines, mainly for farming, about $10,000,000, and in raw cotton about $13,000,000.

Reduced Wheat Export

There are many handsome increases in exports to counterbalance increased imports, but the outstanding feature is the enormous decrease of $295,000,000 in the value of exports of grain, of which $270,000,000 is due to a decrease in exports of wheat. There is a reduction in quantity of 150,000,000 bushels, from 215,000,000 bushels of all grains in 1918, to about 65,000,000 bushels in the year ending March, 1919. In the item, "cartridges—gun, rifle and pistol," which has figured so largely in our exports during the war, there is a decline of $139,098,000. There is also a decline of $12,000,000 in exports of flax seed. Against the decline in imports of pork there is a corresponding one in exports of bacon, but there is an increase of about $28,000,000 in exports of meats and butter. There is an increase of $14,000,000 in the item of ships sold to other countries. In our imports the totals of increases and decreases are not very far apart, but in exports we have the extraordinary condition of increases amounting to $110,000,000 and decreases amounting to $443,000,000. Had we been as fortunate in the quantity of merchandise we had to export in the fiscal year ending March, 1919, as we were in the previous year, our financial position would have been very different.

Field Crops

The preliminary estimate of the value of our field crops for the year 1919 is $1,452,787,000, as compared with $1,367,909,000 in 1918, the actual figures for which fell slightly short of the estimate. There was a decline in the value of grain crops, but a large increase in fodder crops and potatoes. Except in swine there is a slight increase in the numbers of all live stock on our farms. It is difficult as yet to obtain accurate figures as to the production of our mines for the year just closed. We estimated that of 1918 at $220,000,000, and the actual figures were $211,301,000. For 1919 the best estimate we can obtain is $167,000,000, showing a falling off of nearly $45,000,000, which is almost entirely in metals. Because of the ending of the war we produced only about half the quantity of nickel produced in 1918; about the same quantity of lead and zinc, at lower pirces; less copper, also at lower prices; and less silver, but at higher prices.

The Process of Adjustment

The difficulties of reconstruction after the great war are even greater than we feared. The whole world is feeling the effect of four years in which the ordinary work and economics of life were not merely neglected, but the basis thereof was almost swept away. We are short of almost every commodity, the strongest evidence of this being the fact that millions of people in Europe face actual starvation. We cannot re-establish the normal supply of commodities except by working harder than usual, and we cannot lessen the terrible strain of high prices without doing the extra work which will put an end to the lack of commodities. We cannot adjust prices without also bringing about a contraction in the volume of paper money and other instruments of credit, and so far as it is possible to enforce contraction without interfering with the production of what is really necessary, the reduction of prices will be facilitated. In a word, bankers should not aid speculation, or assist ventures which do not directly lead to production. We are still building ships with feverish haste throughout the world, and we ought to be spending large sums on railroads in order that commodities may be freely distributed. The present cost of ocean transportation, quite as much as the cost of goods at the primary markets, stands like a huge barrier across the pathway of return to normal conditions. What is worse, however, is that even present prices, in the natural order of things, will go on rising until the lack in the world's supply of commodities has been filled, and there has been a large contraction in the volume of paper money now in existence.

Wages and Prices

In the case of many classes of wage earners there has been an adjustment of pay against this increased cost of living, but there are many instances in which there has been either no adjustment or one quite inadequate. There are, however, some classes of earners who are so highly paid, in comparison with the past, that they have unusual spending power, and, along with all the others who have profited unduly by the war, they are spending their money in such a manner as to increase still further the troubles of the less well-off. Apart from this, after the gigantic struggle of the war, the world has slackened its energies and is filled with argument and unrest. All these elements move along an ascending spiral which clearly ends in ruin if we cannot arrest their course.

Prices will be higher than before the war for many years to come, but a readjustment to tolerable conditions is absolutely necessary if we are to enjoy the peace bought at such a cost. Governments must cease borrowing and keep their expenditures within their powers of taxation; both individuals and governments must spend less on things not absolutely necessary, and we must all work harder to produce the normal supply of all the commodities useful in life.

Co-operation Essential

Canada, as I have already said, won its high place in the world's regard by superb co-operation in the one ideal of winning the war. Can we not compromise for the moment the differences between capital and labour, between farmer and manufacturer, between the various interests that are risking our future for the sake of their own particular grievances, and co-operate in another ideal equally great, the restoration of peace and the return of prosperity on a better foundation? With this accomplished the separate ideals of the industrial divisions of our society can be discussed with far more chance of fair adjustment than is possible in these difficult times.

Must Increase Exports

We know now roughly the cost of the war as represented by our public debt. This debt is held mostly at home but partly abroad. In addition, there were issues of securities made before and during the war by governments, municipalities and private companies and sold abroad. On the whole of this debt, so held abroad, the annual charge

is about $190,000,000 per annum. Of this roughly about $65,000,000 is due to holders of our securities in the United States, and about $125,000,000 to holders in Great Britain and Europe. This debt we can pay only by an excess of exports over imports or by new borrowings. The debt at home is our own domestic affair. Certain citizens have advanced the cost of the war to the nation, and we now have to distribute this cost by taxation over all the citizens of Canada (except those who escape taxation), so as to meet the annual amortization payments. If the annual payments are obtained by reasonably fair taxation, so levied that the taxes do not become a cause of restraining our industries, we shall not fail to win through, but to accomplish this, much study of the subject is necessary.

Taxation

Many forms of taxation not yet in use in Canada will doubtless be employed, in addition to those now in force, but the whole question should be approached without that class feeling which often causes taxes to be so apportioned, that bitterness and a sense of injustice are felt by many who do not object to being heavily taxed so long as those who really can afford to pay their share do not escape. The income tax should be paid by a much larger number of citizens. The tax on surplus profits needs much study; there is all the difference in the world, both in justice and in the interest of the community, between a large aggregate of profit made by a small margin on each transaction and a similar sum made by an unfairly large margin of profit on each transaction. The community may be deeply interested for its own advantage in securing the extension of the first kind of transaction, while no one is interested in the success of the other class except the taxpayer himself. The tax in the end must be borne by our industrial activities, and we are foolish if, in our eagerness to escape our own share, we make such burdens so heavy on others that many of these activities must cease, and commodities that under fair conditions might be produced at home are replaced by imports from abroad.—Advt.

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BORAX WITH POTASH INJURES CROPS

Many complaints regarding injury to crops apparently resulting from the use of potash from Searles Lake, Cal., recently have been received by the U. S. Department of Agriculture. The natural brine of this lake from which the potash salts are prepared contains a considerable amount of borax. Apparently one, at least, of the companies operating in the locality did not exercise sufficient care in the preparation of the potash and let out a considerable amount of potash salts in 1918 with a high percentage of borax, averaging probably 10 per cent. and in some samples going as high as 23 per cent. The department has been conducting investigations of the matter in the field whicr indicates the substantial corectness of many, at least, of the complaints. In some of the special fertilizer tests of the department where Searles Lake potash was used, injury, which apparntly was the direct result of the high percentage of borax, was clearly shown, while potash form some other sources showed beneficial effects upon the crops tested.

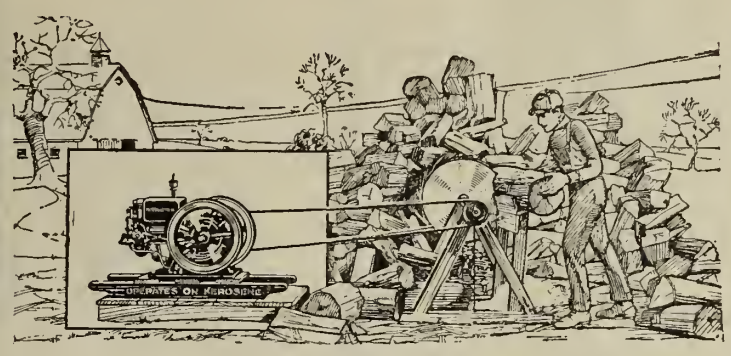
THRESHING RED CLOVER SEED

In order to secure the heaviest possible yield of seed of red clover it is imperative that the hay containing the seed be threshed in dry weather. If threshing is done when the hay is somewhat moist, a quantity of the seed will not thresh out readily and, consequently, the yield will be reduced. It is therefore a good policy to defer threshing operations until suitable weather prevails.

Threshing may be done with an ordinary threshing machine, although the operation is somewhat slow. In order to get all the seed out, it will be necessary to run the material through at least twice. When the clover is run through the first time, the machine may be operated as for threshing grain. Heads and chaff will then be separated from the stalks without the latter being broken up too badly. In order, however, to get the clean seed separated out, the heads and chaff have to be run through a second time after certain slight adjustments to the machine have been made. A plate of sheet iron or a piece of hardwood should be fastened directly behind the cylinder, closing all the back except about nine inches on the left end of the cylinder and all of the right end of the front part of the cylinder except one foot. If a small machine, with the concaves on top of the cylinder, is used, the concaves may be left open. If a large machine, having the concaves at the bottom, is used, it will be necessary to close the small holes in the concaves, the object being to make all the material pass directly from one end of the cylinder to the other so that the seed, in passing through, may be hulled perfectly.

The best machine for threshing red clover seed is, however, the clover huller. The clover huller separates the seed from the rhaff in one single operation and is therefore to be recommended whenever red clover seed growing is undertaken as a regular business on a sufficiently large scale, either by individual farmers or by districts as a whole. It is safe to say that in a district where two hundred acres or more are devoted to red clover seed growing yearly, it would pay teh growers to buy a clover huller jointly. **The extra amount of seed obtained by the nse of the clover huller would pay for the machine in very few years.** Besides, the labour necessary for threshing the seed would be reduced to about one half of that required when an ordinary grain threshing machine is used.

M. O. MALTE,
Dominion Agrostologist.



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EASTERN BRANCHES HAMILTON, LONDON, OTTAWA, ONT., MONTREAL, QUEBEC, QUE., ST. JOHN, N. B.

SYDNEY BASIC SLAG

We are glad to inform the Farmers of New Brunswick that after being shut down for two months for want of raw material, our mills are again running day and night, and that full supplies of Basic Slag will be available for next season. In order to make for still greater efficacy we have increased the fineness of our product from 80% to 85%. This is the highest standard the world has ever known. We want reliable agents in districts where we are not already represented and all applications should be addressed to our

REPRESENTATIVE FOR NEW BRUNSWICK

C. T. LOGAN

R. R. NO. 1, AMHERST.

who is now travelling the Province in the interests of our business.

THE CROSS FERTILIZER CO., Limited,
SYDNEY, Nova Scotia

N. S. FRUIT GROWERS IN ANNUAL CONVENTION

(Continued from page 315)

Mr. Alcorn said he claimed the 15 stave barrel with a 9/16 joint as near perfect as possible. He was convinced that people were most careless in packing their apples.

Mr. McGee thought the trouble was with the man who made the barrel. The coopers were out to make money, and in making them at the rate they did could not possibly keep to the proper measurements.

T. H. Morse, Berwick, said the staves were too thin this year, and asked what thickness they should be, and was told 7/16 of an inch.

Mr. Pineo said the man who made the barrels should put his name on the barrels and then stand behind it.

Mr. McMahon favored Legislation to compel manufacturer to conform to the law and the stamped barrel the only way. If they did not have a standard barrel in Nova Scotia they were up against a serious loss. Ottawa must be compelled to see that the standard barrel is possible.

Mr. Andrew Wescott spoke on loss which the new barrel has caused, about 15 lbs. on the barrel.

Mr. Andrew MacDonald spoke of the loss in potatoes due to the variations in the barrel this past year. 165 lbs. potatoes the required weight.

Mr. Vroom had been looking into this matter, preparing for conference at Ottawa, and found the barrels hold, he could safely say, from 175 to 178 lbs. of potatoes.

Mr. Ross Chipman thought it would be well to put the barrel back to the old standard.

Mr. Gates, one of the largest manufacturers of barrels in Nova Scotia, thought it was up to the farmers not the coopers.

Questioned, he said he considered the standard barrel a very good shape.

After considerable more discussion of the question, a resolution re the Standard barrel was moved by A. S. McDonald, seconded by Geo. Pineo, and was carried.

This being the last on the program of the Convention, the meeting adjourned, after a very interesting and instructive session.

Resolutions passed during the session follows:

Whereas, we the Nova Scotia Fruit Growers' Association, appreciate the necessity of cold storage facilities at Halifax to aid in the better marketing and handling of farm products.

Therefore resolved, that we ask the Federal Government to take such necessary steps as will provide such cold storage facilities as will meet the needs of the Province.

Whereas, it has been brought to the notice of the Nova Scotia Fruit Growers' Association that an improved loading device has been invented to facilitate the better handling of barrels of apples on ship board.

Therefore resolved, that we ask the Federal Department of Agriculture to investigate the practical working of the same.

Resolved, that the Nova Scotia Fruit Growers' Association in Annual Session at Kentville, this 22nd day of January, 1920, again place itself on record as being absolutely opposed to any so-called Daylight Saving Bill being enacted by either the Nova Scotia Governemnt at Halifax or the Federal Government at Ottawa.

Further resolved, that we protest strongly against the Government Railways and other Railways of Canada advancing the clocks one hour, in order to force such a scheme on an unwilling majority as was done in 1919, after Parliament at Ottawa had defeated such a bill.

And further resolved, the Railways of Canada arrange their time table accordingly, to meet the situation rather than by advancing the clocks one hour, which retards economic and business relations throughout Canada, as was the case last year.

And further resolved, that a copy of this Resolution be mailed to the Acting Prime Minister of Canada, the Premier of Nova Scotia and every Federal and Provincial member of Parliament of Nova Scotia.

Whereas, it is the opinion of the Nova Scotia Fruit Growers' Association that the difference in size and shape of apple barrel is due to variation in the milling of stock and careless cooperage methods, and

Whereas these defaults can be largely overcome by having more definite instructions as to dimensions of stock and more explicit cooperage specifications,

Therefor, resolved that in the opinion of this Association, the specifications of stave from the mill should be 29½ inches in length for the soft wood barrels, that said staves be uniformly one-half inch thick, and that in the cooperage of the barrel the bulge hoops shall be at least eight inches below the end of the staves. Also that the head shall be smooth at least ⅝ inch in thickness and that the joint be 9/16 inch, making a barrel to contain 15 staves and that the staves be sufficiently strong in the lock to hold firmly and rigidly.

Further resolved, that legislation be enacted to make these specifications effective, and that suitable inspection be provided to enforce the same, and that suitable penalty be accorded infringements of these specifications by millers and coopers.

"Good cotton seed meal is running toward the high water mark, flax seed has reached the highest price on record in this country and meal is still sailing up. Alfalfa meal is not going to be plenty. There are no more brewers and distillers grains. It will be a year for the scientfic feeder who uses no "rule of thumb" methods but trusts his feed dealer to provide him with a balanced ration which will give him the results he is seeking at the lowest possible cost for protein. **Only the competent feed manufacturers and dealers will be able to do this."**

Therefore

Buy Protein Right

Scientifically balanced rations contain protein carbo hydrates and fats in correct proportions. To make sure you are getting the best be sure and specify

Canadian Pioneer Dairy Feed
Canadian Pioneer Horse Feed
Canadian Pioneer Fat Maker
Canadian Pioneer Hog Meal

The name Canadian Pioneer is your protection and a guarantee of quality in containing the protein necessary to give you the best results from your stock.

Now is the time when they need nourishment most. Winter quarters deprives the cattle of many natural advantages. Let nature with scientific regulation in the form of balanced rations supply this loss. The results more than pay for your effort and outlay.

Specify Canadian Pioneer when buying

CANADIAN FEED MFG. CO., Limited

FORT WILLIAM, ONT.

MONTREAL, St. Nicholas Bldg.
TORONTO, 501 Board of Trade Bldg.
SUSSEX, N. B., Maritime offices.

Fruit Packages

We Manufacture Strawberry Boxes and Crates for same, 6 qt. Baskets, Apple Boxes, Box Shooks, Apple Graders, Wheelbarrows. Now is the time to lay in a supply of Fruit Packages for the coming season. We have a good stock on hand, order early and ensure prompt shipment. Price on application to

Hantsport Fruit Basket Co,. Ltd.

HANTSPORT, N. S.

GENUINE DIAMONDS
CASH or CREDIT
Terms: 20% Down an $1–$2–$3 Weekly.
We trust any Honest Perso
Write for Catalogue to-da
JACOB BROS., Diamond Imp., 15 Toronto Arcade, Toront

THE BANK'S POSITION

As at 30th November, 1919

Paid-up Capital - -	$ 15,000,000
Reserve Fund - -	15,000,000
Loans - - - - -	283,870,274
Deposits - - - -	393,605,156
Total Assets - - -	479,644,205 497

THE CANADIAN BANK OF COMMERCE

PAID-UP CAPITAL - -	$15,000,000
RESERVE FUND - -	$15,000,000

NOVA SCOTIA DAIRYMEN IN ANNUAL SESSION

(Continued from page 295)

ent sections of the province so that the work of the Association may become better known to as wide a circle of the milk producers as possible.

Mr. McKay outlined the aims and objects of the National Dairy Council and the Association pledged its financial support. It was also decided that an effort be made to have every creamery patron a member of the Nova Scotia Dairymen's Association. Mr. McKay said he hoped to see the Association assume province wide proportion so that every phase of the dairy farmers as well as the cheese and butter makers problems would be championed by one strong organization.

Expressions of regret were voiced re the proposed severance of Mr. Harvey Mitchell's connection with the Dominion Dairy Division. Mr. Mitchell has given the best years of his life to the promotionof the Dairy industry in the Maritime Provinces and in leaving the work for some one else to follow up he leaves with a feeling of good fellowship existing between him and the dairymen, who would all be pleased to have him reconsider his resignation and remain with them to guide them in their work as he has so efficiently done in the past.

(Continued next issue)

YOUR AUTO TIRES FOR 1920

The Maritime Farmer will supply auto tires for its readers in 1920 as usual. We have a large supply of 30x2½ ordered and this will forestall any advance in the market. They are all first tires and are guaranteed for 3,500 miles. We sold scores of them last season and did NOT HAVE A SINGLE CLAIM TO ADJUST. That is a pretty good record and speaks volumes for the wearing quality of these tires. WE ALSO HAVE ARRANGED FOR A FULLL LINE OF HIGHER GRADE TIRES IN ALL SIZES. BEFORE YOU ORDER WRITE US FOR PRICES. WE WILL SAVE YOU A LOT OF MONEY, IF YOU ARE A MARITIME FARMER READER AND OWN AN AUTO. IF YOU ARE BUYING A NEW CAR WE CAN SAVE YOU MONEY ON YOUR EXTRA TIRE. WATCH THIS FEATURE OF YOUR BUY.

We can also supply inner tubes in all sizes.

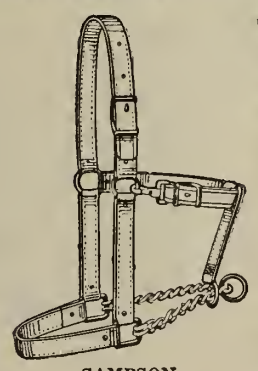
BUTTER MOISTURE 16%

In an article by Hon. W. M. Lea, published in our last issue, reference was made to the legal excess moisture in butter. It read 10%; it should have been 16%. Of course the error would be quite apparent to anybody connected with the manufacture of butter.

Your Horse Can't Break This Halter

We assume the full responsibility by attaching our guarantee tag to this Griffith Sampson Halter. This means that if it breaks within a year from date of purchase we will repair it, or send you a new halter absolutely free of charge.

There's strength in every strap and stitch of the Sampson. See that chain chin draw? That's electric welded steel chain—it grips the horse under the jaw when he pulls and he soon yields to its strength.



SAMPSON

Griffith Guaranteed Halters

Our guarantee tag is attached to all our guaranteed halters. Isn't that a worth while consideration when buying your next halter? Price of Sampson $2.50 (in the West $2.75). If your dealer can't supply you send direct to us giving dealer's name.

Send for free booklet. Shows a halter for every purpose—at a price to suit your purse.

G. L. Griffith & Son 64 Waterloo St., Stratford, Ont. 53

MILL FEEDS ARE SCARCE

Heavy Shipments of Wheat Have Curtailed Supply. Only from 200 to 300 Bags to Car. Other Feeds Available

Owing to the heavy shipment of wheat from Canada, mill feeds are scarce. At present the mills are only offering from 200 to 300 bags to the car. The balance is offered in other feeds, flour, oats, etc. There is available, however, balanced feeds of good feeding value. These have advanced in price during the past couple of months and the outlook is for even higher prices. Oats are high and were quoted last week at $1.17 bulk for No. 2 Choice Western. They are scarce and the price has been stiffening. The Maritime Farmer has supplied many carloads of feeds and flour to agricultural organizations this winter and has saved them thousands of dollars. THE MARITIME FARMER CAN SUPPLY MIXED CARS OF MILL FEEDS AND FLOUR, straight cars of oats or STRAIGHT CARS OF WILL BE SUPPLIED AT COST TO BALANCED FEEDS (MIXED WITH OATS IF DESIRED.) These FEEDS MARITIME FARMER READERS IN STRAIGHT CARS. YOU CAN SAVE A LOT OF MONEY BY CO-OPERATING WITH YOUR NEIGHBORS. YOU DO NOT WANT CAPITAL TO DO THIS. YOUR BANK MANAGER WILL HELP YOU FINANCE. We shall be glad to quote you prices on application.

We have some No. 1 Timothy seed to offer at less than the cost today. There is only about 10,000 pounds left and it goes to the first applicants.

WINTER PRUNING

(Experimental aFrms Note)

Winter pruning of bearing orchards should be attended to every year. The orchardist should go over his trees systematically and cut out crossing or broken limbs wherever these occur. Cut close to the main limb, don't leave stubs, and paint the wound with white lead and boiled oil (no turpentin). We jrefer a stiff stencil brush and rub the paint well into the wood. A little brown coloring makes the wound less conspicuous. When cutting a large limb cut on the under side first, this prevents tearing the wood and bark as the limb comes away from the tree. When limbs spread too wide and make cultivation near the tree impossible, but to a shoot that is growing up. This shoot will soon grow strong and take the place of the part cut off. Many of our older orchards have acquired the off year habit, which means crop one year, grow the next. It is after the growing year that we must thin our trees and see that there is not too much new growth to exclude light and air. If there is a heavy new growth thin this to distribute it as evenly as possible. Don't leave stubs of heavy new growth hoping they will form fruit spurs, as cutting away the heavy new growth cuts away the big plump buds which easily form fruit spurs, leaving the les mature buds which prefer to make new wood growth, so the result would be crowding instead of thinning the tree.

Use sharp pruners and saws and make clean cuts.

Use sharp eyes and good judgment, distribute the new growth evenly and the crop will be evenly distributed.

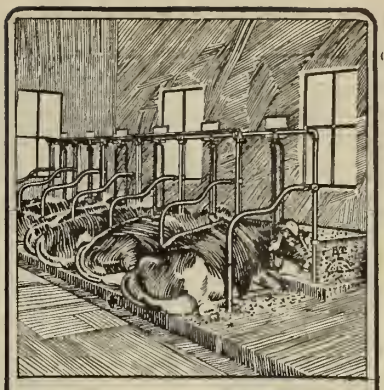
A little well done every year eliminates the profits.

Don't haggle a tree and expect the wounds to heal.

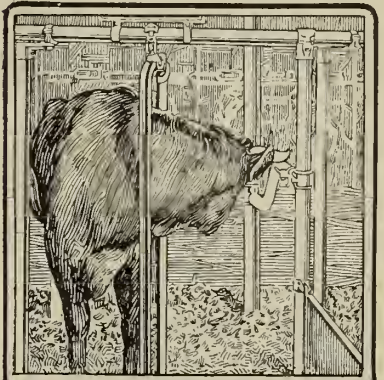
Don't prune trees when frozen hard.

Don't leave pruning till too late.

Don't leave prunings lying about; burn them and take advantage of the ashes.—R. H. Helmer, Superintendent Sumerland, B. C.

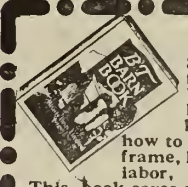


1. Comfortable cows give the most milk. BT Steel Stalls keep the cows comfortable. The BT Stanchion ties the cow in the centre of the Stall. There is nothing to chafe her neck and she does not have the weight of the chain on her neck all the time.



2. The BT Stanchion swivels right around to either right or left so that the cow can turn her head in perfect comfort. She can card herself, get up, lie down and reach her feed and water easily and comfortably. This extra comfort for the cow means extra profit for you.

3. Your cows must have proper freedom of movement if they are to do their best. They cannot do their best when they are tied in stationary wood stanchions. Stationary Stanchions restrict the movements of the cows, and pin them in a cramped position. The coupon brings full particulars.



Send this coupon for the 352-page Barn Book. Tells how to plan and build the barn, how to ventilate, how to frame, how to save steps, labor, time and feed. This book saves you hundreds of dollars in building. It is free.

BEATTY BROS. LIMITED

Dept. U477 St. John, N.B.

I intend to build about.....
I intend to remodel about.....
I keep.....Cows
My name is.....
My Post Office is.....
R. R. No.....Prov.....
Nearest Railway Station.....
If you live in Maritime Provinces, please give Lot and Concession. If you live in Western Provinces, please give Section, Township and Range.....
.....

Farmers—Bank Here By Mail

Just mail your cheques to us—we deposit them to your credit and send you a prompt acknowledgment.

If you need cash we cash your cheques by mail, too, sending you the money in a registered letter

We understand the farmer's problems and gladly assist him in every way possible.

We will welcome your account.

Capital . . . $ 9,700,000
Reserve Fund 18,000,000
Resources . . 220,000,000

THE BANK OF NOVA SCOTIA

We invite your account. Special facilities for banking by mail. Thirty-eight branches in New Brunswick. Head Office, Halifax, N.S.

HALF A CENTURY

Great changes take place in 50 years. Few remain of those in business when the College was established in 1867.

We are thankful to an appreciative public for continued growth and are now in our 53rd year, going stronger than ever before.

Send for New Rate Card.

S. KERR, Principal

Every stock owner is entitled to one free copy of our 1920 Booklet containing

Valuable Information

on subjects of interest, Complete breeding table for all farm animals, Animal Diseases, and Vaccines, Training Horns, Dehorning, etc., etc.

Write to-day for Booklet M.

ONTARIO VETERINARY AND BREEDERS' SUPPLY LTD.
223 CHURCH ST., TORONTO, ONT

Make Money This Winter—Saw Wood

There is big money this winter sawing wood. Coal is high. Wood will be scarce. Now is the time to clean up. The GILSON HEAVI-DUTI SAWING OUTFIT is the machine to do it with. Makes its own spark without the aid of batteries. You cannot afford to buy any engine until you know all about the Gilson Heavy-Duti. When you know about it, you will not buy any other. Catalog and information free if you act quickly. Write to-day.

GILSON MFG. CO., Ltd.

786 York St., Guelph, Ont.

THE NEWFOUNDLAND POULTRY SHOW

(Continued from page 306)

have been, consequently I will not express any detail account of them.

I am strongly of the opinion, my good friend, that "Geese and Ducks" should be handled and examined in the same manner as the hens, etc. By so doing it will insist upon exhibitors sending better water fowl and the only "true bill" in which a judge can save himself from the opinion of others.

GROOMING CATTLE GOOD BUSINESS

(Continued from page 300)

all the loose particles of dust and leave a shine on the hair that cannot be obtained by any other means.

Then, again, this work should not be confined to the milch cows entirely, as the heifers and calves are benefited just as much as the older animals. It keeps them free from vermin, and animals that as a general rule are wild and nervous, soon become quite tame and easily handled, and in our case, at least, they seem to do better than the heifers that were raised before we started regular grooming and clipping.—E. A., O. V. J.

RAW FURS AUCTION IN MONTREAL

Fur interests are much interested in the announcement from Montreal that the Canadian Fur Auction Sales Company Ltd., has been successfully organized and powerful interests are subscribing for its $5,000,000 capital.

The purpose of the Company is to hold three or four great Auction Sales of Raw furs every years so as to provide in Canada an outlet for Canadian furs and obviate their being sent to foreign markets where their identity is often lost, and inferior southern furs are graded with them.

The promoters believe that Canadian Furs will benefit greatly from the creation of this important exclusive outlet and that excellent prices will be obtained—considerably better results being apt to accrue to the shippers of the pelts.

Splendid premises have already been acquired and are being fitted with cold storage and every facility for handling pelts, and we are advised that the promoters are already able to assure the success of the first sale which is announced for March.

Lord Shaughnessy, Lorne C. Webster, Sir Herbert Holt, W. A. Black, J. W. McConnell, A. Pierce, R. S. Coltart, E. E. Cummings, and A. J. Brown are among notable financiers and fur merchants who are interested in the Canadian Fur Auction Sales Company.

MARE HAS THRUSH IN FRONT FEET

I have a mare that is bad with thrush in front feet; what is the cause and how should I treat it? W. J. S.

Ans.: Thrush is generally caused by standing in water and filth, such as wet straw and stable refuse. It may also be due to frost bite or to dirt from the field being allowed to cake and remain for a long period in the cleft of the hoof. Every horse's hoof should be cleaned out once a day, around the frog, when working on the field. Neglect of this duty is the cause of many feet troubles among horses.

Place your animal in a clean stable, with a dry floor, well littered. The seat of the disease should be cleaned, the excessive growth removed, and calomel applied as follows: Calomel half an ounce; sweet oil two ounces. Mix together and spread on a piece of lint or oakum, and insert in the cleft of the frog and over any other diseased part.

I WANTED EGGS and I GOT EGGS

BY FEEDING MY HENS

Blatchford's FILL THE BASKET *Egg Mash*

Registered trade-mark

THE IDEAL WINTER POULTRY FOOD

It is not a tonic, stimulant or regulator. It supplies the necessary surplus nourishment to maintain a healthy and natural egg production.

COSTS LESS THAN A CENT A DAY TO FEED

If your local dealer cannot supply you write for interesting literature.

BLATCHFORD CALF MEAL CO. of Canada, Limited

2-1-20 Dept G 15 61-77 Pelham Avenue, Toronto

Imperial Ex-Service Men Will Train on Canadian Farms

Soldier Settlement Board (Canada) Desires Names of Successful Farmers Who are in a Position to Give These Men the Experience They Need

THE benefits of the Soldier Settlement Act have been extended to Imperial Ex-service men. Many of these veterans of the Great War are desirous of coming to Canada this year and regulations under which they will be granted financial assistance have been adopted by the Soldier Settlement Board.

SELECTION OF CANDIDATES IN BRITISH ISLES

ONLY those especially equipped to undertake the duties of farmers in a New Land will receive permits entitling them to come to Canada and begin training under Soldier Settlement Board supervision. These are the general qualifications:

1. Physical fitness;
2. The possession of at least $1000. on landing in Canada;
3. General fitness (which includes reputation for honesty, industry, intelligence, etc.)

All applicants will appear before Canadian Emigration agents who will reject those who are obviously unfit. The remainder will appear before a Selection Committee composed of practical Canadian Farmers, who understand all the conditions which make for successful farming in the Dominion.

WITH FARMER TILL QUALIFIED

SELECTED candidates will be required to remain with a farmer till qualified. A large majority of these men will require two years' experience.

FARMERS OF CANADA HAVE RARE OPPORTUNITY

PLACES are desired for these men. Farm help is essential for the full development of Canada's agricultural resources. Farmers who need assistance next Spring have the opportunity of applying for these selected men. Every man whom the Soldier Settlement Board places this year will be of proved worth. Some will have advantage of experience on farms in the British Isles. Those who are without agricultural experience will be eager to acquire the knowledge necessary to equip them as soldier settlers under the Act.

This is an opportunity that farmers should not fail to embrace. As the need of agricultural help is shown, the Soldier Settlement Board will arrange for the coming of the men. Only those who are assured of positions on farms will be permitted to come to Canada.

If you can use an Imperial ex-service man on your farm write to the nearest District Office of the Board. The offices are located at: Victoria and Vancouver, B. C.; Edmonton and Calgary, Alta.; Regina, Saskatoon and Prince Albert, Sask.; Winnipeg, Man.; Toronto, London, Fort William and Ottawa, Ont.; Quebec and Sherbrooke, Que.; St. John, N. B.; Halifax, N. S.; Charlottetown, P. E. I.

THE SOLDIER SETTLEMENT BOARD

W. J. BLACK, Chairman

Union Bank Building, Ottawa, Ont.

WINTER CARE AND REPAIR OF FARM MACHINERY

(Experimental Farms Note.)

"Let him use more machinery then," is the stock phrase and cure all prescribed by the "know-it-all" of the afrmer's labor problem. This is just what he has been doing for a generation or ever since city wages were distinctly higher than those upon the farm. Today machinery has doubled in cost because it does not grow upon the land by the free agency of sunlight like crops but is made in cities and by labor that exacts far more than the farmer's wage. Thus there is a limit to the machinery the farmer can afford to buy and to the extent to which he can substitute machinery for expensive labor. In other words machinery is now expensive labor.

Farmers, therefore, are going to house their machinery in some way since the price is still soaring and since the life of an implement well cared for is prolonged four or five times the life of machinery which is left in the open. An energetic farmer will not allow his horse or cow to stand out in the rain or snow. He will rush to get his crop into the ground on time and in the best possible condition and he will gather his harvest promptly and carefully so that there is the least possible loss. Many of us will do all these things and still allow a part of the toil earned revenue to be swallowed up in the purchase of sky soaring priced machinery or in expensive repairs.

See to it that each implement wears out and does not rust out. Every one knows that it should be housed but housing under any condition and not properly caring for it otherwise, constitute very poor care. Machinery may be just as well cared for if it is allowed to stand in the shade of a tree as if stored in some of the leaky sheds, open sheds, poorly drained sheds or combined implement sheds and hen roosts which are found.

Do not merely go through the motion but shelter considerately and before doing so, First list the repairs needed for next season and secure them along with an assortment of bolts, rivets, springs, etc., in time to have each implement repaired and ready mor use on time. An implement in repair at all times will have a longer life and will give more satisfactory service during its life than one receiving irergular attention. Secondly clean and oil each machine and give all polished surfaces an application of some anti-rust preparation. Axle grease or other lubricant will answer the purpose.

Another "critter" occupies space in the implement shed, the twenty-four-hour-day-iron horse or tractor has arrived on the farm. To insure more efficient use of this implement next season there are two things that should be given special attention. First, take steps to put it in the best possible condition now, and secondly learn as much as possible about the fundamentals of tractor operation. Read carefully the instruction book; newspapers, books and magaizne articles also furnish a wealth of information. If possible attend one of the tractor schools which will be conducted during the winter. Leave nothing undone that will fit you to become a more proficient tractor operator.

A properly fitted work shop is a necessity on most farms. It provides a means of acquiring the "knack" in doing repair work. Again at critical times, such as harvesting or seeding seasons, one long trip to town for repairs may cause a loss more than equal to the value of a well equipped shop.

Paint, although last mention, is by no means the least important factor in prolonging the usefulness of an implement. Painted machinery on the farm is an exception rather than a general rule. The chief utility of paint is in protecting materials rather than improving appearances. Paint of good quality only should be used and the surface to be painted should be dry and clean before the paint is applied.—W. L. Graham, Asst. Dominion Field Husbandman.

LOUDEN

Let Louden Architects Plan Your Barn

OUR 112-page Barn Plan Book is worth money to every farmer who is going to build a new barn or remodel his old one. Seventy-four of the most modern barns on this continent are illustrated, including floor plans.

This book is not our catalog. The Louden Barn Plan Book was prepared by architects who specialize on barns and other farm buildings, and who have gathered ideas from farmers in different sections of the country. Naturally, in such a book, you will find many ideas new and valuable to you.

COVERS EVERYTHING

This book discusses the values of different kinds of building materials and the advantages of various methods of construction. It deals with ventilation, drainage, lighting, and contains a valuable chapter on mixing and laying of concrete.

This book is worth money to any farmer going to build or remodel.

MAILED FREE

We are not asking you to pay a cent for Louden's Barn Plan Book. Simply fill in the coupon, clip it out and mail to us. We will send you the book by first mail.

Send us a rough sketch of your old barn, showing location of windows, doors, etc., and state number of horses and cows you want to house, and our Architectural Department will show you how to remodel it at least expense and at the same time have a complete modern barn. Show on your sketch the location of your houses, the roadway, the well, and indicate the south side of the barn.

We will supply you free floor plan suggestions.

LABOR, THE BIG ITEM

If you are going to build or remodel, this book will show you how to save labor. And Louden Barn Equipment will also save you many a step, many a lift and many an hour.

You will be proud of your barn, fitted with Louden's modern equipment, and your chores will be cut in half.

In a Louden-planned and Louden-equipped barn, cows produce, on a conservative estimate, two quarts more milk per cow per day. Healthful, contented cows in clean, sanitary quarters, always produce more milk and actually consume less food.

Louden Barn Equipment will make money and save money for you. The Louden Machinery Co. has been established in Canada for twenty years and knows Canadian conditions thoroughly. Louden Barn Equipment is designed and built to meet these conditions.

Fill in the coupon and get this valuable 112-page Barn Plan Book.

Louden Machinery Co. of Canada - Limited

Head Office and Factory—Crimea Street, Guelph, Ontario

The following branches with complete stocks at—The Louden Machinery Co., Limited St. John, N.B.; The Louden Machinery Co., Ltd., Quebec, Que.; The Louden Machinery Co., Limited, 513 Martin Ave., Winnipeg, Man.; The Louden Machinery Co., Limited, 155 Pender St. West, Vancouver, B.C., and The Alberta Dairy Supplies, Edmonton, Alta.

COUPON

Louden Machinery Co. of Canada, Limited, 618 *Crimea Street, Guelph, Ontario.*
Please mail me free, postpaid, without obligation, your Barn Plan Book

I expect to build new barn, size.....by.....in month of.....
I expect to remodel barn, size.....by.....in month of.....
I expect to equip barns with .....
.....in month of.....
I want to house.....horses.....cows.....calves. I attach rough sketch (yes or no).....
Rural Route..... Province..... .....
Signature

Every man who has succeeded in a big way has adhered to one plan of selecting good individuals of a good family and then persistently and intelligently sticking right to his business and staying with the family of his selection.

Lawndale Stock Farm

Jerseys and Shorthorns (Pure Bred)

Jersey Offerings for the Winter of 1919—20

A few registered mature cows due to freshen the coming fall and winter.

Several yearlings, bred and not bred, registered and grades.

Several pure bred and grade calves, male and female.

Shorthorn Offerings for Winter of 1919—20

Two yearling heifers, very thrifty.

Several pure bred calves, male and female, by Imported English dual purpose Shorthorn bull, out of splendid producing dams.

We can supply intending purchasers a choice list of either Jerseys or Shorthorns to select from.

Come along with your inquiries.

Apply for information to

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

COSSAR STOCK FARM

Lower Gagetown, N. B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

Orders now booked for EWE and RAM LAMBS for fall delivery, several extra good animals for sale out of Ewes clipping 10 to 12 lbs. and sired by an Imported Ram weighing about 400 lbs. with a clip of 18 lbs.

BREED LEICESTERS the Sheep with THE HEAVY FLEECE.

G. C. Cossar, Proprietor. J. Meiklejohn, Agent.

Elmwood Stock Farm

OFFERS FOR SALE:

Two choice young Holstein Bulls, 15 and 19 months old, sired by Dutchland Pieterje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad, "the world's greatest bull," 101 A.R.O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

Pure Bred Shorthorns For Sale!

Am offering for sale my herd of pure bred registered Shorthorn cattle. These cattle range in age from 7 years to 3 years, or a little less, with one bull calf two weeks old, and are all fine in type and color.

I have also exceptionally good grade cattle of various ages for sale. All will be sold at a reasonable price and offer an unusual opportunity to anyone desiring to start a herd of choice stock or to renew an old herd.

J. E. HETHERINGTON, - Codys, N. B.

REG. CLYDE MARE FOR SALE

As we have no Clydesdale Stallion in this end of the Province, will sell the Pure Bred Clyde Mare Spring Fashion, foaled June 28th, 1911.

This is a beautiful upheaded mare, sound and kind.

Address

B. M. BLACKADAR,
Draffan Farm,
HEBRON, - - - YAR. CO., N. S.

REG. JERSEY BULL FOR SALE

Princess Pat's Draffan Lad. Dropped Nov. 10th, 1918. Sire, Edgeley's Sunbeam Lad. Dam, Princess Pat of Draffan.

This Bull is bred from producers on both sides, is a high class animal, solid color, large, in fine condition, and fit for service.

Also two bull calves from 4-6 weeks old.

Draffan Farm has been breeding pure bred Jerseys for twenty years.

B. M. BLACKADAR,
Draffan Farm,
HEBRON, - - - YAR. CO., N. S.

BLUEBELL VIEW FARM HOLSTEINS

One Bull 11 months old, of good breeding, and fit for service. Dam gave 10887 lbs. milk 3½ test in 10 months. Weight of sire, a ton. Also one Bull Calf 3 months old, with lots of 20 and 25 lb. records in his backing. Also 3 purebred Dorset Ewes. This stuff is priced to sell, so write at once to

WALTER PAYNE,
LAKE EDWARD, N. B.

Butter Parchment at Farmer Office

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

F. W. C. Nase, Nerepis, N B,
F. W. C. Nase, Nerepis Station, Kings Co., N. B'

Ayrshire Cattle

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co,, N. S.
C. A. Archibald, Truro N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

YORKSHIRE PIGS

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
Isaac Chipman & Son. Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
C.A. Archibald, Truro, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

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WANTED TO PURCHASE—Two Turkey hens and one gobbler. C. A. BENTLEY, Berwick, N. S.

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WANTED—Cheese maker for Belleisle Cheese factory for season of 1920. Output for 1919, 35 tons. Apply stating salary and qualifications to R. N. PEARSON, Belleisle Creek, Kings Co., N. B.

FOR SALE—Registered Jersey Cows, heifers, calves and imported Bull "Pogis' Golden Poet". Register of merit stock. ORCHARD HILL FARM, Brown's Flats, N. B.

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BE AN AUCTIONEER—Make $5 to $50 an hour. You can learn Auctioneering in your own home by our Easy Payment Plan.—AUCTION TRAINING SCHOOL, Hargraft bldg., Toronto, Ont.

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GREAT WHITE LIGHT BURNERS—The lamp burner that doubles the light you get from your oil lamps. We have a few dozen to offer at 18c each, postpaid. They are a big investment for any person using oil lamps. In large size only. —THE MARITIME FARMER, Sussex, N. B.

THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and other premises. Price $3.50 per 100 lbs. Apply by mail to "NAILS," care of Office Maritime Farmer, Sussex, N. B.

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EGGS for hatching from trap nested bred-to-lay Barred Rocks. $2.50 per 15. Order early. Send for circular. GUS LANGELIER, Supt. Experimental Station, Cap Rouge, Que.

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Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

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Phone 111. - - - - Sussex, N. B.

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Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.

We have young bulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. **Send for our BOOK OF BULLS.** A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yonge St. Radial) JEFFERSON, ONT

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Shorthorn Cattle and Shropshire Sheep

The early maturing and good doing sort—bred from Show stock in every cross. Offering thirty ewe lambs and shearling ewes to avoid crowding winter quarters. Also a few ram lambs not booked yet.

C. A. ARCHIBALD, Bellevue, Clifton, N. S.

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We are offering for sale calves of both sexes, sired by Dutchland Pieterje Count, a bull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Johanna Lad, who has 101 A. R. O. daughters, 4 over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice, come and see these calves or write for further particulars.

We will also book orders for young Yorkshire pigs for next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - CANARD, N. S.

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We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

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R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows have in turn been bred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter each in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a heifer calf or two. Get your orders in quick, they won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

Special Offering

Maple Green Farm Holsteins

On account of the great shortage in the supply of milk in our home town, we have decided (with regret) to dispose of our entire crop of Bull and heifer calves.

If taken inside of the next 30 days will price them away below their value.

The Dams of these calves are now running in the R. O. P., and the last official test conducted by the R. O. P. inspector showed an average test of 4.62% fat for the lot.

All are sired by our 32.32 lb. herd sire "King Korndyke Johanna", whose Dam is a full sister to Canada's Champion R. O. P. cow, "Jemima Johanna of Riverside". Milk in 365 days 30373; butter in 365 days, 1280 lbs.

Phone or write,

R, L. HICKS
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SUCCESSFUL DAIRYMEN

have found that it pays to dehorn their cows. Drovers pay more when they are dehorned, and shippers are insisting on having cattle dehorned. The KEYSTONE DEHORNER is the most effective instrument for the purpose. Write for booklet. R. H. McKenna, 219 Robert Street, Tor-

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Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages. Have some good cows to freshen soon. Am booking orders for ram lambs for fall delivery. Write or phone for prices and description.

J. ROBIE MacDONALD,
Shubenacadie, - - Nova Scotia
Successor to J. MacDonald & Son

Five Ayrshire Bulls for Sale!

From good milking strain. All fit for service.

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ELMHURST STOCK FARM

Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

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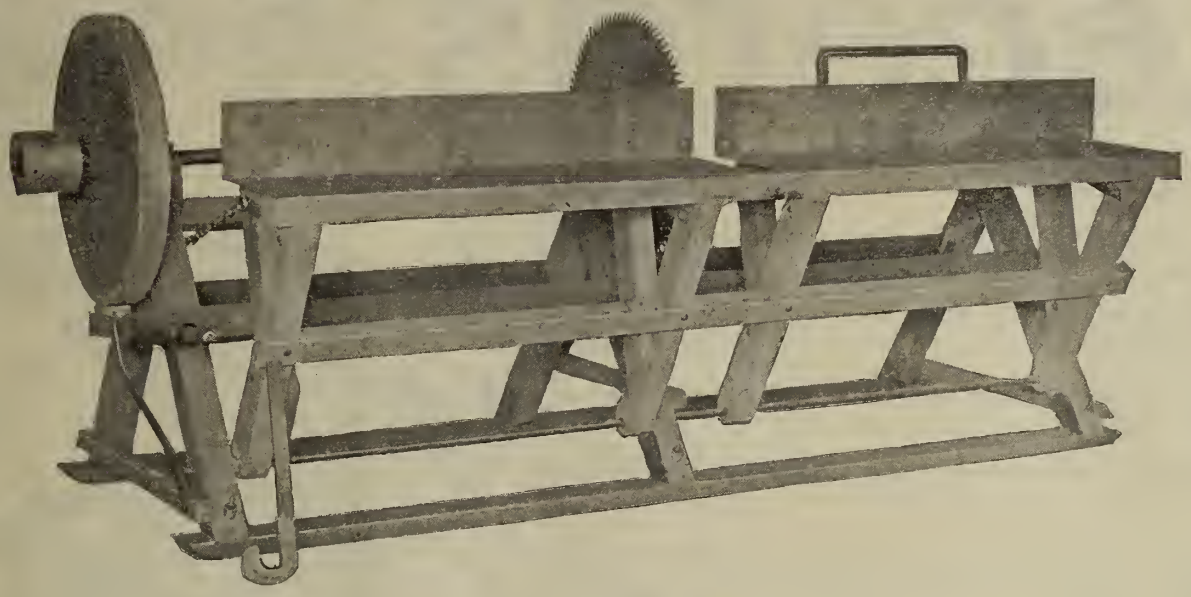

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A herd of 13 purebred Holsteins last year averaged 18812 lbs. milk and 638.57 lbs. fat.

Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in

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send for booklets—they contain much valuable information.

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W. A. CLEMONS, Secretary.
ST. GEORGE, - - ONTARIO

FOR SALE

We have to offer a nice bunch of Shorthorn bulls and heifers ages 1 to 3 years.

Also span 4 year old horses, span 5 year old horses, span of brood mares and a choice driver

For further particulars apply to

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AYRSHIRES BULLS!

fit for service, bred from heavy producing stock.

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Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

Willow Glen Shorthorns!

Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

A. N. GRIFFIN,
New Mines - - - N. S.

FAIRVIEW FARM

Holstein and Yorkshire Swine

Calves of either sex, eight mos. of age and younger, from well bred and Tuberculin-tested Dams. Write for further particulars or come and see them.

Booking orders for Yorkshire Pigs for Spring delivery—from 1st Prize Sire and Dams at Fredericton Exhibition, Fall 1919—either sex, six weeks old. $10.00 each.

FOWLER BROS.,
WELSFORD, N. B.

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"FARM MANAGER"
Care of Maritime Farmer,
SUSSEX, - - NEW BRUNSWICK

Advertise in the Farmer and Get Results.

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Have 4 good bulls fit for service, that are well grown and are extra choice individuals, and out of goid, big, heavy producing cows. Also 4 or 5 good bull calves from one to two months, as well as a few good heifers ready to breed, and some already bred to Sir Johanna Ormsby of Hickory, whose dam has a yearly official record of 22,159 lbs. milk asd 971.25 of butter in 365 days. For description and prices write, or come and see our herd.

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FOR SALE!

Our Shorthorns are about ready for the block. Parties wishing to start a herd can do so at reasonable prices from us. If not sold for breeding purposes, will go for beef. Both sexes, all ages. Come and see them before buying.

A few very nice Berks for sale.

L. M. ANDERSON, Sackville, N. B.

Firshade Farm Dual Purpose Shorthorns

P. R. L. FAIRWEATHER
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FOR SALE

Two yearling Gurnsey bulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

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We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

For particulars and prices write

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Females, all ages. Also a number of bull calves ranging from one month to eight months. Sired by the prize winning bulls "Morton Mains Amanth" Imp. and "Cherry Bank Cicero."

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For Sale—Registered stock. Male or female.

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Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $2.00 per 15.

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REGISTERED TRADEMARK

Published Fortnightly in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., FEBRUARY 17, 1920 No 10.

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Before you buy fencing it will pay you to first learn what the Maritime has to offer in the way of real fence service.

For sale by agents and dealers in nearly every section.
If you don't know the local dealer, write to us direct.

The New Brunswick Wire Fence Co., Ltd.
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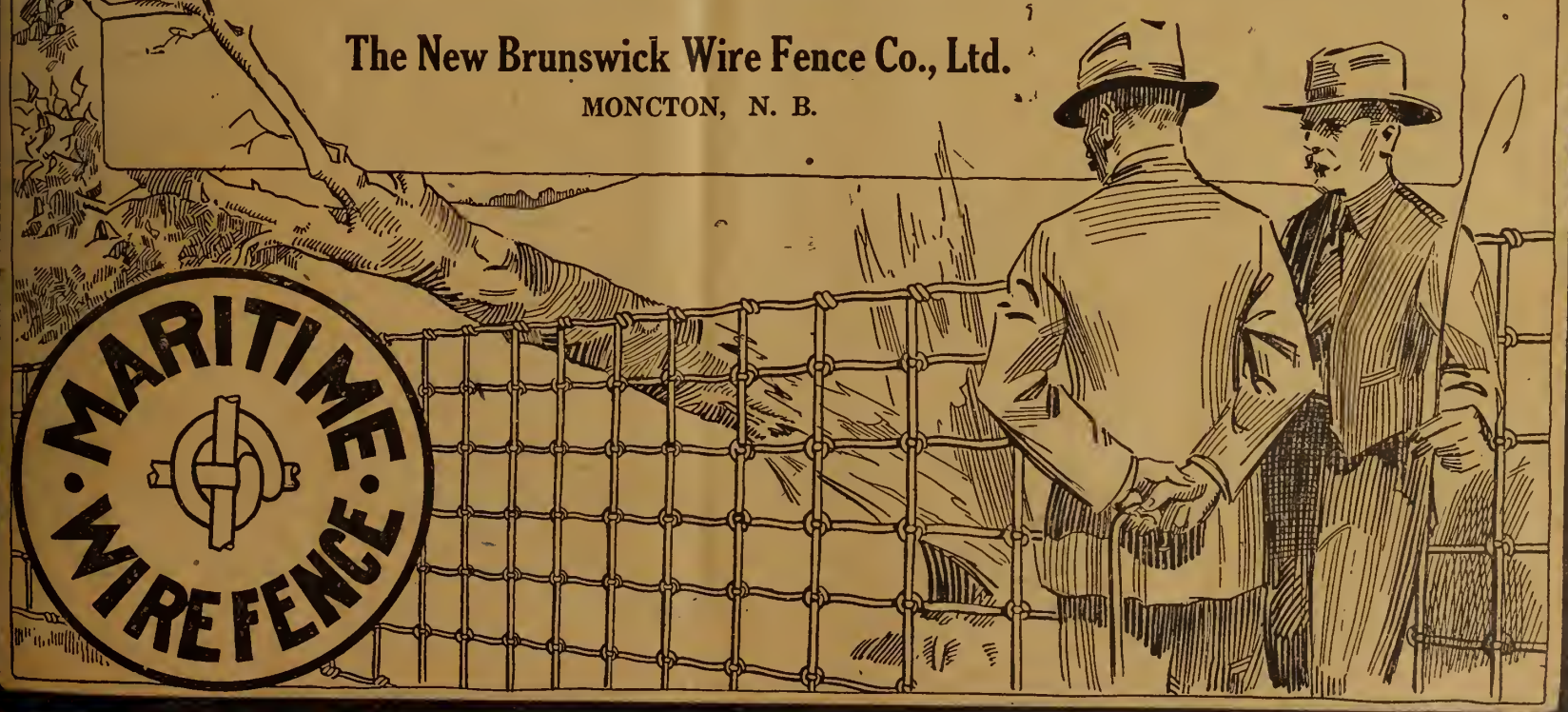

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The Wabasso Cotton Company Ltd.

Three Rivers, Quebec

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IF you want to make money out of your stock you must keep them in good condition. This largely depends on the nourishment they get from their food.

Every farmer understands the difficulty of keeping his stock healthy through the winter. Shut up in stables and pens they are likely to get off their feed, become scraggy and hidebound and thrive badly. Keep your stock well and thriving through the winter with—

International Stock Food Tonic

It gives animals strength and endurance, improves their appearance, purifies the blood, and helps keep them in the highest state of productiveness.

The Cost is Small - 3 Feeds for 1 cent

HORSES have their systems toned up by International Stock Food Tonic, which makes up for lack of exercise and green food, and brings them through the winter in top-notch condition for the Spring work. It is the best thing to give for liver trouble, influenza, coughs, hide-bound, or blood trouble. A tablespoonful with the regular grain feed makes sound, firm flesh, clean blood and a glossy coat.

COWS fed International Stock Food Tonic increase in weight and vigor. One tablespoonful of the tonic added to the food of the cow will materially increase the supply of milk. The blood is purified and digestion promoted. If you want more milk and healthier cows this winter, and better calves next spring, use International Stock Food Tonic regularly.

HOGS given International Stock Food Tonic can assimilate an enormous amount of food, and thus attain rapid growth. The average fattening hog when fed this tonic will make an extra gain of one half pound or more every day, over the usual plan of hog fattening. It furnishes a tonic that stimulates the appetite, regulates the bowels, prevents scours, quickly eradicates worms and prevents further development, and is relished by the animals.

The cost of International Stock Food Tonic is small—the results are enormous. Don't wait until your stock is out of condition. Begin the tonic now and keep them healthy.

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makes Poultry healthy—makes hens lay. Helps to strengthen and tone the egg producing organs.

In 30c. 60c. and $1.20 packages.

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has proven itself to be satisfactory in thousands and thousands of cases. Equally effective for Poultry, Cattle, Hogs or Horses.

Price 35c and 65c.

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is a perfect substitute for milk—will raise your calves at a fraction of the cost of whole milk—thus enabling you to sell all the new milk. It keeps calves healthy and thriving.

In 25, 50 and 100 lb. bags

Ask your dealer.

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"Shur-Gain Fertilizer buyers should order a full supply at once and arrange for deliveries in February. Strikes at the phosphate mines some months ago, railway car shortages and soft coal strikes have delayed raw material shipments to us and will affect the consumer too.

Gunns SHUR-GAIN Fertilizers **mean bigger crops with less labor. We have a mixture to suit any crop**

You will find a ready market for all the hay, potatoes and orchard crops you can grow this year at good prices. Let SHUR-GAIN High Grade Fertilizers help you put more dollars in your bank. Use them freely. Remember it costs just as much to seed and harvest a thin crop as it does a bumper one. We are specialists in potato Fertilizers and can help you select a fine growth-giving mixture. See our local dealer at once or write us for full information.

Representatives wahted in unallotted territory

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Cletrac TANK-TYPE TRACTOR

Not the Cletrac Way | The Cletrac Way

Be Ready With A Cletrac

BUY your Cletrac now. Break it in on early Spring jobs and be ready for the Spring rush.

When the ground is "just right," the Cletrac farmer is ready—knows his Cletrac—has the odd jobs done. Weather conditions or a short season make no difference, the Cletrac keeps going hour after hour—**more hours—longer days.** Does the work of six horses with power to spare.

The Cletrac's weight is evenly distributed over its wide track. The Cletrac turns short, swings back to the furrow quickly. No power or time lost at the turn. It burns coal oil (kerosene), perfectly. It lays its own track over plowed ground—goes anywhere, does everything. Light weight, adaptability and low operating cost fits the Cletrac for any work.

There's a book you'll want, "Selecting Your Tractor." Send for the book or see your dealer.

The Cleveland Tractor Company of Canada Limited

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We Prepay all postage to your home address

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500 2 lb. Choice Dairy Butter,	$2.70
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Parchment marked "Choice Dairy Butter" 250 sheets, 90c; 500 Sheets for $1.80, Postage Paid.

The Maritime Farmer
SUSSEX, N. B.

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Electricity is a practical and efficient labor-saver on the farm. But the "F" Power and Light Plant does more than light the home. It will run your washing-machine and turn out your heaviest washing in less time than is possible by the back-breaking method.

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The current it produces can also be used for an electric toaster, a coffee percolator, and the dozen-and-one modern electrical conveniences which are used in the city home.

The "Z" engine can be belted direct to your cream separator, churn, pump, etc., thereby reducing the drudgery of many irksome jobs.

You will want to know all the advantages and uses of this plant. Fill in the coupon in the right corner and send to our branch nearest you. We will gladly send you full particulars and tell you where you can see the "F" Power and Light Plant in operation.

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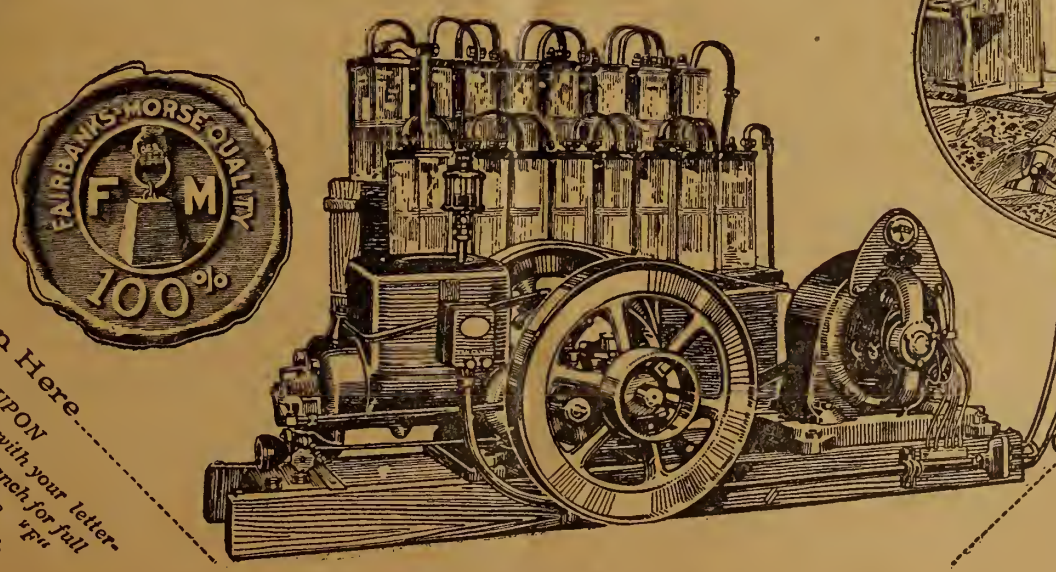

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NEW BRUNSWICK DEPARTMENT OF AGRICULTURE SHORT COURSES

It has been felt that many farmers' sons would welcome an opportunity of attending a Short Course in Agriculture, provided such facilities were placed within easy reach. Many young men on the farm find it difficult to get away from home for any length of time, but would be able to attend classes in Agriculture if held in their own communities. It was to provide such facilities that Short Courses of two weeks' duration have been arranged to be held at Moncton and Chatham. These courses begin on February 16th and continue until February 28th, the dates being the same at each place. At the time of writing, February 7th, already a goodly number of students are enrolled. Others may enroll at any time during the course. Lectures and demonstrations will be given on the following subjects:

Livestock, Dairying, Feeds and Feeding, Poultry, Beekeeping, Fruits and Vegetables, Soils and Farm Drainage, Co-operative Marketing, Seed Improvement, Farm Management, Practical work will also be given in the judging of all classes of farm livestock and inspection and judging of samples of grain, grass and clover seed. These subjects will be discussed in a practical way. Special lectures will be given during the course by the following men:

L. T. Floyd—Beekeeping.

C. C. Hicks—Seed and Crop Improvement.

A. C. McCulloch—Poultry.

A. G. Turney—Fruits and Vegetables.

H. W. Coleman—Milk Testing and Co-operative Dairying.

F. W. Walsh—Livestock.

H. J. Pugsley, V. S.—Diseases of Farm Stock.

All farmers in the district are invited to attend and take advantage of these special lectures.

Each class will select a Stock Judging Team of three memers, who will compete with a similar team selected by the other class. Suitable prizes will be offered to the winners of this contest.

While these classes are designed primarily for the younger men, a hearty welcome is being extended to anyone interested in Agriculture and a special invitation is also being given to Returned Soldiers interested in farming to attend.

The New Brunswick Department of Agriculture in co-operating with the Federal Department of Agriculture (Livestock Branch) is offering assistance, which, if taken advantage of, will help to solve the scrub bull question as the assitance is especially directed towards districts in which scrubs are kept.

Briefly, a pure bred bull is offered free of cost for the use of farmers in thinly settled districts, in new districts and in districts where the advancement in stock improvement has been slow, due to farmers being unfamiliar with the benefit derived from the use of a good pure bred sire. To secure a bull under this policy it is necessary to form an asociation of at least ten farmers who must be unanimous in regard to the breed of bull desired. It is not the intention to place bulls in a district where privately owned pure bred sires are standing for service and interference with private enterprise is thus avoided.

Some member of the Association must be prepared to take care of the bull to the satisfaction of the Federal Department as they will have the animal inspected from time to time by one of their representatives.

Whenever possible, the bulls to be used will be purchased within the Province, thus protecting provincial breeders.

Last year thirty-five bulls were distributed to associations in New Brunswick. There are a number of districts in each county which are eligible to take advantage of this offer and the number of bulls distributed should be double that of last year. Farmers interested in this proposition should communicate at once with the Live Stock Division, Department of Agriculture, Fredericton.

To assist farmers to obtain or dispose of farm seeds The Soils and Crops Division of the Department of Agriculture offers to act as an exchange depot where correspondence of buyers or sellers of farm seeds will be received, their requirements placed on file and when possible correspondents will be brought into touch with other persons to mutual advantage.

The officers of Agricultural Societies will be advised of any seeds listed with the Department for sale.

The spring seed fairs to be held in the different Counties during March will give an opportunity for the display of samples. The exhibitor at these seed fairs is required to offer for sale a quantity of seed and consequently the Fair serves both buyers and sellers as a sample market.

The price of farm seeds has reached a new high level this spring. The annual importation of seed is enormous—our seed growers do not advertise, as their surplus quantities are rarely sufficiently large to attract big buyers, consequently many dollars worth of excellent seed never finds its way to a neighbor buyer.

Buy home-grown seed whenever possible, to the mutual benefit of the local seed-grower and the purchaser.

All persons who have a quantity of the common farm seeds for sale, or buyers who wish to purchase or exchange, are invited to list their lots or requirements with this Division.

DON'T FEED PROFITS TO THE WORMS
BIGGER CROPS
BETTER CROPS
A Letter for You
"Poltimore, Que., Jan. 5th, 1920
'I have had good results from my Spramotor. I have used one of your machines for 8 years and it never cost me a nicke for repairs. I plant about 4 acres of potatoes every year. It pays to have one of them. It is the only machine I ever saw that will give satisfaction. It only takes one-quarter of the Paris Green, and I never burnt the potatoes as we did before in the old way. I have also done white-washing, and I find it works first-class. I could not be without one." "AUGUST MILLER."
YOU CAN'T help getting better crops of potatoes, row crops, fruits, etc., if you have a Spramotor to help you defeat pests, bugs, worms, blight, rot, fungus, etc.
The Spramotor has been 25 years on the market and is winner of over 100 Gold Medals and First Awards in competition with the world.
FREE Write for our Crop Disease Booklet, giving Government reports, formulae and information.
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Maritime Dairy School

College of Agriculture, Truro, N. S.

Announcement of Courses in 1920

DIRECTORS:

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M. CUMMING	-	Secretary for Agriculture	- Truro, N. S.
FRASER T. MORROW		Director of Dairying	Charlottetown, P. E. I.

COURSES: Open to any who have had at least one season's experience in a cheese factory or creamery or make special arrangements.

Creamerymen's Course:

March 10th to 23rd inclusive.

Cheesemaker's Course:

March 24th to April 1st inclusive.

Milk Testing Course:

March 10th to April 1st inclusive.

Milk Testers for Cow Testing Associations:

March 24th to April 1st inclusive.

For further information write to your Provincial Dairy Superintendent.

W. A. MacKAY, Supt. in charge,
Truro, N. S.

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTESED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

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Twenty-fourth Annual Convention of Nova Scotia Farmers' Association

The Twenty-fourth Convention of the Nova Scotia Farmers' Association met in Annual Session at Kentville, N. S., on Jan. 27th, 28th and 29th.

The meetings throughout were marked by a splendid attendance, and a keen show of interest.

The first meeting opened Tuesday evening with President, D. R. Nicholson in the chair.

The President's address was the opening number of the program, and was one of the outstanding features of the Convention. Mr. Nicholson received many expressions of congratulations, which were well merited for the concise and comprehensive manner in which he reviewed the past year from agricultural and economic standpoints.

Following is the address, which we take great pleasure in publishing verbatim:—

President's Address

Gentlemen:

For the first time in five years we are meeting with the shadow of the war' cloud removed. The Angel of Peace has once again winged her peaceful flight through the land and warring nations are at peace

Our own brave boys are home again and doing their "bit" now in the work of reconstruction.

Many of them received their first training in the art of war not far from this hall. With heads erect and shoulders squared, and hearts turned to the great sacrifice which time was to prove many were destined to make, they marched away from their own Province, the pride of Nova Scotia's offering upon the altar of civilization and Christianity.

We reverently look back and honor the sacred memory of those who never return and whose earthly bodies must forever lie under the sod "where once their own life's blood ran red."

The greatest loss of the war to our Country was not in material things, but in the power of young manhood that had fallen, 60,000 Canadian boys filled soldiers' graves over yonder. 125,000 more bear the marks of war. In how many homes today the aged mother and father are deprived of their sole support? How many widows and orphans today are dependent on our Country because the husband and father has made the great sacrifice and all that is mortal of him is now sleeping the long sleep under the sod "With each a cross to mark his bed and poppies blowing overhead."

We are pleased to note the stand taken by our Government with reference to the dependents of those who have sacrificed their all in the struggle for freedom. While the Government may not have met the returned men in all their demands they have been at least, fairly generous in their treatment of the dependents of those brave men. Governments may come and go but let us hope that the dependents of those fallen in the great struggle may never want.

It is my pleasant duty to welcome you to this thriving, progressive, inland town. The home of many of our Government Institutions, and to the opening session of the twenty-fourth Annual Convention of our Nova Scotia Farmers Association.

The season of 1919 was on the whole a very successful one for the farmer. Taking an average of all crops and taking prices into consideration it has been perhaps an outstanding year. True, every single item which goes to make up production was away up in price, but looking at the past season from all angles we come to this convention with gratitude in our hearts, and words of thanksgiving on our lips to the Great Ruler as we convene here tonight.

The Spring of 1919, like its predecessor, opened somewhat late , nearly a fortnight later than some preceding years. Seeding conditions were favorable from the 10th to the 24th of May, after which there succeeded nearly two weeks of cold, dull weather, delaying a large amount of Spring seeding until well on in June. Vegetation was very rapid during the latter part of June and July, but August and September will long be remembered for the continuous rainfall which greatly retarded hay-making and harvesting and caused a loss of thousands of dollars to producers of hay and grain.

Our apple crop, which has made Nova Scotia famous, was the second largest in the history of the Province, exceeded only by that of 1911. While prices have been high—from a producers' standpoint, taking into consideration the cost of labor, barrels, fertilizer and mony other things, returns have not been as satisfactory as anticipated.

The great enemy of the fruit grower, "scab," was prevalent, provided we can judge by the quality of fruit offered on the Sydney market.

We can report a full average hay crop,but owing to a season of wet weather, harvesting conditions were very unsatisfactory, and as a consequence a large portion of the crop was damaged in the making.

There were some frosts about the 20th of September which wrought considerable damage to tender crops. A very severe frost occurred again on October 20th that damaged thousands of barrels of apples.

The potato crop was a good average yield, but fields that were not sprayed—and alas there were far too many of them—were badly damaged by rot due chiefly to blight.

We have to report again that no Provincial Exhibition was held at Halifax. Before the close of this Convention our Exhibition Commissioners will inform us what steps have been taken towards the erection of new buildings and what the prospects are for 1920.

The Maritime Stock Breeders Association are to be congratulated on the success of the Winter Fair held at Amherst in December. After four years of inaction the general opinion was that the Fair would not be up to previous shows. Not only were all classes filled but some classes were the best ever. The result more than exceeded the most sanguine expectations of the Management.

County and District Exhibitions were held in greater numbers than ver before, and at many of these a very creditable showing was made and in many cases a marked improvement is noticeable, particularly in dairy cattle, grain and roots.

As the years go by one cannot but note the marked improvement in farm conditions and farm life. Much of this can be directly traced to the teaching of our Agricultural College and the Short Courses held there. The College, under the able leadership of Professor Cumming and a staff equal to any, has been working year after year to this end. Who could sit under the silver voice and earnest teaching of its Principal and leader, Profesor Cumming, without being inspired by his own earnest enthusiasm and lead onward and upward to better and greater things.

The student enrollment at the College this year is the largest in the history of that institution. This coming immediately after the close of the most destructive war in history is encouraging. Enrolled in the regular class this year and taking the full course, are one hundred and four students. Besides this there is a special class for returned men with an enrollment of forty-eight, and in addition to all these, there have been in the course of the year, thirty-five other returned soldiers who have completed the special course for soldiers.

This shows that our young men are beginning to realize the necessity of being fully trained and prepared for their life's work and are taking advantage of the agricultural training which our College is so well prepared to give them.

Very helpful and instructive Short Crouses were held at the College early in the month with a very satisfactory results.

It was my pleasure to have a chat with Miss Helen McDougall, Superintndent of Woman's Institutes for Nova Scotia, in Sydney a few days ago. There are at present fifty-five institutes doing excellent work. During the war the greater number of these instituts did Red Cross and other patriotic work. In some districts they are caring for the varying necessities of the schools in their respective districts.

As Miss McDougall is to address us tomorrow evening on this subject, I will not add anything further but to ask every delegate and member at this Convention to assist in every way possible the organization of an Institute in every village and country district in the Province. Their motto is all the introduction they require: "For Home and Country."

It is encouraging to note that the past season has been a very successful one for the creameries of Nova Scotia. A 20% increase in the number of pounds of butter and a 34% increase in the value of the product, is an encouraging report from the dairy farmers of the Province of Nova Scotia.

This, in view of the fact that mill feeds have been 50% higher than the previous year, is a wonderful showing. The price of mill feeds is a question that might stand some looking into. It looks rather unreasonable to give the Western Farmer an increase in the price of wheat—which means an increase in the price of mill feeds as a consequence—and at the same time holding investigations with a view to lowering the price of dairy products, especially milk, the production of which depends largely upon mill feeds at open market prices.

The Board of Commerce has been flitting here and there through the country like a bee among flowers. Investigations were held at various centres including Halifax, Sydney and Glace Bay. In nearly every case the products of the farm and especially milk was the outstanding question under investigation.

The Board of Commerce, together with several other "Boards" and Fair Price Committee were no doubt conceived in good faith, but in common street parlance they have been nothing more than a "joke." In the majority of cases they were composed of business men or retired citizens with little to do, and instead of investigating prices of commodities regarding which they might be expected to know something, they have attempted to vindicate their existence as a Board and curry local favor by pronouncing on the value of farm products.

As a rule they have shown lamentable ignorance concerning the cost of production, and the world-wide demand for food-stuffs produced on the land. The only power the yhave is to investigate, but without even doing that they, in some cases, issue a statement which is usually so far from correct that it is ridiculous.

When the armistice was signed over half a million men and women were taken from work in connection with the war, which brought us face to face with social, industrial and economic problems such as never confronted us bfore. We looked for a decline in prices prevailing during

the war period. The public e pe ally looked for a decline in the ... of farm products. The results ... all know. Prices were never as h... and still advancing, and rightly so.

The industrial worker to day is clamoring for, and in most cases has obtained an eight-hour day. Compare this with the farmer and especially the dairy farmer who works from eleven to thirteen hours a day and even then has been feeding the world with dairy products at a loss for the last five years.

The public are clamoring for cheap food, but it is willing to pay more for sheoes, for clothing, for furniture, for transportation and many other things. The question naturally arises in our minds, why should the farmer be singled out for such treatment? If on the one hand an increase in wages is justified that a fair standard of living may be maintained for the wage worker, the increase should also hold good in the case of the agricultural worker on the other hand. Farmers are not going to produce food on the Chinese scale of living. Prof. L. H. Bailey, in an address said: "We cannot have a democracy with an American standard for industrial workers and a Chinese Standard for the agricultural worker. Our democracy is made up of men and women, not of corn and potatoes. And the cities gain has cost the country dear in the abandoned farms, weakened schools and churches and discourged communities drained of their vitality. Country life must be satisfying, financially, socially and intellectually."

But the urban centres today are absorbing our rural populations at an alarming rate. The distribution of our population is fast altering the appearance of the landscape and the vry complexion of our national life. Let us see what the following figures reveal:

The Canadian census of 1891 revealed a population of slightly less than five million, 70% of which was rural. By 1901 Canada was the home of five and a third million people but 62% only were found to rural. The last census, or that of 1911 showed a total population of 7,204,838, but the percentage of rural people had dropped to 54%.

The trend citywards has been obviously increased by the war. Money flowed freely in high places. Plants working on war orders drew labor from far and wide, and left the country still more destitute. We will have to perform a complete "right about face" and make it possible for those engaged in agriculture to be thrifty and prosperous. Farming must be made attractive. There must be returns for labor expended on the land. The product of the soil must find a remunerative market that will leave a profit over and above the cost of production so that rural people may improve their surroundings, have home comforts, better educational facilities, and an all round fuller life. With these things possible rural life will be brighter, the rural population will constitute a larger percentage of the whole, and discontent will be less common; we can never get anywhere with only 37% of the population engaged in farming. The Government should turn their attention to the seat of the trouble, which will be found in the country—not in the city.

But we are living in a time of trends and changing conditions. Some are alarming, others again are reassuring. One thing we would like to believe is: That the city and country people are beginning to know each other better, and as a result are taking a keener interest in each others affairs. Around town certainly there is much talk of the farmer. Every now and then the hard word "profiteer" 'is used in this connection. But, are farmers making enormous and unjustifiable profit out of farming? The facts do not show that they are. They are certainly making more money thnan ever before—but they never made any money before.

But the tenor of talk matters little, the main thing is that the city man, after all these years, is now becoming interested in the farm and the farmers business. The farmer, beyond a doubt, has always ben interested in the city man. For generations we have been envious of the comforts of city life, with its labor saving devices and short hours of work. Within the past few years we have acquired many of these things. The gas engine has cut off much of the old drudgery. The telephone has put us into quick and effective touch with our neighbors and markets. The automobile and motor truck have brought the city and the markets almost to our door.

But farmers are not organized for their own protection. The "Farmers Movement" is at the present time engaging a great deal of attention and deservedly so. It is a gross error to regard the desire of the farmer to take an organized and direct hand in the Government of the country as a "Class Movement." Farmers are not a class, but simply the rural dwellers and rural workers of the country. We are the most numerous and most representative people in the Country. We are, and always have been, unorganized industrially. We have at all times been ready and willing to share the common lot—in fact we have proved ourselves to be unselfish. The consequence has been that we have been elbowed out and almost excluded from participation in public life.

This "Movement" however, is rapidly spreading and we cannot ignore it. At the same time, this Asosciation being a Government aided organization, it might not be well to discuss politics.

I have been attending the Annual Convention of the Farmers' Association regularly for the past fifteen years, and while we have been seeking for legislature affecting every phase of farm business and farm life —and quite successfully too—we have never to my knowledge looked for any legislation towards improvements to our rural school system. From year to year larger appropriations have ben made for agriculture, technical instruction and higher education. To my mind the efficient training of the children in the common school is at least quite as important to the province as any of these objects. The common schools of any country are a greater influence in moulding future citizenship than any other agency. Money devoted to the improvement of the efficiency of common school work is a better public investment than grants in aid of any branch of industry. Teachers must be paid, not only decently, but handsomely, in order to get the kind who may be safely entrusted with our future citizens. We cannot expect best results with our schools manned by girls yet in their teens. I like to seen money spent on boys and girls—the best investment possible and one which pays the bigegst dividends.

Many of you who attended the Convention at Truro last March will no doubt remember the address of Lt. Robertson, Nova Scotia's Representative of the Soldiers' Settlement Board You will also remember the lengthy discussion that followed this address and the unmerciful manner in which the Soldiers' Settlement Act was criticized.

In looking back over the past season we find that the returned men did not see it in the same light as the delegates and members of this Association. After less than a year in operation in the Province we find that the Board at Halifax dealt with 997 applications for certificates and 701 were qualified. 24 men took the practical training course at Kentville and at present there are 21 men training with practical farmers.

The Board has placed on farms 229 settlers. The Counties of Pictou and Cumberland having the largest number. Kings, Hants, Annapolis, Colchester and Cape Breton are well up to these Counties.

The Board has approved of 313 loans to the amount of $941,743.86. There are at present 23 loans pending which will run the total amount of loans in this Province well over the million mark.

The training work conducted by the Soldiers Settlement Board at the Experimental Station, Kentville has been under the direction of P. L. Sanford and he has had placed at his disposal by the Superintendent at the Station, teams, equipment and materils necessary to carry on practical farm work.

One hour each day was given to lectures on agriculture by the officer in charge or some of the Station Staff. Three hours each day were given to live stock work including milking and feeding and managing cattle and horses.

In addition to work in horticulture practical work in the management and care of farm crops, including cultivating and harvesting of field crops was undertaken.

An area of roots, corn and hay were set apart for their management, and a field of 5 acres was given over to them for practical work in plowing, discing and seeding.

The men were housed in a building erected on the pichic grounds at this Station with a suitable cook house and dining room in an adjoining building.

This work was discontinued for the season on November 30th and the majority of the men in training have secured places with farmers for the winter and will probably secure farms of their own next spring.

The Committees have endeavored to be fair and keep only in mind the welfare of the setller. The qualification Committe does not consider it a kindness to grant a certificate to a returned man who has not had experience to give him a fair chance of success. The Advisory Loan Committee have endeavored not to purchase farms for settlers, unless they afforded him a safe prospect of making good. Some will, no doubt, "fall down" as might be expected among so many, and so much depends upon the "man."

The result is very satisfactory for less than one year's work. This is a real "back to the land" movement. It is very encouraging to see so many of our young men settle on the land in their own native Province instead of taking up land in the west. We are anxious to keep our men in their own County, where returns are sure, to keep them at home.

The Agricultural Station at Kentville has again a very successful year in the prodution of home grown turnip and mangel seed. While the quantity porduced was materially less than the season of 1918, yet returns were very satisfatory. 5 tons of turnip seed were raised at an average yiled of 1,000 pounds per acre, and mangel seed grown yielded 1,400 lbs. per acre. The bulk of this seed was produed on rented land and the most part of which was old pasture ploughed the previous fall, and was not satisfatory for the purpose.

We have learned from these experiments that lean, home grown seed will produce better results than imported seed.

And now as we have entered upon the period of reconstruction — of building up again—let us as farmers nobly shoulder our share of the burden and go forward. Never before has such sorrow and sacrifice been experienced, and right nobly was it borne, with the hope that something great and worth while would be the result. That from the awful depths of agony to which we have gone we might rise in newness of life and push forward to greater things, having shaken off the shackles which bound us and retarded our progress.

What the future holds is hard to predict, and would be but a guess on our part, based on our fondest wish, yet we cannot help but look for great things, not only in a financial way, but in ways which will bring real happiness and enjoyment of life; and while we hope for greater things let use remember that the way to realization is to "Attempt Great Things, Expect Great Things."

We must retain our faith in humanity and our fellowmen, else our sacrifice will be in vain. No one must shake our confidence. We must be ready to say with Browning:

"God's in His Heaven,
All's well with the world.'

Good Roads

The Hon. H. H. Wickwire then addressed the meeting and extended the hearty welcome of the citizens of Kentville to the visiting delegation.

Mr. Wickwire said he had been struck by two features of the President's address, the making of the farming occupation a more pleasing one, and the plea Mr. Nicholson had made for the improvement of our rural school system, two subjects which he felt should receive more attention. He felt that the work on which he was engaged was helping to make farming a more pleasing occupation.

Good roads bring the farmer nearer his church, his doctor and his market, and make farming more profitable.

There had been a great change in the highway laws during the last two years. The Province of Nova Scotia had taken a great step forward, and he was happy to say that this change in the road law was made with the unanimous consent of the Legislature.

Nova Scotia had for many years been behind the times in this respect, but when she did make a change it was a radical one.

But this road law, Mr. Wickwire was afraid was not fully understood, and was not receiving the attention that it should. He then went into the provisions of the road act, and the problems which they are up against in administering that law. Statute labor under this new law was abolished and instead this expense was met through the automobile tax, a Government grant, tax of 40c on the $100, and a tax of 1/10 of 1 per cent on the assessed valuation of the town, that amount spent exclusively on the county in which it was raised. Did the farmer realize that with the old law every man over 16 years of age had been required to do three days road work, the equivalent now of $3.00 a day? Their taxation, did they but see it, was less than 100 years ago.

He commended the counties of Cape Breton, Annapolis and Guysboro on voluntarily increasing their tax from 40c to 60c.

Mr. Wickwire told of the grant from the Government to the provinces, of $20,000,000, for a period of 5 years, for the providing of good roads. Nova Scotia's share of this being $300,000. This calls for roads of a certain character, and money to be expended on intercounty and market roads only. There are 18,000 miles of road in Nova Scotia, and Mr. Wickwire hoped during the 5 years to complete 5,000 miles of road. He hoped that all would be so impressed by the etxent of the work to be done, that they would be ready and willing to pay a little more towards the maintenance of these roads. If the road law relieved the farmer of all responsibility for 40c of the 100, he should consider he was getting off easy.

He went on to show the different attitudes of mind in regard to this road law.

On the matter of the removal of snow, he would say that the law remained the same as in the last ten years. It was the duty of the municipal council to make districts and of them to appoint an overseer in each, and his duty to summon men in his district from 17 to 60 years of age, who were compelled to answer this call on penalty of a fine.

This law, he did not believe, would be changed, as it was something that

could not be estimated. It can only be handled in this way. The removal of snow could only be considered as a necessary extra burden.

The proposition made last winter asking to be permitted to add to their tax to look after the removal of snow, he did not consider a good one.

Mr. Wickwire solicited the co-operation of the people and the proper financial support, which, with the honest administration of the act, should give Nova Scotia a system of roads equal to any.

He closed his remarks with the hope that the deliberations of the session would be productive of much good.

Live Stock Opportunities of Nova Scotia

An address on Live Stock Opportunities of Nova Scotia was then given by H. S. Arkell, Live Stock Commissioner of Ottawa.

Mr. Arkell was greeted with an air of attention and expectancy, it was probable in the minds of all that in the course of his remarks, the great question which had been occupying their minds and was of paramount interest to them, that of the erecting of an abattoir and stock yards for the Maritime Provinces, would be referred to.

But the nature of the decision in regard to this, which he announced to them, came as nothing short of a bomb, and left indignation and rebellion in its wake, and undoubtedly hastened and advanced the feeling of need for the organization of the United Farmers' Union, which was consumated at Kentville, after the close of the Farmers Association Convention

The great need of an abattoir and stock yards had been so apparent to the farmers of Nova Scotia and their sister provinces, Prince Edward Island and New Brunswick, for so long and their claim so justified in their minds, that it seemed hard for them to conceive that their request had been turned down, and that they were not resigned to the decision was certainly evidenced in the resulting discussion the following day.

Mr. Arkell's address appears elsewhere in this isue.

Wednesday, 9 a. m.

Report of Directors

To the Members of the Nova Scotia Farmers' Association:

Your Directors in presenting their report wish to welcome you delegates to this twenty-fourth Annual Convention. It is some years since we met in Kentville, having since then met at various place form Yarmouth to Sydney; the last three meettings were in Truro and it seemed at one time that Truro was to be the annual meeting place, but the enthusiastic invitation we received from Kentville decided us to call the meeting for here, and we know we have made no mistake.

A program has been prepared, which we trust will meet with your approval and from which you no doubt will get form the addresses and discussions some further light on your work and undertakings that will be of value. Outside of the "Movies" as places of amusement, they are more being used for educational purposes. The Agricultural College has a machine and several films along agricultural lines, and also the Dominion Atlantic Railway; both of these parties have loaned us some of their films, which will be exhibited during our evening sessions, and we wish to express our apperciation of ther kndness for these loans.

The continued increase of living is a matter of great concern, and because of the inbrease in cost of farm produce many jump at the conclusion that the farmers are all growing to be millionaires. whereas they do not take into account the increased cost of transportation, handling, raw material, the jobbers and middlemen's commissions and profits, the scarcity of labor and increased scale of wages, and indifferent labor at that. Thanks to the agitation in favor of greater production and the mast favorable season, they were able to grow good crops and to reap some reward for the labor they toiled at, not for six or eight hours a day (and then went joy riding) but from sunrise to dark.

What about growing apples? At one time it was thought that they might be a very profitable crop, and apples are grown, with the after result of the enormous cost of transportation, increased cost of barrels, boxes and labor of packing and picking, that they are not very profitable to the grower, and will not be until the cost of transportation and labor is considerably reduced.

The transportation question should be always kept in mind, and all means taken to curb the continued raises, and also to go further and seek a reduction.

The years has seen the return of the remainder of our boys from the Old Country and scene of conflict, and we are glad of it. Some need a lot of asistance, care and help, and the Federal and Provincial Governments have done well in this line, and trust they will do all, in their power to repay them for their great sacrifices.

We regret to chronicle that during the year one of our oldest and foremost agriculturalists in the person of Col. Wm. A. Blair, passed away, and trust that you will have inscribed some suitable appreciation of his life in the interest of agriculture on the minutes of this Association.

The program speaks for itself, you know what to expect. Discuss all questions, you will be gainers thereby.

The Financial report is as follows and has been duly audited and found correct:

Balance Sheet, 1919

CREDIT

Balance Jan. 1	$ 376.68	
Government Grant..	1,000.00	
Delegates Fees	56.00	
Membership Fees ...	12.00	
		$1,444.68

DEBIT

Annual Meeting Ex...	$576,73	
Sec'y's Salary	150.00	
Legislative Com. Ex...	31.55	
Directors' Ex.	4.73	
Annual Report	136.05	
Postage, Tel., etc.....	13.87	
Stationery & Printing	7.65	
	$	920.58
Balance January 24, 1920..	$	524.10
		$1,444.68

The President spoke of the motion picture films provided for the entertainment of the Association. These films were owned by the Agricultural College and the Dominion Atlantic Railway, and were very instructive in character.

He also spoke of the lamentable death of Col. Wm. M. Blair, one of their oldest and most respected members, and hoped that some tangible recognition of his services to Maritime agriculture would be memoralized on the records of the Association.

Report of Exhibition Commissioners

Report of Exhibition Commissioners was given by Mr. Kennedy.

As far as the reorganization of the Exhibition is concerned, their work had been practically nil. The same conditions continue as in their report of last year in regard to the grounds. The Halifax Relief Committee still holding and no probability of any change.

Financially, there was a balance in favor of the exhibition of $5938.80, after the settling of all accounts.

On their claim of $225,000 damages at time of explosiin, they had received an advance of $35,000.

It was their intention as soon as grounds could be secured, to erect permanent buildings on an extensive scale, roughly estimated at a cost of $500,000.

Mr. O'Brien, as a member of the commission, said that he felt that in rebuilding, some plan should be evolved by which some revenue should be obtained during the 11 months of the year that the buildings had previously been idle. He believed the $50,000 grant was not now available, but that they were trying for the Federal grant which should have been theirs by turn when the war started.

This was promised, Mr. Kennedy explained, and Mr. E. M. Mason, commissioner, felt that if they insisted that they would yet be able to get this.

Mr. A. M. Griffin thought that after the annexing of the new piece of ground they had bought, that when the new grounds were planned, they should be the best east of Toronto.

Mr. Frank Foster said he was glad to know something had been received on the damages claimed.

He hoped the floors of the new buildings, when erected, would be of concrete at a height to prevent the rain from getting in.

He hoped that they would move the stock barns up and put the fakirs down in that corner by themselves, thereby pleasing those who do not wish to be confronted by this element on entering the grounds.

Mr. O'Brien said it was the intention to put the building on a concrete foundation, and also to put a judging stand on a level place in a prominent position, with accommodations made for people who wished to follow the judging.

Agricultural Societies Report

Mr. F. F. Fuller, Superintendent of Agricultural Societies for Nova Scotia, next reported on work done during the year.

Mr. Fuller said he would like to bring to their attention the new act that was introduced at the last session of the Legislature in regard to the scrub sire, Nova Scotia having the honor to have the most advanced legislation on this in the Dominion. But it was now necessary to have the boundaries of the Agricultural Societies legally defined in order to have this action effective. There must be no loop hole. Boundaries must be described correctly. Legal terms make it necessary to state number of miles without adding the words more or less, if it came to a law suit there might be trouble.

Of all the descriptions of boundaries he had received, Mr. Fuller did not believe he could get proof on one half dozen. Within the next month or two he proposed making some test cases.

He felt another matter that required attention was the turning down of their request of last year to have their Government grant increased $5,000. He advised each member to write to his county representative and push this matter until the grant was obtained.

In regard to the Field Crops Competitions, circulars were isued last year stating that all fields should be seeded with registered seed, it was later decided that this ruling was a little too stringent, the requirements will now be for registered or approved seed.

Registered seed purchased in recent years can be used if scoring 19 out of 20 points for purity, if contestant has been in competition for two years.

A list of registered or approved seed can be obtained by applying to Mr. S. J. Moore, Dr. Cumming or Mr. Fuller.

Mr. Moore at this juncture stated that registered seed was now obtainable at the Agricultural College.

Asked as to the probable cost of the seed he said it would probably be in the neighborhood of $1.50 a bushel f. o. b. for oats, $3.50 f. o.b. for wheat.

Mr. Fuller resuming his report, said the Agricultural Societies this year numbered 269, two less than in 1918. Members 10,116. Subscribed $24,732. There were 15 County Exhibitions held which were very successful in both attendance and exhibits, also being more than was held in any previous year.

The County Farmers' Association reported a decrease in number of meetings held.

Report moved and accepted.

Appointment of Credential Committee by the chair.

R. N. Jackson.

Mr. Wallace Rhodenizer.

Resolution Committee appointed.

Wm. O'Brien, Chairman.

Stewart Leonard, Wm. Murray, Walter Churchill, C. A. Munn.

Field Experiments

An address was then given by J. A. Clark, Charlottetown, on "Field Experiments."

This drew forth quite a discussion on various phases of the subject, the sparrow pest, methods of cultivation, poisons used for the eradification of bugs, etc.

Mr. Clark, questioned, stated he generally sprayed his potatoes before blossoming, had found 4-4-40 Bordeaux successful. Questioned as to mixing proportions of poisons, said he used 1/3 paris green to 2/3 arsenate of lime.

Questioned as to the different varieties of wheat, stated he had found Huron stood up best under disease. Marquis was alright until the trouble with the wheat scab.

This paper dealing with "Field Experiments", will be published in full in a later edition of the Maritime Farmer.

Dr. Cumming then opened the discussion on the address given by Mr. Arkell, on the previous evening. He said the city man is always asking why we do not produce to supply the local market. Farmers say it does not pay. Create a market and we will produce. There seemed to be no stable price throughout Nova Scotia. We are going to increase production of live stock, but conditions need to be such that the back sections of our Province will be benefited as well as others.

He then introduced Mr. Dougall, C. P. R. Agriculture Representative, and Mr. Fraser of the Davies and Fraser Packing Company, Halifax, whom he said were meeting with the Association for the express purpose of discussing these questions.

The discussion was now open to the meeting.

A. N. Griffen said he was disappointed at the remarks of the Live Stock Commissioner last evening, re the Stock Yard and Abattoir question, and the decision reached as to shipping their stock at the present freight rates it was not profitable. The people of the Maritime Provinces were entitled to something more in the way of assistance out of their difficulties. They could raise as much as Calgary and other places. They were not getting a fair deal.

Halifax wanted their products, but at much less than the same products would bring in Toronto. "There is a nigger in the wood pile" Mr. Griffin claimed. The Minister of Agriculture had promised that something would be done for them.

Mr. W. W. Pineo asked as to why they were required by Davies & Fraser to grade their pork, this was not done in the Boston market. It meant a top price for only a very few of their pigs, and wanted to know why pork was not worth as much in Halifax as in Montreal.

Mr .Fraser imports from Montreal only to compel the farmer of Nova Scotia to sell at his price.

Mr. Pineo said the farmers were tired of existing conditions, and suggested that they stop producing until these were changed. Produce enough to feed themselves and let others do the same. He had previously raised one hundred pigs, and was only raising two this year.

Mr. Chisholm, Bear River, said if the manufacturers cannot produce and export, how could the farmers be expected to do so.

In answer to this Mr. Arkell said that Great Britain was now manufacturing, so did not want to import, but she must buy raw material, she must buy beef, cheese, bacon, etc., which she did not have within herself, therefore Canadians stood in good stead agriculturally to reap the benefit over the manufacturer.

Mr. Walter Rhodenizer told of a case of the selling if pigs which cost $1000 to produce to Davis & Fraser, and only receiving $800 for them.

Mr. Frank Foster said that at the low margin they were making on butter and pork now, many feel they will not continue in the business. The prices received, contrasted with those of Ontario, were not enough. With corn meal at $80 a ton, if the farmer did not come out on the right side of the market this year, he will have to go out of the pork producing business. He wished to see the balance on the right side of the ledger.

Mr. Creighton spoke as favorably impressed by the assurance given of reduced freight rates, he felt if the farmers could put their stock in the Montreal stock yards at reasonable rates, then the Halifax markets would be compelled to give their price.

The farmer had borne a great deal, but he was glad to see he was at last getting his back up.

He thought if the Government was going to insure them protection as to getting lower transportation rates, he felt they might withdraw their demand for Stock Yards and Abattoir.

Mr. S. A. Logan said the Live Stock Commissioner had consulted with the packers and then said the packing plant would not pay down here. Of course, the railways preferred to haul our products to Montreal and then back to be shipped, it was to their advantage. The farmers were losing enough by such transactions to pay for running a packing plant.

Mr. Fraser called on, said this was the first time he had met a representative meeting of the farmers of Nova Scotia. There were two viewpoints to the subject, that of the producer and that of the business man or packer. He felt the producer was due for much credit, he felt if the packer and the producer got together more frequently, the results might be better.

His arguments in favor of the packer were not given much tolerance by the producers present. He claimed the packers did not quit buying because of price, but because he could not get any quantity, and pleaded innocence of his firm not knowing hogs were going there, when told of his firm sending last spring to Montreal.

Mr. Fraser said at the present moment hogs in Toronto were bringing 18½ cents live weight, at Halifax 24 cents dressed weight. He wished them to compare figures, which he claimed averaged the same as the packers claim Toronto has 25% shrinkage on the live weight of hogs. The packers only quit buying locally because they could not get the quantity. (Cries of put up the price and you will get the hogs.)

J. Howe Cox asked why not buy live hogs here, and obtained the answer that the packers did not consider the handling of such small quantities feasible in that way.

As to the grading of hogs, as in the grading of fruit, the ultimate consumer fixed the price.

Light weight hogs were in favor at present. The housekeeper now only would buy the small ham or bacon from young and tender hogs, hence the larger price given for hogs from 120 to 180 pounds.

The consumer would not buy the heavy ham, thinking it from an old hog, therefore it is he who sets the price. The packer would have nothing to say if he could market the heavy hogs. If they paid the same price, the tendency would be to produce too many heavy hogs.

Questioned as to why his firm had let the quantity of hogs produced in Prince Edward Island last year go to Montreal and Toronto, he claimed that under the increased production campaign Prince Edward Island raised these hogs, but at the time his firm was not prepared to house such a quantity.

At this point in the discussion the lunch hour having arrived, the discussion was adjourned to be resumed later.

Wednesday, 2 p. m.

The meeting opened with an address on "Potato Growing", given by A. A. H. Margison of East Centreville, N. B.

Mr. Margison said there were five essentials to successful potato growing.

Proper seed bed, good plant food and fertilizer, choice seed, proper cultivation and spraying. He ploughed the sod in the fall, used the Robin's two man planter, had his rows 32 inches apart and always used high grade fertilizer, nothing else paid, well balanced fertilizer, 1 ton to the acre not less, more if necessary, he wished to impress upon them the need of plenty of plant food.

The quality of seed was most important. Seed was high now and there was too great a tendency to plant seconds. If seconds were used more fertilizer was necessary.

He preferred to cut seed by hand, rather than by the seed cutter. Cut from seed to stem ends, and cut stem ends larger. A great deal of disease is carried by tubers, knives should be disinfected if a diseased potato had been cut into. The degeneration of seed was one of the results of planting poor potatoes.

In cultivating he covered up with the horse hoe as soon as planted, then cultivate again just as they are peeping through the ground, and kept on cultivating until the last row was hilled up.

In digging, any digger will do in dry weather, but he had found the Hoover stands up best in wet soil.

Mr. Margison next dwelt on the great necessity of spraying. Spraying always gives the most marketable potatoes. He had used 4-4-40 Bordeau with best results.

In an experiment tried, results had given 112 barrels to the acre sprayed 7 times both ways, 90 barerls sprayed 5 times, while only 60 barrels were gotten off his check plot.

As to Poisons, Watson's Arsenate of Soda he had found very satisfactory. He had experimented with White Arsenic which gave good results, and was a very cheap poison, costing only about 6 cents an acre.

He used the 6 row sprayer. Both the John Watson and Brown Company put out good sprayers.

Spray often and the wore the weather the oftener spray. In spraying, do one side at a time, spraying down.

He used 40 gals. to the acre, and began spraying when plants were about 6 inches high. Best results found by putting poison in the first spray.

Asked if he had tried Dusting, he said he had done so last year with good results, but had done it with a hand duster.

Questioned, he said he thought the Mosaic due to the lack of potash, which was so hard to get during the War.

Where water has to be hauled the dusting was found to be a quicker method than spraying.

On the conclusion of Mr. Margison's address, the discussion of the morning on the Stock Yard and Abattoir question was resumed.

Mr. Cox asked Mr. Fraser if in his opinion they had any need for stock yards and abattoir, which Mr. Fraser answered by asking if any producer found any difficulty in marketing his stock?

Mr. Crane told of always having to throw in the hides when selling his steers, and asked Mr. Fraser why they always had to take off two to eight pounds off every pig. They had no redress for loss of weight. He said the Grand Pre Fruits Company was going out of the live stock business.

Mr. Pineo thought a number of the buyers were working on commission and that often that was the cause of the different prices offered.

Mr. Fraser said the difficulty seemed to be in getting their price, rather than in the disposing of their stock.

Claimed there was always a shrinkage, in freezing 3% additional shrinkage.

As to the difference in the weight, perhaps the freight companys scales were wrong, railways were not always particular about their scales, a pound more or less meant nothing to them. But the scales of his company were always correct, they were always honest in their dealings.

Mr. Crane said the Grand Pre Company had made some investigations and found there was a general complaint against the Davis & Fraser Company. The farmers had been bucked too long and now they would have a stock yard and abattoir whether the government would give it to them or not.

Mr. Griffin though the people selling at stock yards had the advantage, as they sold at live weight and had nothing knocked off for shrinkage.

Mr. Crane drew attention to the fact that Davis & Fraser stopped buying in the summer and then when their pigs got heavy, gave them the small place.

The farmers of Nova Scotia had the long haul for their feed, and now to ask them to haul their stock to Montreal and haul it back, as not a square deal.

Mr. Fraser said it was just an economic question as to whether it paid to raise pigs or not.

The general impression among the farmers was that the business man was trying to buy cheap and sell dear, and tried to show the kind farmer how this was not so, that if they made a large profit it only meant a larger business done, not that it had cost the country one cent.

If the farmer did not like their methods of doing business, the only way to override this was to become the packers themselves.

If they did get stock yards Halifax should be the site for them, it was absurd to think of taking their stock to Amherst or Moncton to be killed and back to Halifax to be marketed.

There is a market of from 200 to 250 carcasses in Halifax a week, and about the same in the Sydney districts.

Of the former, Nova Scotia only supplied one quarter and not any to the Sydney's, and he assumed the butcher was willing to pay the same price for the same quality as he could get in Toronto.

There is a market for more beef, eggs, cheese and hogs, etc., than you are producing. Millions of dollars are going out for food products, he would like to ask why these are not produced.

Mr. Newcomb, in answer to that question, said he thought Nova Scotia had some natural disadvantages in producing, some parts of the country being rough and rocky, back from the rivers in many places it was not suitable to the production of stock. They could not expect to compete with Ontario, where the soil was so much richer.

Mr. O'Brien said that they had to pay too much for their feed to raise cattle to any extent, and until this and the exhorbitant rates charged by the railways was changed, not much could be done.

Mr. Slaughenwhite thought the wave of farmerism sweeping the country would soon change all this.

Mr. Dougall, C. P. R. Agricultural representative, said Mr. Arkell and he had been accused of being in colusion to favor the railways, which he denied.

He went on to tell of his branch of work, of belonging to the United Farmers of Ontario, and what they were able to do co-operatively, and the methods in the other markets of grading and putting the price on cattle.

As to the railways, decreasing the rates, he said Mr. Hanna, President of the C. N. R., had given out that unless they increased their rates, at the present cost of operating the railways, they could not continue.

Rev. R. L. McDonald asking the present freight rate per 100 lbs. from Truro to Montreal, was told approximately 40 cents.

Mr. Arkell said he did not know when delivering his address he would precipitate such a discussion, he wished to state as regarded the commitment said to have been made by the Minister of Agriculture re stock yards and abattoir in the Maritime Provinces, that to his knowledge the Minister had not so committed himself. He, himself would work for this as soon as it appeared practicable, but at the present he could not see it on the basis of a good business proposition.

If the packers and railways refuse their help, he could not induce the Government to do so, and would have to assist them in some other way.

The whole marketing system of the Maritime Provinces had been at fault. There had been similar difficulties in the West due at the time to the falling down of their marketing system. Don't blame the packers, sit down and find the solution.

There should be a better understanding of the markets. hTe Maritime Provinces are not informed on the market report as they should be, there should be a publication of these reports each day in your paper.

We are prepared to put a man here who will report on conditions in the Maritime markets; it will soon be known if it will pay to ship to Montreal. If it won't pay, then it means you are getting the full price here that the market warrants.

We must operate on a basis of cost and supply.

Dr. Cummings then addressed the meeting. He said before the Live Stock Commissioner left, he thought it would be well to get down to something of a tangible character.

There was some doubt as to the practicability of establishing stock yards and abattoir, but it would help if they get a cold storage plant in Halifax, one on a large scale to take care of domestic produce.

It would help temporally to solve some of the difficulties and eventually to get all they wanted.

Mr. O'Brien moved that a committee be appointed to draw up a resolution to that effect. This was getting down to practical business.

1920 Seed Situation

Mr. S. J. Moore followed this discussion with an address on "The 1920 Seed Question."

Mr. Moore was pleased to say that the seed situation was easier in the Maritime Provinces than it had been for years.

He reviewed the seed question of the last few years, the oat crop had been the cause of the most trouble.

Prince Edward Island has a steadier oat crop than any other place in the Dominion, and so far Nova Scotia had to get her supply from there.

The fault of the oats here seems to be that they are not as bright as in the West, and weight lighter.

This year Ontario has the worst grain crop in years, and parts of the West are short. Parts of Quebec has also to be supplied.

It would be folly to go West for seed oats this year, fo rthey are getting their supply from P. E. I. Better to send theer at once.

Mr. Moore said the Seed Board was giving inspection to the farmers clubs Association or Agricultural Societies. He would be only too pleased to buy and inspect.

The price is not liable to go up, but the quantity available is small.

A hundred thousand bushels going from P. E. I. to Quebec alone. He told of the co-operative handling of these in the Island.

During the past year a standard has been incorporate din the Seed Control Act, the same as for clover. Three standards for oats, barley and rye Extra No. 1, No. 1 and No. 2, and de

initely defines what each shall be. This definition on page 263 of our an. 20th issue.)

Mr. Moore said he was glad to see he farmers were growing more of heir own seed, and the idea of buying eed from abroad abating.

The Western frozen seed oats, which ome of them had received in the ast, had helped to cure that.

He went in to show what it would ake to seed this province as it should e seeded.

The trouble of raising Timothy seed n Nova Scotia was due to the ox-eyed aisy. But although they could not row it commercially, they could aise their own. It was very import-nt to get a good strong growth.

But clover seed was different, they ould all grow that, and as the price ad steadily been advancing since une, it was to their advantage to do o.

Get a hardy strain, he preferred arly clover. He thought the Rainy iver Ontario Clover Seed would be uitable to Nova Scotia, it was a fi-rous rooted clover. Ordinary clover eed you buy and raise a poor strain. eed grown at home will come through he winter better than the imported.

In the Western part of Nova Scotia here would be no difficulty in raising ood seed from the second crop. The rst crop best in Eastern Nova Scotia. Cut your hay earlier, you won't lose lthough you may think so.

There will be a Clover Seed Com-etition all over the Province this ear in the Fields Crop Competition. Raise your own and you will have lenty to seed with.

There are three hullers in the Prov-ce, one at the College and two bon-sed by the Government.

Dr. Cumming was also going to put n a competition in Turnip Seed Grow-ng. If you wanted good seed, get it om some of the Dominion Experi-ental farms. Old seed will not grow. Make these competitions a success.

After some answering of questions rought forth by this address, the e-ting adjourned.

Wednesday, 7.30 p. m.

For Home and Country

The first address of the evening was iven by Miss Helen J. MacDougall uperintendent of Women's Institutes or Nova Scotia.

Miss MacDougall told briefly of the rganization of the Women's Institutes 4 years ago at Stony Creek, Ontario, grew out of the real need of the omen, and of its connection with the epartment of Agriculture.

Fifty years ago the Hospitals, Sani-riums and Asylums of the West were argely recruited from the rural dis-ricts Six years ago they organized n Nova Scotia, now having 57 branch-s.

The Home life is the most valuable sset of an nation. The individual omes may not be considered, but heir status is the status of the nation.

The wealth of a nation is depend-nt on the health and purity of its omen and children.

The farmer studies stock, feeding, oils, crops, fruits, market conditions, abor saving methods, machinery and arm accounts for financial returns. The women study Home Economics, oods, Home conditions, Sanitation, ome Nursing and Care of Children, abor Saving methods and machinery or such, for financial returns.

Home machinery on the average arm is 50 years behind the agricultur-l machinery.

The Institute has been of inestim-ble value. They are needed to help olve more of these rural problems.

There is 37% of our population liv-ng in the rural districts, the home ife on the farm must be made more ttractive for the women or they will ot want to leave the towns.

Miss MacDougall was followed by an ddress on "Home Grown Birds" by rof. J. M. Trueman, followed by a light discussion. This paper will be ublished in full in a later issue of the Maritime Farmer, as will also be the address on "Limestone as a Factor in Present Day Agriculture" given by Prof. Blair.

After these excellent and instructive papers, motion pictures were shown and meeting adjourned.

Thursday, 9 a. m.

Report of Credentials Committee.

Mr. R. N. Jackson as chairman of this committee reported 47 delegates present. 1 from the Fruit Growers' Association, 26 from Agricultural Societies and 19 from the County Farmers' Associatios.

Report of Legislative Committee

Your committee went to Halifax in due time and presented before the Agricultural Committee of the House of Assembly those resolutions passed at your last annual meeting which could be dealt with by that body.

We were very courteously received and the actual discussions showed that the members were at least interested in the questions raised. The Scrub bull question evoked much enthusiasm and as a result we have the following Act.

An Act to Encourage the Improvement of Livestock

Be it enacted by the Governor, Council and Asembly as follows:

1.—In this Act "Scrub Bull" means an uncastrated male calf or bull, the progeny of parents either or both of which are not registered or eligible for registration in a Herd Book recognized by the Nova Scotia Department of Agriculture. "Pure Bred" means a bull registered or eligible for registration in a Herd Book recognized by the said Department of Agriculture.

2.—Except as in the Act otherwise provided no person shall own, keep or harbor any "Scrub Bull" more than nine months old without obtaining a permit from the Provincial Department of Agriculture and not even then unless such bull is kept in a stable or paddock or pasture with walls or fences of such construction that he cannot get out.

3.—The fact that a bull has broken through such a wall or fence shall be prima facie evidence that such walls or fences were not of proper construction.

4.—In the case of a bull kept in a paddock or pasture one or more sides of which constitute boundary fences the cost of construction shall rest upon the owner of the bull.

5.—Any person may castrate any "Scrub Bull' which he finds unaccompanied by an attendant on any public highway or common or trespassing on any field not securely fenced to prevent the passage of such bull, or otherwise not under proper control.

6.—Any Agricultural Society may appropriate out of its funds a sum not exceeding twenty-five dollars in any one year to pay for the services of any person or persons whom they may employ to castrate any "Scrub Bull' unaccompanied, trespassing or not under control as aforesaid.

7.—In any case where it is impractical for an owner of a cow to procure the services of a pure bred bull such person may on a statement to this effect sworn to before a Justice of the Peace and on approval of the Superintendent of Agricultural Societies, or an officer appointed by him, obtain from such Superintendent a permit to keep a scrub bull for a time fixed by such permit; in any such case the Superintendent of Agricultural Societies may, pending further enquiry, issue a special permit.

8.—The Act shall come into force by a proclamation by the Governor-in-Council on January 1st, 1920.

9.—Every person violating or failing to comply with any of the provisions of this Act shall be liable to penalty not exceeding one hundred dollars.

Prize Animals at County Exhibitions

Resolved that in the opinion of this Association First Prize animals in the various sections at County and District Exhibitions may be compelled to compete at the Provincial Exhibition, at the discretion of the Superintendent of County and District Exhibitions and that the Provincial Legislature be requested to enact Legislation to provide ways and means of defraying expenss in connection with such Exhibits.

Further resolved that this Association request the Provincial Exhibition Commission to hold their Exhibition at such dates as would make such arrangements convenient.

An Act Respecting the Annual Provincial Exhibition

Be it enacted by the Governor, Council and Assembly as follows:

1.—The Governor-in-Council may appropriate a sum not exceeding $—— —— to assist in paying expenses of transporting first prize animals in the various classes and sections at County and District Exhibition to the Provincial Exhibition.

2.—The Governor-in-Council may pass such regulations as are necessary for the carrying out of the provisions of this Act.

For some years the Farmer's Association has been asking for legislation defining a lawful fence as one which will turn sheep. We went into this matter fully, the Attorney-General interpreted the present law as ebing fully adequate to cover the requirements, but promised to so revise the wording that the meaning may be more easily understood. The following clause of the Act was the one under discussion:

An Act to Amend Section 2, Chapter 93, Revised Statutes, 1900, "Of Fences, and the Impounding of Cattle."

Be it enacted by the Governor, Council, and Assembly as follows:

1.—That Section 2, of Chapter 93, R.S.N.S., 1900, be repealed, and the following substituted therefor:

2.—All fences of enclosed lands shall be built of stones, pickets, boards, logs, poles, brush or posts and rails or posts and wires, barbed or plain, and shall be so constructed as to inclose animals, unless the lands are bounded by unfordable ponds, rivers or the sea, or surrounded by efficient hedges.

The resolution regarding the destruction wrought by deer in some sections of the Province was discussed in both the Agricultural and Law Amendments Committees and was finally referred to the Game Commissioner with recommendations to amend the present law so the farmer may protect himself against these animals.

Agricola

Resolved that the Nova Scotia Farmers Association memoralize the Provincial Government to erect either at the Agricultural College, the Provincial Building or other appropriate place a fitting tablet commemorative of John Young on this hundredth anniversary of the appearance of a series of epoch making letters written by him under the pseudonym of Agricola, which letters were responsible for a development of agriculture in Nova Scotia the influence of which is still apparent throughout the Province of Nova Scotia and to perpetuate his memory by a re-publictaion of the said letters.

The above resolution was favorably received and the suggestion will no doubt be carried out but some demur was made to the idea of republishing his letters.

Resolution re Increase of Government Grant to Agricultural Scoieties

Whereas, owing to the great increase during the past five years in the number of Agricultural Societies gives a very small grant to each individual society when distributed,

Therefore resolved that the Nova Scotia Farmers' Asosciation in convention at Truro, composed largely of delegates from the Agriclutural Societies of the Province urge the Provincial Government to increase the present grant to $20,000.00

In regard to an increase of grant to Agricultural Societies the idea seemed to prevail that the necessity of strict economy would compel them to refuse any increase for this purpose.

All of which is respectfully submitted.

R. J. MESSENGER,
S. A. LOGAN,
Legislative Committee.

Resolutions

The following resolutions were adopted:

Whereas there is being marketed in this Province annually a large number of uncastrated lambs, and

Whereas lamb-buyers have to accept a large proportion of such lambs in the first carloads bought, which large proportion always results in a falling of prices, and

Whereas the difference in prices formally offered today between ewt lambs and castrated lambs and the uncastrated is one cent per pound,

Therefore resolved that the N. S. F. Association approve of the lamb buyers hereafter offering a still greater difference in price, say of two cents per pound, which in its opinion would result in careless farmers to look better after their flocks.

Moved by J. Archie MacDonald, seconded by R. L. MacDonald.

* * *

Resolved that the Nova Scotia Farmers' Association in annual session at Kentville January 27-28, 1920, again place itself on record as being opposed to the enactment of any so-called daylight saving law by the Legislature of Nova Scotia or the Parliament of Canada.

Further resolved that we protest strongly against the action of the Government Railways and other railways of Canada in advancing the clocks one hour as wos done in 1919 by the said railways.

Further resolved that should the United States railways at the demand or solicitation of dwellers in the cities of the United States advance their clocks on hour as was done in 1919 ada do not advance their clocks but arrange their schedules and time tables accordingly.

And further resolved that a copy of this resolution be mailed to the acting Prime Minister, the Minister of Canada, the Minister of Agriculture at Otawa, the Premier of Nova Scotia, to the Nova Scotia representatives in the Dominion Parliament and to the members of the Nova Scotia Legislature.

Moved by W. A. Bacon, seconded by H. L. Taggart.

* * *

Whereas the farmers of Nova Scotia are greatly handicapped in their farming operations by the lack of skilled help, and

Whereas the Canadian Pacific Railway, by offering cheap rates and other inducements, entice away from the agricultural districts of Nova Scotia during the harvest season, a large number of farm laborers, and in consequence thereof large quantities of farm produce remain ungathered, entailing a loss not only to the farmers, but to the Province of Nova Scotia,

Therefore resolved that this Nova Scotia Farmers' Association, in session assembled, protest against this action of the Canadian Pacific Railway in running their so called Harvest Excursion from Nova Scotia to the Western Provinces, and

Further resolved that a copy of this resolution be sent to The Honorable the Minister of Railways, and to the President of the Canadian Pacific Railway Company.

Moved by Wm. O'Brien, seconded by H. L. Taggart.

(Continued on page 360)

THE MARITIME FARMER

And Co-operative Dairyman
Registered Trade Mark
Fortnightly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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DATES OF ISSUE.

March	2—16—30
April	13—27
May	11—25
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FEBRUARY 17, 1920

WANTED—CAPITAL FOR FARM DRAINAGE

Hundreds of acres of hay-meadows and salt marsh, at one time the most valuable agricultural land in the Province, is today devastated by freshets or tides, and is unproductive, while the price of their staple products,—hay and grain, has risen to an unheard of level.

It is an established principle of political economy that land limitation throws out of use a great deal of land on the margin of cultivation which, because of bad physical conditions, cannot profitably be fertilized and kept cultivated during periods of high ages. But these dyked marsh lands, the richest in fertility and crop-producing power in North America, will be allowed to remain waste land usless some successful ditching and dyking appliance shall be introduced to demonstrate the work of draining and reclamation.

The problem of land drainage is so closely connected with the agricultural, and hence commercial progress of this province, that unless capital can be diverted from the usual forms of investment and turned toward farm development of this kind, the scarcity and high prices of food supply must continue.

Educational and demonstration work in farm drainage has been carried on by State and Federal Departments of Agriculture, Drainage Congresses and Agricultural Colleges in many parts of the United States and Canada, and their work has frequently been followed by the ditching contractor who made splendid profits, or by the farmer himself, so effective and profitable proved the employment of machinery for drainage.

Excavating machinery for digging open ditches has been successfully used in Alberta and British Columbia, for digging irrigation ditches, and in most States of the Union, and it is reasonable to suppose that these marshes offer no obstacles to their operation. But local capital must be shown that in contract drainage work there is scope for a well arranged private business, and since there is no local data obtainable, our Department of Agriculture should be asked to investigate the suitability of the existing types of machinery and to recommend, and if necessary buy and operate as a demonstration feature, a satisfactory machine.

POTATO GRADING

Many of our most progressive growers and dealers are strongly in favor of a better system for grading potatoes. Here is what Mr. Henry Broughton, of Sarnia, Ont., is credited with saying in a recent issue of The Canadian Horticulturist:

"There is not a wholesaler in Toronto who would take the risk of ordering half a dozen cars of Ontario potatoes of a certain grade. By grading our potatoes we can establish the reputation of our own products."

The grading of potatoes will have the effect of establishing a reputation for that product that does not exist at the present time. The unscrupulous grower and dealer do not favor grading, as they will have no chance to palm off on the public a class of goods that has the very opposite effect.

THE RAILWAYS AND AGRICULTURE

It is estimated that agriculture contributes approximately twenty-four per cent of the total Canadian railway freight tonnage. According to G. E. McIntosh, the officer in charge of transportation in the Fruit Branch of the Department of Agriculture of Canada, Canadian railawys will this year have handled possibly 15,000 car loads of apples. In his article, which appears in The Agricultural Gazette for December, Mr. McIntosh points out that the country is today more interested in ample, safe, and rapid transportation than in cheap transportation. This applies to the fruit and vegetable industries even more forcibly than to manufacturing or other lines of industry. Groers and shippers, he states, in many producing sections of Canada are still marketing under adverse transportation conditions. Where the situation is such the Fruit Commissioner is prepared to afford the assistance of his Branch in an effort to strengthen the weak points. Mr. McIntosh concludes his article with the fololwing:

> "There is this to bear in mind, that proportionately to population, Canada is even better equipped in railway mileage than our neighbors to the south, who are five times better equipped than the European countries. This being the case, agriculture in all its branches and the railways of Canada are interdependent."

SEED ORDERS AND SUPPLIES

The new seed catalogues are coming in with their lists of novelties and staple varieties attractively advertised, and one gets much enjoyment in turning over the pages of one of these catalogues and mentally picturing the fine crops one will have next summer. Often, however, the catalogue is laid aside without the order being sent and nothing futrher is done until spring, when it may be too late to get what is desired. The quantity available of the best strains of vegetables and floewrs is usually small, hence it is very important to order early before the stock is exhausted.

There is a great difference between the best and the poorest strains. The stock of the best has been rigidly selected so that a large proportion will come true to type, whereas stock which has not been kept up by selection may have a bad mixture of types, and the resulting crop will be very unsatisfactory. This is of so much importance that, with a crop like the cauliflower for instance, where a strain that will give a large proportion of good heads means much profit and a poor strain may mean very little, it pays the market gardener when he gets a good strain to hold over what seed he does not use until another year as he will thus be sure of having a good strain next year. This method would not, however, serve with the onion, which loses its germinating power very rapidly, hence should be purchased every year. There is a wonderful difference in onions. Sometimes from the seed of one stock a large proportion will be thicknecks, while from another most of the plants make good bulbs. If one has had good success from a certain source one year, the safest plan will be to order from the same source another year.

Sometimes novelties have not apparently been compared very carefully with the best of the older varieties before being offered for sale, as they do not prove superior, if as good. While it is interesting to test varieties, it is well not to spend much money on them until they have been tested at the Experimental Station.

Another advantage of ordering early is that one can test the germinating power of a seed before spring so that there will be time to order again if the germination is poor. Often seed is ordered so late that when it is sown and the plants do not come up there is not time to order again, and one loses the crop. When there is a shortage of many kinds of supplies, as there is at present, it is very desirable to order early the material needed for next season's operations.

* * *

"Canada will find that livestock production will, from an industrial point of view, prove her greatest national asset".—H. S. Arkell, Livestock Commissioner.

* * *

A shortage of cattle is predicted by those who know. Farmers who can are strongly urged to extend breeding. The export markets can take all the meats that can be shipped from the Dominion for years to come. The returns will help to pay the war debt.

* * *

"This country will not be affected by the impending world shortage of meats until the end of 1920" is a recent tsatement of the British Food Controller. Canadian livestock producers will be quick to grasp its significance for their export trade.

* * *

"Sentiment won't bring trade to Canada if the manufacturers do not go out after it" pithily comments a Toronto morning newspaper. For the farmer the only possible manufacturer of his meat producing animals able "To go out after it" abroad is the packer.

* * *

Farm animals once depleted cannot be brought back to normal numbers so quickly as the supply of feeding grains. Disparities of price will right themselves soon. Our animal industry is in for a period of good prices. Through increased exports this can be made a durable condition if farmers wish.

* * *

Here is a pointer to Canada businesses United States banks and loan companies "are letting out all the money they can to farmers who will feed or breed."

* * *

Those who were helped by you will remember you when forget-me-nots are withered. Carve your name on hearts and not on marble.—Spurgeon.

N. S. A. C. Alumni Honor Their Dead

The Assembly Hall of the Nova Scotia Agricultural College, Truro, was filled to its capacity with students, ex-students, members of the Nova Scotia Dairymen's Association and many residents of the town when on Thursday afternoon, January 22nd, at the hour of half past three, the memorial tablet erected by the College Alumni Association was unveiled to the memory of twenty-two graduates and former students of the College who gave their lives in the recent war.

H. S. Cunningham, president of the College occupied the chair and read the following telegram of regret from Premier Murray, at North Sydney:

"Would like very much to participate at unveiling, but do not feel well enough to go. I am pleased a movement is being made to preserve the memory of brave lads of the Agricultural College who so unselfishly gave their all that justice and freedom might be maintained."

(Signed) George H. Murray.

With bowed heads and sad hearts the audience reverently listened while Dr. Melville Cumming, principal of the College, read the following moving tribute to the honor of the dead:

"We are met on this occasion to commemorate the lives and deaths of 22 young men, former students of the Nova Scotia Agricultural College, who during the progress of the war fell in the service of their country. The fellow students of these heroic dead have contributed to erect in the halls of this college a tablet that will preserve the memory of the names of their comrades. We are joining with them today in dedicating this tablet to its worthy purpose. To some of us the names inscribed on this tablet are very real, recalling, as they do, faces of those who frequented these college halls and memories of days gone by when, care free, their laughter and their talk mingled with that of fellow students and ourselves. They came to college to prepare themselves for lives of achievement and usefulness and service. Life was very dear to every one of them. But when their country's call rang in their ears they sprang to defend the flag that has ever been the symbol of that liberty and justice which they had always enjoyed. And they did not count life itself too great a cost to pay that these principles might forever be preserved for future generations in the country of their birth.

"Two of them died on this side of the Atlantic. The rest, so far as I have record, lie in Flanders fields. Even you who did not know them personally and who cannot bring them back to memory's eye, join with us in revering the memory of their services and achievement. They were fellow countrymen of yours and of us, and they died that we might be free. They have not lived in vain. They shared in th great triumph of the allied powers and their heroic deeds speak to us of our duty to serve our country and our fellow men in whatever capacity we may have the opportunity.

"Of all those whose glorious lives and still more glorious detahs we are commerating, it is but natural that as a member of the college staff I should particularly recall my colleague teacher, Lieut. B. H. Landels, who fell at the Somme in September, 1916. Those who were students during his period at the college will remember his conscientiousness, his indefatigable devotion to his work and his great interest in every student of the college. I heard from him frequently after he had gone overseas, and always he wrote about students of the college in whise welfare he seemed more concerned than his own. His special training had been as a drainage engineer, and as a tribute to his work in that capacity he "was mentioned in despatches." I have never met a soldier of his famous regiment, the Princess Pats, but told me of the great work which Sergeant, and later Lieutenant, Landels did in draining the trenches and making them comfortable for those who fought there. He was promoted to his commission on the field of battle and fell in action in an assault on the German lines a few days later.

The Heoric Dead.

B. H. LANDELS, River Hebert.
CLAUDE BLOIS, Selmah.
LEONARD BUNNELL, Sussex, N. B.
G. C. COLLINGWOOD, Hampstead, Eng.
W. GEORGE MAGEE, Truro.
GLENN S. ELLS, Sheffield Mills.
J. C. WOODROOFE, Dartmouth.
J. C. SUTTON, Nappan.
W. G. ROBERTSON, Leslie Fife, Scotland
F. M. MacKENZIE, Neripis, N. B.
J. P. SHELTON, Lr. Tottenham, Eng.
J. C. SHIPTON, Moschelle, N. S.
IVEY J. SCOTT, Little Shemogue, N. B.
IRVINE HENDRY, South Brookfield.
GEO. E. O'NEILL, Sharps P. O., N. B.
WALLACE CAMPBELL, Birmingham, Eng.
LLOYD HIGGS, Nappan.
LLOYD LONGLEY, Paradise.
NORMAN PARKER, Truro.
J. C. STEWART, Up. Malagash.
R. A. COLPITTS, Pleasant Vale, N. B.

"I have referred to Lieut. Landel's career in particular because of his long time asociation, both as a student and an instructor, in the college, but every one of the 22 whose names are inscribed on the tablet that is to be unveiled today, is fully deserving of the highest enconiums one could bestow on a fellow man. All were filled with the some devotion to their country and to the cause of liberty and justice.

"Though gone from our midst, the boys whose death we are commemorating today are still speaking, telling us that the highest achievement which any of us can arrive at in this life is devoton and servce to duty, to our country, our fellow-men and our God."

Hon. E. H. Armstrong, Commissioner of Works and Mines, in the Provincial Government, who unveiled the tablet, expressed his thanks to the president of the students body and to all members of the Alumni for the honor and privilege of being allowed to assist at the unveiling of a tablet in memory of those "whom you as members of the Aulmni really call our heroic dead." He was confident that all assembled joined with him in regrets that Premier Murray was unable, owing to illness, to be present at the unveiling of the tablet. The privilege of assisting in a ceremony which will perpetuate the names and memory of students of the agricultural college who had given their lives for Canada, the Empire and a righteous cause, was one which he was sure Mr. Murray would have held most dear. The action taken by the college Alumni in recording in so appropriate and permanent way their grateful rememberance of those dead to whom they were bound by unique ties of comradeship and love of alma mated, which is common to all educational institutions.

The record of the college in giving one hundred and fifty of her graduates and undergraduates to the cause was one to be proud of and it was the duty of those who are now at home to do their part in the honor of the College and the Empire and if they failed in that they will have broken faith with those who are so rightly named "our heroic dead."

In this time of industrial unrest and the just and unjust friction between capital and labor and unsettled conditions throughout the world it was the duty of every one to choose for his objective the goal of humanity and work towards that goal with unselfish singleness of purpose, and whether that goal is reached, if each has striven constantly for the fulfillment of that ideal, each will have achieved the same high soul and courage as did those heroes whose names were inscribed on the tablet which it was the speaker's privilege to then unveil.

The Honored Dead

The meorial tablet is of copper, with fluted Doric columns and has inscribed on it the names of the following heroic dead, which were read by the presiding officer:

When the tablet was unveiled the audience rose and Prof. W. E. Fletcher, organist at Immanuel Church, played the Dead March in Saul, followed by O Canada. Rev. J. W. Godfrey, rector of St. John's church, repeated the Lord's Prayer, the audience joining, and then offered a prayer of thanksgiving, after which the Dairymen returned to their deliberations, the students to their classes and the citizens and visitors to their homes, sad yet proud for the deaths of and noble achievements and sacrifice of our boys in the cause of right and freedom.

Farmers of Nova Scotia Organize at Kentville

At the close of the Farmers Association in Kentville, a meeting was called to ascertain the attitude of the farmers in regard to organizing along independent lines, as has been done by their fellow workers of New Brunswisk, Ontario and the West.

The large attendance that afternoon showed at once that the farmers were not indifferent to say the least.

Mr. Creighton presided over this meeting, Mr. Fred Chipman, acting secretary.

It was moved that they form an organization called the "United Farmers of Nova Scotia" and all were invited to speak on the question.

Mr. Richardson of Sydney, speaking to the question, said that the time had arrived when the farmers must protect themselves, and there was no way to do this but by organization, but hoped this would not be of a political nature.

Mr. Davidson, Falmouth, said he would like to have the Farmers platform as laid down by Mr. Crerar read at this meeting.

A copy of this was then read by Mr. Creighton.

Mr. Sloughenwhite said the farmers had now arranged against them the bankers, the railways, doctors and lawyers and their influence was great.

He thought it would be well to join with the labor unions.

Mr. Loughery of Annapolis, giving his opinion, said he was in favor of the movement, but all must drop their party politics, there must be no Liberals or Conservatives. He was against protection tariff.

Tariff was no longer in its infancy, he thought it could do nicely without protection.

He was very dubious about the advisability of amalgamating with the labor Unions.

Mr. Bacon said the leading farmers of Digby County from which he came, were in favor of organization.

For this there was good reason, the farmers had too long been slaves to other classes, they were the majority and the majority should rule.

Mr. O'Brien, Hants County, said he came with the intention of assisting in this movement.

He was in favor of any movement that would give the Dominion, a clean, honest administration.

The farmer never had had fair representation.

Rev. R. L. MacDonald, Cape Breton, was then called on.

He said he had not come with the intention of speaking, but rather to gather information.

It was a big question and one on which he was not prepared to give his views, but if in the estimation of the farmers of Nova Scotia, it would be to their interest to organize, they would have his full sympathy.

Mr. Ells read the new national tariff policy as outlined by the Canadian Council of Agriculture. He did not consider it at all radical and thought the arguments against free tariff based on wrong conclusions drawn.

Mr. Campbell, Inverness, did not wish to make a speech, but would say he was in favor of the movement.

Mr. Taggart, Colchester County, said the farmers of his county were interested and wanted some form of organization.

U. B. Leonard, Annapolis Co., would not speak for his county, because he did not know the sentiments of all, but said that the farmers were now awake and that they must in self defence do something.

(Continued on page 361)

HORTICULTURE.

INCREASING FERTILITY OF THE SOIL

An address before the Agricultural Society of Central Greenwich, Kings Co., N. B. by O. C. Micks, B.S.A., New Brunswick Dept. of Agriculture, on the subject, "Increasing the Crop Capacity of the Soil."

Mr. H. L. Bailey, once president of Cornell University, said that the requirements of a good farmer were at least four:

The ability to make a full and comfortable living from the land to rear a family carefully and well; to be of good service to the community; to leave the farm more productive than it was when he took it.

The subject for discussion concerns the first and fourth requirements, viz., Making a good living and at the same time increasing the capacity of the farm for growing food supplies.

The attainment of these two problems mark the successful farm. To succeed in these two features the farmer must do things. He must be a live wire in the farming business. There is a difference between the successful farm and the successful farmer, for a financially successful farm may be operated by a man who fails to educate his family and who may even waste his income. There are examples of men in every community who make a success of their farm management, due not to exceptional opportunity but to personal energy and initiative.

The successful farmer makes changes in his farm management to met new conditions of markets, or labor, or adopts newly invented machines and newly advertised methods of doing work. The District of Greenwich as a marketing system offered by the Valley Railroad. To what extent will it create changes in farming practices? Old habits are hard to overcome and too frequently when new conditions arise for the marketing of produce there are but a few who are eager and ready to change their system of crop growing to meet new marketing conditions.

Every person should not grow the same specialty even in a region of small farms. There must be diversity. By each person there are such things to be considered as: prices of the product; the condition of roads and distances from station; freight rates, and also the amount of capital available.

The profits to be made in an enterprise may be judged from the profits made by local growers and again the probability of your sharing equally may be gathered from a consideration of the following matters: (1) If many or few persons are producing the crop how will the extent of production influence the market? (2) Location: produce must be marketed in fresh condition. (3) Combines of dealers—are local farmers in any way organized? (4) Cost of equipment. (5) The effect of your enterprise on the fertility of your farm.

Orchards, small fruit and vegetable farms require heavy fertilization, and, as the income is proportionate to the extent of the acreage under crop large amounts of fertilizers are required. Many farmers keep stock that do not return market prices of feeds because of the effects of the manure upon the future crop yield. Farm practice then to accomplish the requirements of our text means more land under cultivation and bigger crops. Bring as much of the farm under rotation as possible. Waste parts of the farm should be cleaned up, stone piles removed, ditches dug to remove standing water or to carry water from brooks to moisten dry patches of ground during the growing season. Applications of lime, commercial fertilizers, barnyard manus and cover crops must be porvided for.

Such crops as cabbage, cauliflower and turnips do not thrive if water stands near the surface and these too frequently suffer from club root. The land for these crops must be well drained and made sweet with an application of lime.

Strawberries, celery, lettuce, melons and cucumbers and radish require irrigation to be crisp and juicy. In many places on the Atlantic coast irrigation by one of several ways is profitably employed.

The late Marshall P. Wilder, being asked what were the requisites for successful culture of strawberries, is said to have replied: "First, plenty of water; second, plenty of water; third, plenty of water.' A sufficient water supply enables the vines to carry out their fruit and to produce berries of good size throughout the entire season. The crop possibilities under judicious irrigation are enormous. On a small piece of land there is recorded a crop at the rate of 21,000 quarts per acre.

No amount of fertilizer and care can produce large yields, unless water is abundant, and the market gardener or farmer can ill afford to run any risk of a dry season any year. For this reason, any steps taken to increase the amount of water available for plant growth, even to installing an irrigation system, can be considered in the light of an insurance policy.

Water can be conserved by draining, where soils require drainage, so that the crop may be sown earlier and thus be enabled to root so deeply that it will successfully withstand drought. A mellow, deep seed bed and a surface mulch of dry earth, maintained by frequent summer cultivation, lessens evaporated losses. Additions of green manure crops and barnyard manure increase the organic matter content and the water holding power of the soil.

Organization among the farmers of a truck-farm region is a strong factor for success. Co-operation is an aid when selling and buying. For instance each man requires a small quantity of comercial fertilizers. Usually the requirement of each individual is so small that he does not buy what he wants in raw materials but takes what some agent wishes to sell him, to the advantage of the agent. By combining their requirements and making a club order raw materials can be bought at a big reduction. The material used in the manufacture of comercial fertilizers is more plentiful since the signing of the Armistice and high grade home-mixed commercial fertilizers can be bought at a price formerly demanded for low grade ready-mixed goods.

Truck crops must be forced to make quick growth. The profits of the market gardener depend upon his getting the crop upon the market before his competitor, and it is to his own advantage to quickly adopt new iedas, or trade conditions, to his trade. The prices of truck crops continue to rise and the demand increases with each New Year. Your nearness to the city of St. John—the best market in the Province, your new marketing facilities through the inaugurating of a daily express service on the Volley Railway, from your farms to two large cities—St. John and Fredericton, should be taken advantage of. Fertilizers for forcing your crops are cheaper than for years. What more promising combination of conditions is enjoyed by any provincial community ? Some there are among you who will continue to cultivate your land as before. Others, I trust, will fertilize the soil, drain, ir-

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GROW STRAWBERRIES
We WANT your order for STRAWBERRY PLANTS this coming season. Of course you are planting a larger acreage than usual,—everybody's doing it, for strawberry growing at the prices now days is a sure fire money maker. The Canning factories are anxious to buy all the berries they can secure, so we now have no fear of over production. Get our plants and be sure of big crops. Senator Dunlap, Warfield, Beder Wood and Dr. Burrell, six dollars a thousand. Sample, Glen Mary, Premier and Bubach seven dollars a thousand. We allow one dollar a thousand discount from these prices on all orders of four thousand or over of one variety. Send for Catalogue. It's Free.
CYRUS & MANNING ELLS, Port Williams, N. S.

Butter Parchment at the Farmer Office

rigate, add lime, humus and cover crops and leave their farms more productive than these are now.

NOTES ON GROUND LIMESTONE GLEANED FROM EXPERIMENTS AT THE COLLEGE FARM

The N. S. Agricultural College began to experiment with ground limestone in 1914. A application at the rate of four tons to the acre was made that year to a number of plots intersecting an area sown to grain and seeded down with clover. The total yield in the following season showed an increase of clover from the limed plots which amounted to 2.2 tons on ten acres.

Four years after this application was made, very striking results were noticed in the growth of clover. Plots were laid out across the limed and unlimed strips, and various commercial fertilizers applied to these, one strip being left blank. The following table indicates the returns obtained in cut and cured clover.

Limed	Unlimed
3687 lbs. per acre	1437 lbs. per acre
No fertilizer	
4656 lbs. per acre	3218 lbs. per acre
Bone meal (320 lbs. per acre)	
4375 lbs. per acre	5218 lbs. per acre
Acid Phosphate (400 lbs.)	
5000 lbs. per acre	5187 lbs. per acre
Basic slag (500 lbs. of 12.8 per acre)	

Plots limed in 1916 and sown to oats in 1917 gave the following returns per acre:

Variety	Limed	Unlimed
Ligoma.....	29 bus.	21.6 bus.
O.A.C., 72....	40 bus.	35.0 bus.

In the Control of Clubroot

The College experience has demonstrated that a heavy application of either air slaked lime or ground limestone will eradicate this dreaded disease. Even when a host crop has been grown four years in succession on badly infested land, this has proven effective. Such cropping is, of course, contrary to all rules of rotation, and has been done to test out the lime cure in the hardest possible conditions.

In 1919, turnips were grown on a field, half of which had been treated with limestone in the fall of 1917. The point where the lime application stopped was the point where the clubroot began. On a large part of the unlimed area the turnips were totally destroyed by the disease, while the yield from the limed are aws over 800 bushels per acre.

Clubroot can be effectively controlled with comparatively light aplications of lime if a proper rotation is followed. An host crop should not be planted more frequently than once in a full rotation period where there is infestation. Further details along the line of clubroot control may be found in the report of the Secretary for Agriculture, 1919, which will shortly be off the Press.

Lime Versus Basic Slag

The statement has been made that it is cheaper to buy lime in the form of slag than as ground limeston. This, of course, is not correct, since slag contains only a small amount of free lime. It must be remembered that the "A" quality of Sydney slag, which, by the way, is no longer on the market, contained 12.8 per cent. of soluble phosphoric acid. For this reason it might have paid better to buy the slag for some soils. So far as the lime content is concerned, however, the crushed limestone is the material to buy.

Varied Results on Different Soils

Experiments have shown that lime applications had no very great effect on crop yields where the land was already rich from the use of barnyard manure. On such land all kinds of crops yield heavily whether limed or not.

On the other hand, on a poor farm recently purchased by the Department, the use of limestone mixed with acid phosphate, half and half, gave splendid results in grain and clover. By the way, this mixture has been advertised as "Lime-Phosphate" and sod at rather high prices. There is no reason why the farmer should not buy the ingredients separately and mix them himself. With acid phosphate at $34.00 per ton, and ground limestone at $4.50, the mixture can be made for about $20.00 a ton. Used at the rate of 400 or 500 lbs. per acre this will be found a good dressing, especially for grain and new seeding.

Most of our land is too acid and the use of lime sweetens the soil. Especially valuable is it in the growing of all legume crops. Legumes Love Lime is an expression worth remembering. Every farmer knows that the legume family are among his best friends. They not only furnish him with some of the most appetizing and nourishing of his own foods, but in the form of clover especially they furnish a roughage that is rich in protein, and valuable in the feeding of all kinds of live stock. And this is not all, for these plants, peas, beans and the various clovers, return to the soil quantities of nitrogen, the highest priced material in any good fertilizer.

Lime Supply of Nova Scotia

While our soil is rather scant in its general supply of lime, there is an abundance of this material, now becoming so prominent in agricultural practice, in almost every section of the Province. Perhaps the most readily available is the marl deposits of Eastern Nova Scotia. Limestone, however, crops out at a great many points. There are now ten limestone crushers at work in the Province, and every advantage should be taken of this great natural store of valuable material.

Insects do not confine their depredation to plants by simply sucking the juices from them or devouring the foilage, but are instrumental in the transmission of plant diseases which if ont properly treated will spread to other plants and cause no little damage.

Frost & Wood

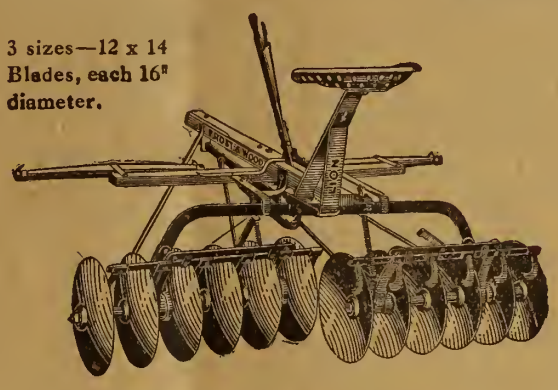
A good discing is the best start for a big harvest

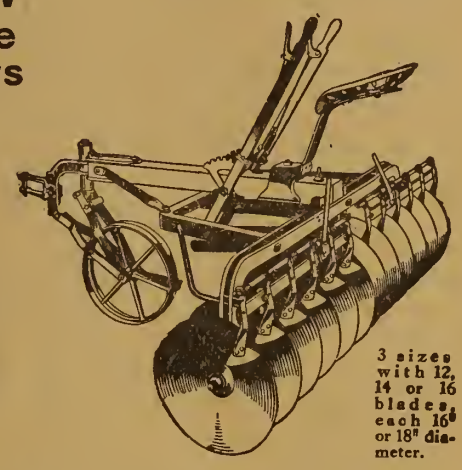
Give your soil the thorough pulverizing that only a Frost and Wood Disc Harrow can bring. It's a simple, easy job with these light draft implements.

Two "F. & W" favorite Harrows

A good seed bed is a long step on the way to a bumper crop.

3 sizes—12 x 14 Blades, each 16" diameter.





3 sizes with 12, 14 or 16 blades, each 16" or 18" diameter.

F. & W. "Lion" Disc Harrow

An old favorite of the In-throw type. Very strong and rigid. Heavy steel main frame securely holds disc sections which turn on dust-proof ball bearings of exceptional quality. One handly lever controls cutting angle of discs and coil springs keep inner discs from rising when angled. Driver sits well back over discs lessening neck weight. Fitted with pole instead of forecarriage if desired.

F. & W. "Champion" Disc Harrow

An Out-throw disc which has earned its great popularity because it has the design and the high grade materials to do splendid work, and remain a stranger to the repair shop. Each section controlled by its own lever. Splendid dust-proof bearings and adjustable scrapers keep the high quality discs turning easily at their work. Fitted with pole instead of forecarriage, or with double wheel forecarriage if desired.

Ask our nearest dealer to show you illustrations of the new Frost and Wood Combination Harrow. We have Farm Implements and Machines for every need. Catalogues gladly sent on request.

THE FROST & WOOD CO., LIMITED

Truro ST. JOHN Charlottetown

You Require a Garden to Reduce the High Cost of Living

BRUCE'S SEEDS

will do the rest.

They not only grow, but also produce the largest and best crops.

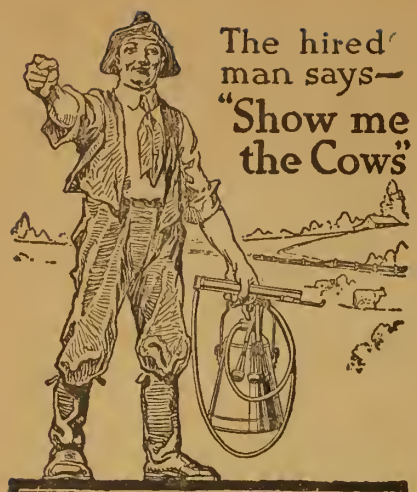
Free for the asking. Our 128-page catalogue of Seeds, Plants, Bulbs, Poultry Supplies, Garden Implements, etc., is ready. Write to-day.

JOHN A. BRUCE & CO.
LIMITED
Hamilton - Ont.

Established 70 years. 221

BRUCE'S SEEDS

LEAD ALL IN QUALITY



The hired man says— "Show me the Cows"

THOROUGHLY practical and a remarkable labor-saver, the HINMAN Milker solves the dairy problem. Over 50,000 in use, many on pedigreed cows. Simplest on the market, costs half as much as others. Write for free milking booklet. 7

HINMAN
CANADA'S STANDARD MILKER
H. F. BAILEY & SON, MFRS., GALT, ONT.

DAIRYING.

NOVA SCOTIA DAIRYMEN IN ANNUAL SESSION

(Sontinued from last issue.)

Following are the resolutions passed by the Association:

Whereas the Nova Scotia Dairymen's Association has had representatives on th eNational Dairy Council,

And where as we believe said Council can do a great deal of good in connection with dairy work,

Be it therefore resolved that we again appoint delegates to attend and that the association raise the necessary finances to become a member.

* * *

Resolved that each and every patron of cheese and butter factories in Nova Scotia be assessed the sum of twenty-five cents by their respective factories and that they thus automatically become members of the Nova Scotia Dairymen's Association with full access to all its rights and privileges.

* * *

Whereas we believe that a Dairy School in connection with the College at Truro, conducted similar to that at Guelph would strengthen and stimulate Dairying in the Maritime Provinces,

Therefore be it resolved that the Dairymen of Nova Scotia in convention assembled, endorse the steps taken by the Maritime Committee in this connection and urge the Creamerymen in the various centres of our Province to use their best efforts to bring the matter before our representatives in both houses of parliament that the financial support necessary to carry our project may be secured.

* * *

Whereas the improvement in the quality of the butter manufactured is essential to the development of our markets and,

Whereas the grading of butter would seem to be a wise and effective step towards such improvement, and,

Whereas it would be necessary to bring a large quantity of butter together in one place,

Therefore be it resolved that this Convention recommend the appointment of a committee to investigate the organization of a co-operative company for the handling, grading and selling upon grade of butter.

Mssrs. W. A. McKay Truro; R. T. Stewart, Scotsburn and J. D. McKenzie, Bridgewater, were appointed a committee to investigate the organization of such co-operative body.

* * *

Whereas the Dominion Educational Butter Scoring Contest conducted by the Dairy Division of the Department of Agriculture at Ottawa during the past year, has been the means of giving the Creamerymen of Nova Scotia an immense amount of valuable information relative to the quality of butter,

Be it therefore resolved that this Dairymen's Association here assembled express their appreciation to the Dairy Division at Ottawa for conducting the contest and to Mr. George H. Barr, who personally carried out the details of the work, and also that we would urge the Department to carry on this work again during the coming year, and tha ta copy of this resolution be mailed to the Hon. the Minister of Agriculture and the Dairy Commissioner, Mr. J. A. Ruddick, at Ottawa.

* * *

Whereas the future markets of Nova Scotia butter depends on a high quality of product,

And whereas such quality of product depends tô a large extent on the quality of the raw cream supplied the creamery,

And whereas the average butter kept under cold storage conditions and scored at this Convntion showed very poor keeping qualities,

Therefore be it resolved that this Convention of the Nova Scotia Dairymen's Association strongly recommend a uniform system of cream grading with a premium for first grade.

* * *

Whereas the judging of the butter at this exhibition was a work of considerable magnitude and was carefully and efficiently accomplished to the satisfaction of all,

Therefore be it resolved that this Association express its sincere appreciation of the work of the judges to Messrs, G. H. Barr and Harvey Mitchell.

* * *

This Association here assembled will learn with deep regret that Mr. Harvey Mitchell, who has been Maritime Representative of the Dairy Division at Ottawa for a long number of years, is to sever his connection with the Department on March 31st of this year.

Be it therefore resolved that we place on record our appreciation for the valuable efforts and work that Mr. Mitchell has done for Dairying in this Province during the many years he was connected with it. The Dairymen in Nova Scotia have always found his advice sound and practical, and it is with feelings of depets regret that we will part wih his valuable services, and we can assure him that if he can reconsider his resignation and remain in his present capacity that it will meet with the hearty approval of the members.

* * *

Whereas at the present time there is a growing demand for more information relative to the cost of milk, both for the knowledge of Milk Producers' Associations, who wish to set a fair price for milk based on the cost of production in Nova Scotia, and for the information of the general public Fair Price Commissions, etc.,

Therefore be it resolved that we, as the Dairymen's Association of Nova Scotia, do urge the Department of Agriculture through the Dairy Superintendent, to carry on a farm survey or investigation on a certain number of farms in different districts throughout, the province with the idea of determining the cost of production by the farmer.

* * *

Whereas for the past few years there has been a considerable complaint in regard to the rough way in which cream cans have been used when the empties are being unloaded,

And whereas with the extremely high cost of cans and equipment the loss sustained through this source alone is a very great detriment to the dairy industry,

Therefore be it resolved that the Dairymen's Association of Nova Scotia in Sonvention assembled strongly urge upon the Railway authorities that they instruct their employees to exercise more care in the handling of cream cans, and that a copy of this resolution be forwarded to the C. N. R. Divisional Superintendents at Truro, New Glasgow and Bridgewater and to the General Manager of the D. A. R. at Kentville.

* * *

Whereas there has been considerable discusion as regards the present way of carrying on the Summer Scoring Competition,

Be it resolved that we make a change in the system of selecting the butter for this competition and that the Inspector of Creameries or anyone duly appointed by him, be authorized to go into the home storage of all creameries competing in this contest and select any 56 lb. box he chooses, each month for 5 months and have it closed up and shipped to Halifax or any storage they might be using.

This matter was left in the hands of the executive committee with power to choose exhibits in any manner they deemed best to the promotion of the production of good butter.

* * *

Whereas the Dairymen's Association has been meeting in Truro since 1914 and has been getting very good results with the exception of possibly a little lack of enthusiasm, and believing that if the place of meeting were changed to some other town for a year or two it would renew the enthusiasm, also give the members an opportunity of visiting the other creameries and bringing the patrons and community of that creamery into closer relationship with the Association,

Be it therefore resolved, that the Dairymen's Association hold its next annual convention at Bridgewater.

Save $40 on Each Calf Raised

COST OF RAISING A CALF FROM BIRTH TO 6 MONTHS

ON MILK—
2100 lbs. of whole Milk at $3.10 per 100 lbs. - - - $65.10

ON "BLATCHFORD'S CALF MEAL—
200 lbs. of Whole Milk at $3.10 per 100 lbs. $ 6.20
1000 lbs. Skim Milk at $ .40 per 100 lbs. $ 4.00
200 lbs. of Meal at $7.25 per 100 lbs. $14.50 $24.70

THIS SHOWS A CLEAR SAVING OF - - $40.40

MORAL: RAISE YOUR CALVES ON BLATCHFORD'S CALF MEAL AND SAVE MONEY.

The above statement shows the saving on WHOLE MILK.

In comparison with all other methods of calf raising, the use of Blatchford's Calf Meal is proven to be by far the most economical; and the calf will show more healthy and vigorous growth. No matter what method you are using write us and we will show you that it is to your advantage to use Blatchford's Calf Meal.

THE NEXT BEST THING TO WHOLE MILK

Blatchford Calf Meal Company of Canada, Limited
Dept. G 20 61-77 Pelham Avenue, Toronto, Ontario

If your local dealer cannot supply you write
A. A. ARCHIBALD and CO. - - - - - TRURO, N. S.
or W. H. HATHEWAY and CO. LIMITED - ST. JOHN, N. B.

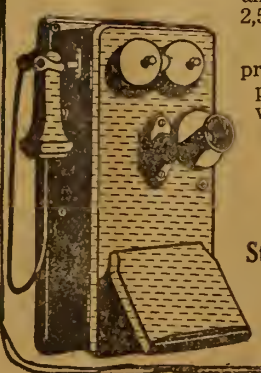
Stromberg-Carlson TELEPHONES

Both Desk and Wall Telephones have the latest improvements to make conversation easy; the use of the instruments is not only a convenience but a pleasure.

The desk telephone can be moved about the room—placed at the side of a sick-bed; on the sewing table. It has the wonderful Stromberg five-bar generator, which rings every bell on the line every time, and our new long distance transmitter and receiver which produce clear, loud talking qualities. The improved models now ready, equipped with lightning arresters, battery savers and other new features.

SEND FOR FREE BOOK No. 95

Shows you how to install and take care of your telephone—tells how to organize a party line among your neighbors and explains just how to get started. Gives valuable information about all Stromberg Telephones and shows how our experience gained in building over 2,500,000 telephones is of great importance to you.



Send for this free book and put your telephone problems up to our engineers—we will plan your system and furnish estimates without cost.

Stocks carried at
Toronto, Regina and Seattle

Stromberg-Carlson Telephone Mfg. Co.
10 FRONT ST., EAST
TORONTO, CANADA

Whereas we learn that it is the purpose of Mr. R. B. McLennan to sever his connection with the Department as Dairy Instructor for the Province,

Therefore be it resolved that we as Creamerymen express our regrets at the step he is taking, as we found in him during the two years of his work as instrcutor a man well qualified to fill this important position, whose criticisms, because always clothed with such a degree of courtesy, were pleasing.

* * *

Whereas increased production of dairy products by the farmers of Nova Scotia is of the utmost importance tothe dairy business of this province,

Therefore be it resolved that this Association express its appreciation of the Herd Improvement work conducted by the Dairy Division of the Dominion Department of Agriculture and urge the continued efforts of the Department along that line.

* * *

Whereas in the years past the following have contributed so liberally to the success of the Exhibitions which have been held in connection with this Convention,

Therefore be it resolved that the thanks of the Dairymen's Association be forwarded to the Canadian Salt Co. Ltd., The DeLaval Company, Ltd., The J. B. Ford Co., C. Richardson & Co., and also the buter buyers Messrs. Smith & Proctor, R. B. Colwell, Nickerson & Co., of Halifax, Messrs Smith & Proctor and The Harris Abattoir Co., Sydney.

* * *

Whereas we have in the person of Mr. H. R. Brown, Supervisor of Cow Testing, a man of real worth and value to the Dairy Industry of our Province,

Therefore be it resolved that the Dairymen of Nova Scotia in Convention assembled, express their appreciation of his untiring efforts in this important branch of our work.—Efforts which are being acknowledged by our Dairy Chief, Mr. Barr—and urge on our Creamerymen to do all in their power to supplement his endeavors by urging the patrons to test their herds.

* * *

A resolution expressing regret at W. L. Brenton's inability to be present was carried unanimously as was another resolution expressing appreciation of Mr. H. R. Brown and his work in connection with herd improvement. The latter resolution expressed the unquailfied suport of the Creamerymen for Mr. Brown and his work.

THE WINTER DAIRY EXHIBITION

The Nova Scotia Dairymen's Butter Exhibition held concurrently with the Association's meetings brought out 96 exhibits which graded 5 specials, 28 No. 1's, 33 No. 2's and 30 off grades. Messrs Barr and Mitchell, of the Dairy Division, Ottawa, placed the awards. Seventeen creameries took part in this summer butter competition, each sending a 14 lb. box to the cold storage in Halifax as per rules of competition, when advised by telegram from the secretary monthly for the months of June, July, August, September and October. These boxes were reshipped to Truro and scored just previous to the convention and exhibition.

Make Money This Winter—Saw Wood
There is big money this winter sawing wood. Coal is high. Wood will be scarce. Now is the time to clean up. The GILSON HEAVY-DUTI SAWING OUTFIT is the machine to do it with. Makes its own spark without the aid of batteries. You cannot afford to buy any engine until you know all about the Gilson Heavy-Duti. When you know about it, you will not buy any other. Catalog and information free if you act quickly. Write to-day.
GILSON MFG. CO., Ltd.
786 York St., Guelph, Ont.

Summary of Scores of Winter Dairy Exhibition Butter According to Grades

	Samples No. of	Specials	No. 1	No. 2	Off grade
Fresh made solids..	8	1	4	1	2
Fresh made solids..	8	-	4	3	1
June	17	1	3	8	5
July	17	1	3	5	8
August	17	-	5	9	3
September	14	1	4	4	5
Octobr	15	1	5	3	6
	96	5	28	33	30

There were 5.2% specials; 29.1% No. 1's; 34.2% No. 2's, and 31.2% off grades.

Specials: Minimum for flavor 41 points; minimum total score 94 points

No. 1: Minimum for flavor 39 pts.; minimum total score 92 pts.

No. 2: Minimum for flavor 37 pts.; minimum total score 37 pts.

Off Grade: Minimum flavor under 37 pts.; minimum total under 87 pts.

PRIZE LIST WINTER DAIRY EXHIBITION, JANUARY 22 & 23, 1920

SPECIALS

By Smith & Proctor, Halifax—Club Bag—To Creamery Manager having the most representative increase in butter made during the year. Harold Falconer, Stellarton, N. S.

Club Bag—To Buttermaker having the most uniform score during the season. Alvin Graham, Scotsburn, N.S.

By DeLaval Co. Ltd.—Credit Note $50.00—To Creamery having highest average score using one of the major parts of DeLaval machinery. Intercolonial Cry. Co. Ltd.

By R. B. Colwell, Halifax—Five prizes of $10.00 each to the highest scoring creamery each month.

June—Scotsburn Creamery Co. Ltd.
July— " " " "
Aug. " " " "
Sept.—Pictou Co. Dairy Co. Ltd.
Oct.—Great Village Creamery.

Section 1. 28 lb. box Solids. Fresh Made

	Score
1 Scotsburn Creamery Co. Ltd.,..	95.5
2 Antigonish Dairy Co. Ltd.....	95.2
3 Brookfield Creamery Co.....	94.3
4 LaHave Creamery Co. Ltd.....	93.1
5 Bayview Creamery Co. Ltd.....	92.7
6 Baddeck Creamery.....	90.3
7 Intercolonial Cry. Co. Ltd.....	89.4
8 Cumb. Co-Operative Cry. Co....	891.

Section 2. Box in Prints, not less than 30 lbs. Fresh Made.

	Score
1. LaHave Creamery Co. Ltd.....	94.7
2 Scotsburn Creamery Co. Ltd....	94.6
3 Antigonish Dairy Co. Ltd.....	93.7
4 Brookfield Creamery.....	93.3
5 Intercolonial Creamery Co. Ltd	91.5
6 Baddeck Creamery.....	90.5
7 Bayview Creamery Co. Ltd.....	90.3
8 Cumb. Co-Operative Cry. Co....	89.2

SPECIALS

By Canadian Salt Co., Windsor, Ont. To the highest scoring butter in Sections 1 and 2.

	Score
1 Scotsburn Creamery Co. Ltd....	95.5
2 Antigonish Dairy Co. Ltd.....	95.2
3 LaHave Creamery Co. Ltd.....	94.7

By C. Richardson & Co., St. Mary's, Ont. To the highest scoring butter in Sections 1 and 2.

1 Mahogany background Sterling Silver Shield, suitably engraved. Scotsburn Creamery Co. Ltd.
2 Ditto. Antigonish Dairy Co. Ltd.

By J. B. Ford Co., Wyandotte, Mich., To the Buttermaker having the highest total score in Secs. 1 and 2.

1 Roll Film Camera—Alvin Graham, Scotsburn.
2 Carving Set—John E. Falt, Antigonish.

BUTTER BUYERS' TROPHY

Donated by Smith & Proctor, R. B. Colwell and Nickerson & Co., Halifax and Smith & Proctor, Ltd. and the Harris Abattoir Co. Ltd., Sydney. To become the property of the exhibitor of the highest scoring butter at the exhibition. Winner shall hold it for one year, but it must be won three times before becoming his absolute property. Butter in Summer Competition eligible to compete.

Previous winners: 1916 Brookfield Creamery, Brookfield; 1917 LaHave Creamery Co. Ltd., Bridgewater; 1918 Scotsburn Creamery Co. Ltd., Scotsburn; 1919 Scotsburn Creamery Co. Ltd., Scotsburn; 1920 Scotsburn Creamery Co. Ltd., Scotsburn.

Results of Scoring Competition

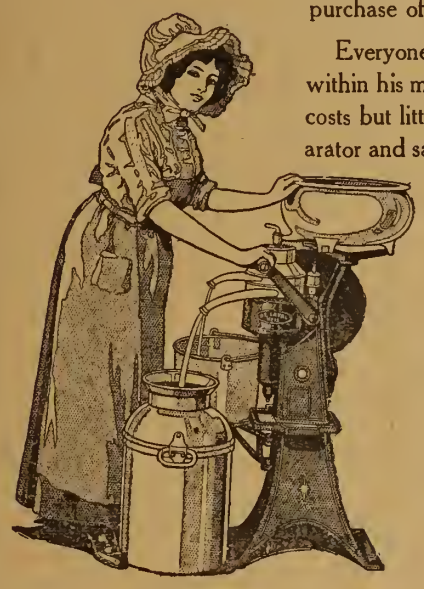
Rank	Name and Address	Score
1	G. W. Parker, Baddeck.....	93.5
2	J. D. McKenzie, Bridgewater...	92.9
3	F. A. Illsley, Berwick.....	91.5
4	John E. Falt, Antigonish.....	91.4
5	Robert Stewart, Scotsburn....	90.3
6	H. M. Aitken, Amherst.....	89.7
7	H. U. Rogers, Brookfield.....	89.6
8	Alex. Cameron, South River Sta.	88.1
9	R. L. Rutherford, River Hibbert	87.5
10	J. D. Neil, Selina.....	86.2
11	L. C. LeBlanc, Metaghan River	78.5
12	F. E. Porter, Yarmouth.....	71.2

1st award, $7.00; 2nd award, $6.00; 3rd award, $5.00; 4th award, $4.00; 5th award, $3.00; 6th award, $2.00; 7th award, $1.00.

HOW THE BUTTER SCORED

Name of Creamery	June	July	Aug.	Sept.	Oct.	Av.
1—Scotsburn Creamy Co.....	96	96	95.5	94.9	94.8	95.44
2—Pictou Co. Dairy Co., Ltd..	93.7	94.9	94.5	95.0	94.9	94.60
3—Antgonish Dairy Co., Ltd...	94.1	95.0	93.3	94.1	94.3	93.96
14—Baddeck Creamery	93.2	89.0	89.7	89.1	89.0	90.00
9—Brookfield Creamery Co....	93.1	91.8	93.2	88.6	88.4	91.02
4—La Societe d' Industrie Laitiere Ltd.	92.3	91.2	92.7	94.1	93.3	92.72
6—Intercolonial Cry Co.....	91.8	91.2	93.1	91.2	92.3	91.92
11—Cumb. Co-operative Cry. Co.	91.7	89.4	92.3	90.3	89.6	90.66
Biden's Limited	91.7	89.5	89.7			
5—Great Village Creamery....	91.4	89.2	93.9		95.9	92.60
7—LaHave Creamery Co. Ltd..	90.6	91.8	93.3	90.3	93.0	91.80
8—South River Creamery Co..	90.1	92.7	91.4	93.7	89.8	91.54
Acadia Dairy Co.	89.5	88.1	89.1			
10—Margaree Creamery	89.3	89.9	91.7	92.2	91.5	90.92
13—Crystal Spring Creamery ..	89.3	88.6	91.6	90.4	91.9	90.36
12—Bayview Creamery Co. Ltd.	90.1	90.0	91.2	92.7	89.0	90.60
15—Milburn Creamey Co. Ltd..	88.3	91.9	91.5	88.8	89.3	89.96

DE LAVAL
CREAM SEPARATORS
are the cheapest as well as the best



This is the unanswerable argument in favor of the purchase of a DE LAVAL Cream Separator

Everyone wants the best, provided its cost is within his means. Fortunately a DE LAVAL costs but little more than an inferior cream separator and saves that difference every few weeks.

Moreover, an inferior separator wastes in time and labor, and in quantity and quality of product what a DE LAVAL saves, and goes on doing so every time it is used, twice a day every day in the year.

If you doubt this is so, try a new DE LAVAL alongside any old machine you may be using or other make of separator you may have thought of buying. Every DE LAVAL agent will be glad to afford you the opportunity to do so.

If you don't know the nearest De Laval agent, simply address the nearest De Laval main office, as below

THE DE LAVAL COMPANY, Ltd.
MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 Branches and Local Agencies the World Over

Are Your Cows Run Down?

The strain of producing a calf each year, and a large quantity of milk every day, is bound to seriously weaken your cows unless proper precautions are taken.

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LIVE STOCK.

LIVE STOCK OPPORTUNITIES IN NOVA SCOTIA

(An Address by H. S. Arkell, Dominion Live Stock Commissioner at the recent Nova Scotia Farmers' Association

Gentlemen:—

I feel it a very great hoonr indeed to have been invited to this meeting of what is known in other parts of Canada as the Farmers' Parliament. I have never had the opportunity of looking into your faces before, and I feel that it is a great honor to have been invited here on this occasion.

I would like very much to suggest to Mr. Wickwire, that while he is improving the highway, that he try to improve the crossing from St. John to Digby. It would give a very better welcome to the visitors to this Province.

In speaking to you I can only give you the information I have obtained and I will try to put myself in the place which you occupy. I am perhaps at a disadvantage in not having had a chance to talk with you before the meeting and to listen to a discussion of this matter.

I am going to endeavor to lay certain things before you. In the first place, I think that one of the greatest problems in connection with stock raising has been the marketing of the stock.

I would like you to think with me on the problem of stock production in Canada, and the great task Canada has before her, in rebuilding her industry and producing an output for the world's market. How can you compete in this market? Few realize how great, at the present time, is the importance of live stock production in this country. Prior to the war the proportion of Agricultural exports of all descriptions amounted to something between 51 and 52 per cent of the total exports from the Dominion. Meaning that the Agricultural exports amounted to more than half of the exports from every source.

We are interested in the development of manufactuirng, in the development of mines, and various financial and commercial enterprises. Men realize that only by the development of the resources of the country through the farmers can the stability of our country be maintained.

There are other facts which I wish to bring before you. During the war, 45% to 48% of the total from all sources in Canada exported consisted of Agricultural products. This in face of the increased manufacture of munitions. The agricultural products reached the marvellous figures of almost half of the exports from the Dominion.

In 1916, the year ending Mar. 31, Canada's exports amounted to $113,000,000, in 1917 to $127,000,000, in 1918 to $198,000,000 and for the nine months in 1919-20 to $249,000,000. Animal products before the war amounted to 20 of the agricultural products, but for the nine months in 1919 amounted to 45%. Since the Armistice was signed there has been a steady decrease in export of manufactured goods. In studying the exchange has it occurred to you that European countries are steadily increasing their exports to North America while on this side we are obliged to restrict these exports, owing to the exchange situation, and while during the war the exports of agricultural exports amounted to from 45% to 48% of the total from all sources, for the nine months of 1919 the exports of agricultural products amounted to 58%. We have nearly reached the proportion of 60% of the export revenue to this country in the export of production from the farm. This is remarkable, something that it will be well for the whole country to consider, as having a bearing upon the re-establishment of our credit. A story which in the few figures which I have given you shows, if I am not mistaken, the policy which Canada must adopt in the financial situation in the years to come. I wanted to give you this to show how much stress we should put on the production of the farm, believing that it is upon this which our future prosperity will be established.

In view of the fact that we are likely to meet very serious conditions in wheat and grain, the one great outlook for the Canadian farmer is in the development of animal production for export, and in the last nine months 37% of the increase from all sources there was a decrease of $176,000,000 in munitions, $26,000 in chemicals and $21,000,000 in ores other than iron and steel.

On the other hand there has been an increase in the 9 months of $73,000,000 in agricultural products, $80,000,000 in animal products and $38,000,000 in wood, pulp and paper, and $12,000,000 in iron and steel. You will see the line along which our exports must develop, among which none stands higher than our animal products. I think I have never studied figures more convincing than these.

I want to say something in regard to our bacon. It may not be known that prior to the signing of peace, Canadian bacon on the British market was finding a place that was absolutely preeminent. In view of the absence of Danish bacon and the small quantity of Irish bacon, Great Britain has been obliged to turn to America for her supply of bacon, and Canada was placed side by side with America, and she was preeminent because she produced Wiltshire sides instead of the fat bacon produced by the United States.

The British market would take Canadian bacon at 20 shillings above the U. S. bacon per hundred.

Canadian packers were unable to fill the orders, and if we go into the trade as strongly and aggressively as Denmark did, we will have a place on the British market comparable with Denmark. If we are properly organized and go after this business we can build up such a trade as Denmark did when she was fighting for her national life, and I doubt if there is any country in the world that has such an opportunity for the sale of bacon as this country.

There was no product on the British market that was as short as dairy products, butter and cheese. Even with the recognized shortage of fat, and bacon, the one product demanded on the market and in the stores was butter and cheese, and it is a remarkable fact that Canadian cheese on the British market pretty nearly determined the price. New Zealand cheese could not be obtained during the war, and we are so much nearer that we have a good chance to place our cheese on the market at an attractive price.

The promise for dairy products is as good as ever. It is bound to be for the reason that there is a shortage of feed in Great Britain and in the European countries. When going to London first, one thing which strikes a stranger is the poor condition of the London horses. They had neither the oats nor the hay to properly feed their horses and for the same reason there is obliged to be a shortage in dairy productions. Holland and Denmark reduced production of bacon, Great Britain had reduced her dairy production and the shortage of crops in France, and non-production in the Balkans, and with the high price for wheat, the animal production in Europe will be delayed for some time, so that one must recognise the opportunity that Canada has for building up a market.

Sheep

I believe that Canada has a great future in building up a profitable sheep industry. It is not so much that we need to export our mutton. We have never yet developed a real market for our mutton in our own country and I am glad to say that the Minister of Agriculture is making an attempt to ensure a Canadian market for mutton which will make for a development of the sheep industry in this country, and after that policies will be developed to secure the protection for the home bred mutton as against the importation from other countries. I do not mean a fiscal protection, but I mean that a protection will distinguish between home bred and foreign articles.

Wool

Canadian people are demanding clothes made out of fine wool. It is suggested that this demand is in a

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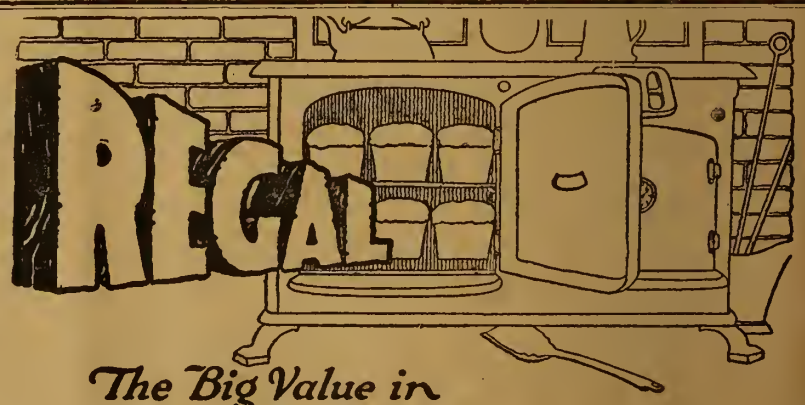

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measure responsible for the high prices asked, and even if clothes were manufactured out of the coarse wool, and advertised at a lower price, they would not be sold. The only way clothes made out of coarser wool can be sold is to put a high price upon them, for people demand a $60.00 or $65.00 suit.

As regards the production of fine, medium or coarse wool, I believe that we should produce, not the fine wool or the soarse wool, but should aim for the medium wool, for which there is bound to be a consistent price, at steady, regular, consistent prices, that would be profitable for the Canadian farmer. Pudging from the whole situation in North America, I believe that the future bids well for a market for a high grade wool at a good price. which is likely to continue for some time.

Beef Cattle

If we are to be able to compete in the world's market we have greatly to increase the quality of our beef cattle. In reference to that I want to impress the requirements of quality in our stock. It is not only a question of breeding in our horses, our sheep, our pigs. We must absolutely insist upon the high class sire for we cannot afford to send or waste time and money in the production of mediocre stork. The Argentine, the U. S., Australia will take the preeminent places in the world markets if we allow them, and we are allowing them to do so at the present time. We should give most strenuous competition and we must do this on a business basis if we are going to achieve results which means that it ought to be a crime for a man to use anything but the best. In connection with selection there must be utmost care exercised. The business of the world turns aside from those who are behind the times. I believe that we are wasting our time through a lack of care in breeding, as well as wasting a great opportunity to make a success in the markets of the world.

Another thing I wish to impress upon you is that we do not feed our stock properly. I can go through this country from the Atlantic to the Pacific, and the majority of men are content to simply let their stock winter through, which means that in the spring the stock is lighter than it was in the fall by from 50 to 100 lbs., and it takes a great deal of time and feed to get them back into shape again. I say this to the farmers in all parts of Canada. In Western Canada I saw evidence of the same thing, and where are we going to land if we follow such practice as this?

It is right that we should talk about the pure bred sire, but the time has come when we must see that every moment from calfhood to the time when the animal is sold is used in putting on flesh. We must do this if we are to make a success of our business. Upon this will rest the result of our efforts.

Marketing

I am told that this is one of the greatest problems that confront you in this Province. I think it is one of the greatest problems of every country. We must develop in the minds of all farmers in Canada, an interest in market requirements if we are going to produce successfully. How many understand the situation at the Montreal and Toronto markets? How many know what takes place there? Unless you understand conditions and markets are obtainable you cannot procure the price for your products. I believe that you are having difficulty in disposing of your products satisfactorily, and that in the fall there is no market and a glut occurs. I believe that is one of the reasons you have asked me down here to discuss this problem of how you are to obtain prices that will justify your increased production. I am here to help you find that market for your stock, so that you will find it profitable to produce.

As you know, there has been a steady demand for the erection of a stock yard and abattoir in the Maritime Provinces. This demand has been continued during the past two or three years, and has reached its height during the past year. What are the Maritime Provinces to do unless stock yards and abattoir are established? I think that is the question that is turning in your minds. I have tried to study this question a little bit carefully. We have our officers going through the Maritime Provinces quietly in respect to this situation. The railway companies have been doing the same to determine the business opportunities. The packers have had their officers here to determine whether it will be profitable to place a stock yards and abattoir here.

They have come to this conclusion, as I understand it, that with the present business offered they do not see their way to provide either stock yards or abattoir. The business interests of this country have come to the conclusion that with the present business that offers it will not be to their financial advantage to build stock yards or an abattoir. That is exactly the fact as I understand it.

What then are the alternatives? One is to turn to the Government for support, meaning that the business interests actually engaged in trade cannot see their way clear to erect this accommodation, and that the Provincial or Federal Government shall supply these conveniences. I think you will readily see that the Government can offer the same excuse and may well hesitate.

If you will study the movement of live stock in this country, you will see that there are some very surprising things happening. First of all, animals are being purchased on the Edmonton market and are being moved from there to Toronto. You will recognize that the distance from Edmonton to Toronto is greater than the distance from Yarmouth to Montreal. Alberta cattle are moved to Chicago. If you compare the movement of live stock from Western Canada, and the movement of Maritime Province cattle to Montreal, you will see that they have to move their cattle a much greater distance.

I believe that in that lies the opportunity for solution of this problem. The Department went into this matter very carefully last fall, and there was co-operation between the Provincial officers, our officers and the farmers themselves, and since this co-operative idea was put into operation the price of lambs raised from 2 to 3c. By selling at Montreal the farmers obtained about 3c more for their products, and the haul did not militate against this procedure.

I spoke to representatives of the C. P. R. and the C. N. R., and they gave me assurance that they will cooperate in services. If the provincial and federal departments, the railways and the farmers get together on this to make co-operative shipments, I believe that it will afford a solution of the problem. I am told to say that the railways are ready to stand behind this proposition, and they will join us in making it a success. If we cannot make it a success, then we will have to review the situation another year, but I am satisfied that having gone into the situation very carefully, that for the moment the course is the right one, and I can pledge the Dominion Dept. is going into this matter with a view to solving the difficulties in the interests of the country.

I feel that it is the duty of the farmers to give immediate attention to the subject of production of animal products, as I believe that the future prosperity of the country rests along these lines. The increased manufactures and so called business interests aer important, but it is only by the greater production of agricultural and animal products that we can assure the solution of the problems that lie before us. I take this as the basis of my appeal to you, and I believe that every citizen should ask himself how he stands in relation to the future, and only in that way will we be worthy of the citizenship we possess.

If I am not mistaken, there is not a farmer here who cannot quietly make a living on his farm, and perhaps he will ask himself why he should take this added responsibility for the future? It is because we believe in this country, and we wish it to be the best it can be for our children and our future generations. We wish our citizenship to be of the very highest standard.

I do not believe we can lose sight of the duty we owe to those who are to come after us, and I believe we should face the problems which have been outlined. We have studied British history from an educational standpoint, and from a political standpoint. We have seen how wonderfully Great Britain has developed. We have studied her development of a wonderful colonization system, which now constitutes the great British Empire, but have we realized that this could not have been developed and built up without her great commercial system, and her industrial development which is the marvel of all people. It could never have been accomplished without the spinning Jenny and other inventions. It has been British industry and British ship building that has placed her at the forefront of the nations, and given her her place in history. And I believe that what is true of Britain is true of Canada, and it is only through the development of our resources that Canada can take her rightful place, and take her part in the British Empire.

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THE HORSE

SAWDUST AS A LITTER

(Experimental Farms Note)

The amount and value of manure produced on the farm is in a measure dependent on the nature and supply of the litter used. For the purpose of a litter is not only to act as a bedding material, to keep the animal warm, dry and comfortable, but also to serve as an absorbent to take up and hold all the liquid excreta—the most valuable part of the manure.

Straw is the universal litter and there are few better, but there are seasons in which the supply is short and it may then be advantageously supplemented with sawdust. Indeed, used alone dry sawdust is quite satisfactory. It is clean and easily handled but is particularly valuable for its high absorbent power for liquids, which is two or there times that of ordinary straw, it is not rich in plant food constituents, but its subsequent decomposition in the soil gives rise to much humus-forming material. It should be used in sufficient quantity to absorb completely all the urine.

There is a more or less general impression among farmers that manure from stables and cowbarns in which sawdust has been used as a litter is injurious to the land. While we would not say that this suspicion may not have some foundation, we have never been able to discover a single instance of such injury and enquiry has been made both in Canada and the United States in this matter. Such injury could only occur on very light soils, following very heavy applications. Most satisfactory evidence has been obtained from many farms upon which sawdust has been used as a bedding material for a number of years, and upon which the soil is light and sandy. Naturally it is on heavy soils that this class of manure proves most effective.

One word of caution is necessary. Horse manure from stables using sawdust heats very rapidly, especially if left in the pile, and the excessive fermentation that may take place will seriously injure the manure. Such manure should be mixed with that from the cowbarn, which can readily be managed when manure carriers are installed and a manure spreader used. Mixed manure (horse and cow) may be handled in the same manner as that made with straw. The saturation of the sawdust with the liquid excreta promotes the ready decomposition of the litter under favourable conditions of temperature and the best place for this to take place, in order that the full manurial effect may be obtained, is in the soil. If the manure cannot be spread at once, the heap should be kept moist and compact, as in the case of manure made with straw.

The sawdust of hardwoods, decomposes more readily, and further is richer is potash and phosphoric acid than that of pines and conifers generally, but no harm due to resistance to decay need be feared from the use of the latter, provided that it is not employed in larger quantity than is sufficient to absorb and retain the liquid excreta.

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NEVER USE AS BREEDER STALLION OR MARE THAT SHOWS SIGNS OF HAVING CURBY-HOCKS

The excellence and value of a horse is freely stated as depending upon the quality of his feet, and the saying "no foot no horse" has thereby become a popular maxim. But the formation of the hock has just about as much to do with the stability, and motive power if the horse, and therefore value, as that of the foot. Undoubtedly, from its position and the work it has to perform, the hock is very materially connected with the value of a horse.

Formation of the Hock

The most powerful of the flexor or bending muscles are inserted into the point, of the hock, or the extremity of the oscalcis, as this bone is termed; and in proportion to the projection of the hock, or, in other words the length of this bone, will two purposes be effected. The line of direction will be more advantageous, for it will be nearer to a perpendicular; and the arm of the lever to which the power is applied will be lengthened, and mechanical advantage will be gained to an almost incredible extent. The difference between the power that can be exerted between a well-formed hock and a badly formed one, can be readily seen in comparing the method in which each is capable of assisting the horse to propel his body when hitched to a load. Suppose the hock bone (oscalcis) to be three inches in length, and that the muscles whose tendons are inserted into the point of the hock exert an energy equal to 4,000 lbs. Then further, suppose, that an inch is added to the point of the hock, which will be an addition of one-third to its length; a muscular power of less than 3,000 lbs. will now effect the same purpose. In other words a heavy muscular horse with a badly formed hock will not be of the same pulling power as a less bulky horse with a well formed hock. The slightest lengthening, therefore, of the point of the hock makes an exceedingly great difference in the muscular energy by which the joint is moved; and a difference that will tell in a long day's work. On this account, the depth of the hock, or the length of the bone, is a point of the greatest importance. It is received among the golden rules in judging the horse, that this bone cannot be too long.

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Considering the situation and action of the hock, a swell as the stress thrown on to it, it is not to be wondered that it is liable to much injury from rapid or powerful action. The work which this joint has to perform, and the thoughtlessness and cruelty with which that work is often exacted, it need not come as a surprise if this necessarily complicated mechanism is sometimes deranged. Nine-tenths of the lameness that occur in the hind legs are to be traced to this joint, and when, after careful examination, one is unable to find any other seat of lameness, it is justified in affirming that the hock is affected.

The Capped Hock

A soft, fluctuating tumor sometimes appears on the point of the hock that gets the term "capped hock." It is seldom accompanied by lameness, yet it tends to lower the value of the horse. It is the enlargement of one of the mucous bags which surrounds the insertion of the tendons into the point of the hock. In the majority of cases it is produced either by kicking in harness or stall, or when a horse does not get sufficient litter to lie on when in the stable, and the hock is bruised when coming in contact with the hard floor. Capped hock may also result from a sprain, but it is more often the result of external violence. It is difficult to apply a bandage to take down the swelling, and puncturing or cutting the swelling is a dangerous practice, and should never be attempted. Blisters, repeated as long as necessary, are the proper means to be employed, and the preventative measures are to give the horse plenty of litter and have the wall behind him padded, so that his hock will not come in contact with a hard surface when the horse kicks out in the stall when alone, as some horses have the habit of doing. If neglected, it will assume a callous structure that will bid defiance to all means employed to cure it.

The Cow-Hock

When judging a horse, a good deal of judgment is exercised of the position of the hocks as the horse moves away from the judge. Some horses have their hocks closer together than others, and though hocks fairly close together are to be preferred to those wide apart, there is a closeness of hock that is not desired. Horses with this conformation are said to be cow-hocked, and generally they will be found on horses whose legs below the hock take a divergent line outwards. The leg should descend perpendicularly to the fetlock. The weight and stress are then equally diffused not only over the whole of the hock, but also the pasterns and feet.

The cow-hocked horse has his legs not only turned more outward, but they are bent more under him, and this increases the distance between the point of the hock and the muscle that controls it, thus increasing the tendency for thorough pin. The weight and the concussion when the horse is either standing or in action being so unequally distributed by this formation of the limbs, some part must be overstrained and overworked, and injury must ensue. On this account the cow-hocked horse is more subject than others to curbs, and that those hocks are many times termed by horsemen curbyhocks.

The Curby Hocks

Any sudden action of the limb, of more than usual violence may produce it. Young horses that are cow hocked are liable to get them in training for heavy work. Curbs are generally accompanied by considerable lameness at their first appearance, but the swelling is not always great. It sometimes presents so gradual a curve that it is scarcely perceivable when one is standing behind an animal so affected It is best detected by observing the leg sideways. At the first symptom of a curb, cold evaporating lotions should be frequently applied to the part. Equal portions of spirit of wine, water and vinegar, will be found an excellent application.

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38A

more requisite than in curb. If the horse is soon put to work again, the lameness will frequently return. No horse that has had curb should be put even to ordinary work in less than a month after the apparent cure, and even then he should very gradually resume his former habits. It should be remembered also that curb is a hereditary complaint and therefore there may be some constitutional weakness of these parts. A horse with a curb is manifestly unsound.

The effect of cow hocks are seen further down the leg, there being a liability to spavin, thoroughpin, windgalls, sprain of the fetlock and knuckling. A slight inclination to this form of leg in a strong, powerful horse may not be altogether objectionable, but a horse or mare decidedly cow hocked should never be selected for breeders.

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WINTER CARE OF COLTS

With a view to ascertaining the actual cost of raising colts, records have been kept during the past four years of the amounts of feed consumed and of the gains made by the colts.

The brood mares on the Experimental Station at Scott, Sask., are grade Clydesdales, one weighing approximately 1,350 pounds, the other 1,550 pounds. The mares are worked until foaling time, and are then rested for two weeks. aLter they are used to do light work on the farm. The colts are kept in the barn when the mares are at work. When not at work the mares and colts run in the pasture and are fed a little grain in addition to the pasturage. The colts are weaned when about five months old.

Daily Ration

The daily rations for wealing colts have been about as follows:

Monring: One and one-quarter lbs. of oat chop, half pound of brain, four pounds of prairie hay.

Noon: One and one-quarter pounds of oat chop, half pound of brain, and three pounds of alfalfa hay.

Night: Half sheaf of oats, with oat straw.

On two night of the week, the oat sheaf is replaced with two pounds of boiled oats. Salt is given in the feed three times per week. The colts are watered three times daily.

Fed as indicated, the cost of feed for one colt for four and one-half months during the past winter amounted to $14.06.

During the period, the colt gained 115 pounds, and at one year old weighed 280 pounds. The colt a year older was fed twice the quantity of oat chop, and in addition one pound of alfalfa hay. The oat straw is also increased for the older colts.

Shelter

Colts up to two years of age are sheltered during the winter and only allowed out for an hour's exercise every day. This has been found to give larger colts than where they are allowed to run out in the open fields during the day and stabled at nights. As an illustration of this, one colt was allowed to run out in the day during the first, second and third winters. A full brother, of inferior conformation, was allowed out during the first winter but during the second winter was kept in the barn and given good feed. The latter colt weighed as much at two years as the first did at three years. Where protection is afforded, either by trees, hills, or a high-board fence, etc., the colts would no doubt do equally well outside, but on the open plains, without shelter of any kind, the cilts are chilled by the strong winds, if left out for too long a period, and do not make as satisfactory gains. In order to overcome this difficulty, light, roomy, box stalls should be provided in well-ventilated stables, giving the colts an opportunity to take some exercise inside, and this, when supplemented by an hour in the paddock. will keep them healthy and their limbs in good shape.

HORSES THAT HAVE TASTES IN CHOOSING THEIR HAY

That horses have their peculiar tastes in selectisg the most palatable feeds is shown by recent investigations at the Ohio Experiment Station, in which some hays were eaten with great relish while others were only partly consumed. Mixed clover and timothy seemed to satisfy their appetites best, and brome grass was also to their liking. Timothy hay stood third. None of the horses were fond of tall oat grass, while blue-grass and redtop were also near the bottom of the list of palatable grasses.

Attractive and sanitary buildings are a business asset to any farm; they suggest healthy live stock, protected seed that should grow, and machinery that is always ready for use.

Canada's Opportunity On the Highway of Success—What has that to do with GATES? Everything!
PEERLESS LONG SPAN GATES
The gate pictured below is a companion to the Peerless Perfection farm fencing, strong, durable, with heavy tubular brace, which stiffens it like a steel bridge. It swings true and rigid as an oak door hung by a master mechanic. Lateral and upright wires securely clasped at all intersections and stretched upon a strong rigid frame of tubular steel electrically welded into one solid piece.
For Looks, Wear and Service in appearance a Peerless Gate says: "I am guardian here." For durability it is of heavy open hearth steel wire, galvanized and can't rust at any point. For service it is put together to last a lifetime and is the cheapest best gate made. You will be interested in our Catalog. Write Today for Literature describing all our many styles of Gates, all kinds of Farm and Poultry Fencing for farm, ranch, residence, park, etc. It will pay you well to get acquainted with Peerless Perfection standard of construction. Write nearest office today. Do it now.
THE BANWELL-HOXIE WIRE FENCE CO., Limited
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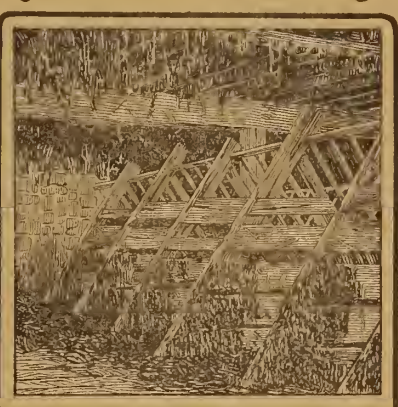
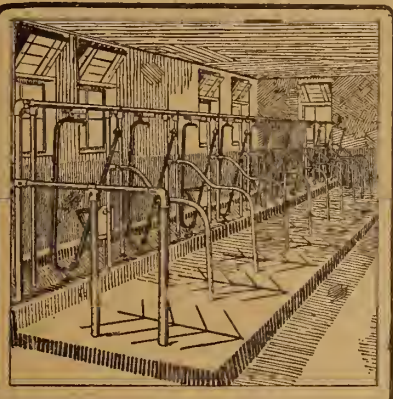
1. With BT Steel Stalls you will have a barn that will save disease and keep your stock healthy. Disease germs and lice cannot live on the hard surface of the steel. There are no cracks, and nothing to absorb the liquid manure. BT Steel Stalls make your stable sanitary.



2. It is impossible to keep wood stalls and floors sanitary. Wood absorbs liquid manure. Cracks develop in the wood where disease germs and vermin breed. Wood partitions and posts obstruct light and ventilation. A dark, unsanitary stable breeds disease and prevents the stock from doing their best.



3. A clean sanitary stable will save you loss. It will save you veterinary bills, increase the milk flow from your dairy cows and keep your feeders and stockers healthy. The coupon below will bring the BT Barn Book which shows how BT Equipment saves disease and increases profits.

Send this coupon for the 352-page Barn Book. Tells how to plain and built the barn, how to ventilate, how to frame, how to save steps, labor, time and feed. This book saves you hundreds of dollars in building.

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We are thankful to an appreciative public for continued growth and are now in our 53rd year, going stronger than ever before.

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I got my foot badly jammed lately. I bathed it well with MINARD'S LINIMENT and it was as well as ever next day.

Yours very truly,
T. G. McMULLEN.

Advertise in the Farmer

POULTRY.

ANNUAL MEETING OF THE NOVA SCOTIA POULTRY ASSOCIATION

The Annual Meeting of the Nova Scotia Poultry Association took place at the Agricultural College, Tuesday, January 13th, 1920, at 10 a. m. Mr. H. H. Hull, President of the Association, occupied the chair. Eighteen delegates from different poultry clubs of the Province attended. Minutes of the last Annual Meeting were read and approved.

A report was received from the Committee appointed to draft a Constitution and By-Laws but action was deferred to the afternoon program. The President read a letter from Dr. Barnes, President of the National Poulty Council of Canada in reference to the proposed trip of Edward Brown and the arranging of a series of meetings for this trip. Mr. John McMullen suggested that the best way to organize a meeting of benefit to the Poultry Industry would be to organize a Nova Scotia Conference and have the Department of Agriculture pay the delegates' expenses, 10 from each Poultry Club, to attend this conference. J. P. Landry suggested that as the National Poultry Conference was providing the money to pay the expenses of Mr. Brown it would be best for each club to arrange for the holding of a meeting open to the public in their respective districts. Mr. Fred Bath stated that it would likely be but one meeting and not much good would result except in the immediate vicinity of the place in which the meeting was held. It was further suggested that a conference of Poultry Breeders could be held at some central exhibition or fair. It was finally agreed on motion of Mr. W. W. Osborne and supported by Mr. Bath that the matter of replying to Dr. Barnes' letter be left in the hands of the newly elected delegate to the Poultry Conference at Ottawa and to the Secretary of this Association.

The President read a letter from the Secretary of the National Poultry Council re obtaining poultry for France and Belgium and asked the Poultry Association to take action in this matter. J. P. Landry sugested that young stock should be selected and if possible should be shipped in the fall of the year. Mr. John R. McMullen stated that only good poultry should be obtained for this shipment so that the quality of poultry kept by breeders in Nova Scotia would thus receive favorable advertisement. Mr. W. W. Osborne and Mr. Fred Bath were of the opinion that the selection should not be made from the whole of the flock of each one contributing any poultry to this shipment. It was further suggested that a more definite statement should be obtained as to the number of poultry required from Nova Scotia and the amount that would be paid for this poultry if selectd for shipment. It was finally moved by F. E. Jackson and supported by Capt. Borrett that the matter be left in the hands of the incoming President and Secretary.

Delegates

Mr. F. A. Driscoll reported that they had recently held a show of the Kings County Poultry Club which was highly successful. The weather had been very cold at the time of the show but some 18 exhibitors made a show of 160 exhibits.

Mr. John R. McMullen reported for the Colchester County Poultry Club. This Club has about fifty members and during the past year the members have raised more poultry and of better quality than in the past. A number of members of this Club have also entered pens in the Nova Scotia Egg Laying Contest. A show was held the latter part of November which was the best yet held by this Association. About 800 exhibits of high class poultry were in the coops at this show. The Experimental Station at Kentville, N. S., and the Live Stock Branch of the Department of Agriculture at Ottawa made exhibits at this show. A Poultry Plucking Contest was conducted and two bands were in attendance to enliven the visitors. The Daughters of the Empire, the Great War Veterans Association and several private firms purchased booths in which they displayed goods and articles for sale. This Association is making plans to hold a larger and better show next year.

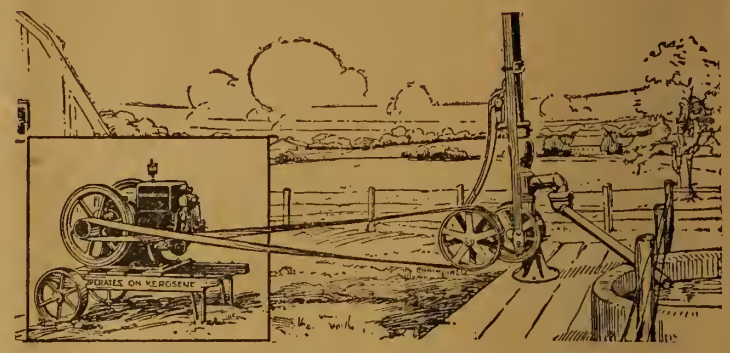
Pictou County Poultry Association—Annual Report of President, 1919

The first year of the Association has just drawn to a close. In February last, when that small band of fanciers and enthusiasts met in Westville and brought the New Association into being, I do not think anyone would have had the temerity to forecast the greatness of the work that would be accomplished or the success that would be achieved within the space of one short year. That year has come and gone the Pictou County Poultry Association is firmly entrenched as one of the strongest and most progressiv Associations in the Province. It has staged its first show, and that a Maritime one, with an unqualified and unhoped for success, placing itself thereby in the very forefront of the Eastern Canadian Poultry Association. Early in 1919 while stimulating as great an interest as possible amongst its own members in the building and rearing of high grade birds, it took in hand the fostering of an interest in the school children of the various schools in the district and to this end Mr. J. P. Landry, Poultry Superintendent at the Agricultural College, Truro, was brought down to lecture to the children and the members supplied eggs for setting at a very reduced price, not more than one setting to each child, to those who would undertake to hatch the eggs and rear the chickens personally. A large number took advantage of this opportunity and the splendid exhibit of the school children at the exhibition held in November testified to the success of the venture.

The greatest accomplishment of the year, however, was the show staged in the Curlers' Rink, New Glasgow, on November 12th, 13th, 14th. The prospect was a very ambitious one, the show being thrown open to the Maritime Provinces and a major exhibition in every sense of the word was attempted. If a success of the

(Continued on page 356)

The Farm Drudge
" Handyman
" Chore Boy
" Burden Bearer



THESE nicknames and others are frequently attached to the good kerosene engine of which we sing the praises. But, since it is a very serious and practical prose song, the engine shall here be called strictly by its proper name—International.

International Kerosene Engines are annually doing millions of hours of work: Annually taking the menial, toilsome, everyday farm jobs—pumping, sawing, separator turning, washing, grinding, shelling, etc.—off the lame shoulders of grateful men, women and children the nation over: Annually adding to the service that makes farm leisure possible and farm life more than ever worth while.

International quality in general and **International Kerosene Engine** quality in particular are everywhere admitted and admired. These engines are reliable, simple, long-lasting and economical. Among the sizes—1½, 3, and 6-h. p.—is your correct size. See the International agent.

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Royal Purple Stock and Poultry Specifics and Foods

In the manufacture of all our Stock and Poultry Condition Powders and Remedies we eliminate the cheap filler which is used by many manufacturers to make up a large package, and give you pure material which you can adulterate yourself if you wish. Mr. Farmer, how does this appeal to you?

Royal Purple Stock Specific

is a pure unadulterated condition powder, it is not a dope. It can be used throughout the entire feeding season and will not do your animals one iota of harm, works entirely on their digestive organs, causes them to assimulate the foods properly and digest every particle of food value. Fifty-five to sixty per cent. of food value is a fair average of what the animal takes out of its food without this condition powder: it makes their coats sleek and causes them to take on a healthy appearance in a very short time.

What We Claim For It.

Cows will give from three to five pounds more milk per day during the winter months. You can fatten pigs a month earlier, have larger and better pigs and save a month's time and feed. You can fatten horses ready for sale in four to six weeks. If you don't believe us try a 60c package on the worst animal you have on your place and be convinced. How many times have you said to yourself, "No matter how much I feed my animals they do not seem to thrive." This, Mr. Farmer, is because your animals are not in a healthy thriving condition. Royal Purple Stock Specific will compel them to put on a thrifty appearance in a short time and yet it will cost you less than 15c. per month per animal to use it. Put up in 60c. packages, $1.75 and $6.00 tins. If you have a lot of stock buy the large tin. It contains sixteen 60c. packages.

PURE-BRED STEER under 1 year, entered in Lot No. 3, Toronto Fat Stock Show, Union Stock Yards, Toronto, Ont., Dec. 11-12, 1919, and awarded 1st Prize. Also entered for Royal Purple Calf Meal Special, and awarded 1st Prize. Fed and Exhibited by Mr. Orll Williamson, R. R. No. 1, Jarvis, Ont. Sold for 33c. lb. by Auction. Weight, 1190 lbs.

Royal Purple Laying Meal

During the many years we have been making our high-class Stock and Poultry Specifics, we have had thousands of letters from Poultry raisers all over Canada, wanting to know what to feed their poultry. A hen is just like a factory. If you have lots of material in your factory, you can get out the finished product. The hen requires so much Protein, so much Fat, Ash Lime, etc., to make an egg and supply her bodily needs. Ordinary grains will give her a supply for herself and to make one egg every two to three days. For the accommodation of our customers, we have produced a Laying Meal which contains high-class meat meal, grains, etc., that will give her everything she requires for her bodily needs and produce an egg per day. If you cannot get this material from your dealer in your own town send us $5.00 for a hundred-pound bag and we will ship it to you direct. This product certainly fills a long felt requirement for the poultry man and simplifies the matter of feeding.

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W. A. Jenkins Mfg. Co., Limited

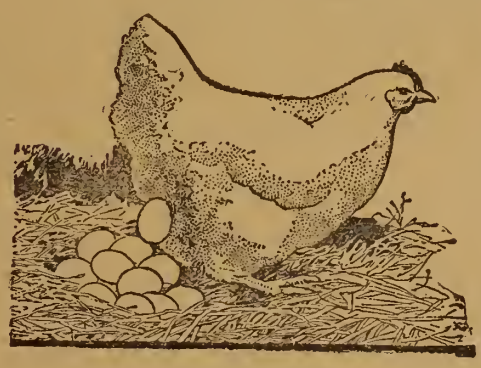
LONDON, ONTARIO

Royal Purple Calf Meal

There is probably no mixed feed on the Canadian market that the farmers have been buncoed more on than Calf Meal. You cannot make a substitute for milk with less than 10% Fat or over 20% Protein. Calves are entirely different from grown animals. You must supply them with material as much like milk as possible. In our Royal Purple Calf Meal we have a product on which you can raise calves after they are eight days old just as well as though you used new milk. At the Toronto Fat Stock Show this year there were eight calves shown not over a year old that averaged over one thousand pounds each, that were fed on this meal. If you will write us for our new booklet we will send you the full particulars and photographs of all these calves. Mr. Farmer, when you want calf meal you see that it contains over 10% Fat. Unscrupulous dealers and manufacturers are making meals that do not contain more than 7% fat and a large percentage of protein. Many of these meals are no better than ordinary dairy feeds. Fat costs two and a half to three times as much as protein in any market, but you must have it in calf meal to make a substitute for milk. Our Royal Purple Calf Meal is put up in 25, 50 and 100-lb. bags.

Royal Purple Poultry Specific

If your hens are not laying after the first of January it is because they are not housed properly and are in an unhealthy condition. There is no excuse for hens not laying if they are fed and housed properly. Our Royal Purple Poultry Specific, if used in the mash given them, will make them digest their food properly, make their digestive organs healthy and active and will produce the eggs for you as well in the winter as in the summer. The eggs are formed in batches from ten to fifteen, from the large egg down to the size of a pin head. If the hens are not healthy nature will lie dormant. As soon as our Poultry Specific is used nature becomes active. This is why so many people get eggs in a few days after using our Specific. If you do not get eggs it is your own fault. This Specific is put up in 30c and 60c packages. $1.75 and $6 tins.



Royal Purple Chick Food

made from all kiln dried white grains. You can raise 95 to 98% of your young chicks with this food, put up in packages and bags.

We also manufacture the following valuable brands:

Royal Purple Lice Killer in 30c and 60c. tins.
" " Cough Cure in 60c. tins.
" " Sweat Liminent in 60c bottles.
" " Disinfectant in 35c., 65c. and $1.40 tins.
" " Roup Cure in 30c. and 60c. tins.
" " Worm Powder in 30c. and 60c. tins.

Every article we make is guaranteed to do exactly as represented.

For Sale by reliable dealers everywhere. If you cannot get any of the above articles from your dealer write us direct.

FREE Write us and we will send you one of our new books that are now being published, giving you all the common diseases of stock and poultry, how to treat them, how to build a hen house, and wilderness of valuable information.

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to houschold science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

"So many gods, so many creeds,
So many roads that wind and wind;
And yet the art of being kind
Is all this sad world needs."

TOO MUCH ELLA

The faster her daughter talked the more calmly Mrs. Doremus knit. She was more interested in "heeling" the khaki-colored sock than in anything Ella was saying.

"Mother!" Ella gripped her by both shoulders. "You must attend. How else shall I dare go away and leave you?"

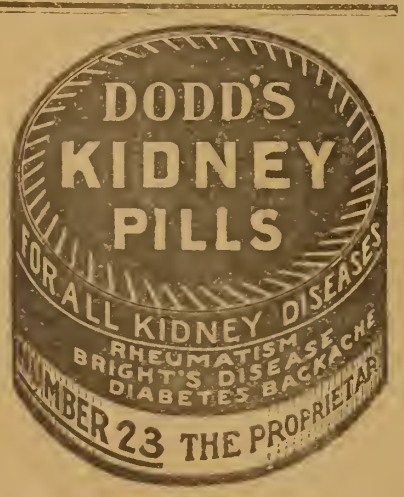
Mrs. Doremus lifted her large, mild eyes to the exasperating gaze piercing her. "Why, my dear, I've heard every word you've said. You began by saying that you and Leonard were going over to Hillville in the car this afternoon and that you would not be back before evening."

"Yes, and I've asked Carrie Randall to look after you while we're gone. She'll be in to get your supper for your. You can trust Carrie just as you would me, mother——"

"I've my doubts of that. I never did care much for Carrie Rankin. Anybody whose nose is put on her face, my dear, at such an angle that you can see her brains—what there are of them—Well, I don't want to be wicked, of course."

"I should hope not." Ella drew away flushed. "I've got confidence in Carrie Rankin and there's no one I feel I could more safely leave you with. I wouldn't leave you like this only Hillville is off the railroad and there's no way for me to see Emma Ransom before she goes away unless Leonard takes me in the car. Of course, that takes us both away from home, and I feel as though I was forsaking my duty. But still——" she paused sighing.

Old Mrs. Doremus was now flushed and the knitting needles jerked as she plied them, but she said nothing. For three years she had been hearing a great deal about Ella's "duty." "I'd love to go, but my duty keeps me at home," was the remark she had often heard Ella make. Once se had heard two neighbors talking about Ella. "Poor dear, she's so faithful to her duty," one said. "Well duty," said the other. Mrs. Doremus knew perfectly well that she was the duty. She hated the word and all it implied. It caged her like a bird and she never could bear to see things behind bars. She pretended not to see and tried to forget as far as she could. After all, she was only 79 and she felt almost young enough sometimes to skip rope or dance a jig.



Perhaps she could have one done or the other, too, if she had had proper meals. But the plain, hearty, old-fashioned foods she always had been accustomed to and loved, Ella would not have in her house. Ella was too fat and Leonard too lean, and so both had bad appetites. Between this modern Jack Spratt and his wife, poor old Mrs. Doremus fared badly. But it was useless to protest againt the food in another woman's house.

Yet old Mrs. Doremus always carried a well-filled purse that would have purchased for her endless luxuries. It burned her pocket many a day. To have money and the will and yet to have no privileges! Worst ol all, to be treated like a baby that was like to set the house afire if left alone in it a minute!

It was a long time since Ella and Leonard had both gone away and left, and they were not going to give her any liberty now.

"Carrie will be in promptly at five o'clock to get your supper, mother," Ella said as they started. "You'll have to be alone about an hour. Do be careful. Don't go near the cellar stairs. And if you feel bad or anything remember there's the telephone."

Then they were gone.

Old Mrs. Doremus sat down and drew three long breaths of relief. If she had felt a little stronger she would have danced a jig. So she merely sat still and tried to imagine herself free. The sensation lasted less than a minute, for the telephone bell rang.

It was Carrie Rankin. She had had a houseful of company come by motor and she could not possibly get away at five. If dear Mrs. Doremus did not mind waiting until a little later——

"That just suits me," old Mrs. Doremus said. "In fact, you need not come at all. I prefer you not to. I want to be alone." She hung up the receiver. "There! I guess I'm rid of her. Now what?" Her face suddenly brightened and she turned to the phone again. "Two, two, two," she said. "That you, Joe? I want Joe Gandy. Oh, why, Joe, I didn't recognize your voice! I know I haven't heard it lately. I know, Joe, what have you got in the line of eatables such as I used to order from you when I was housekeeping? Young onions, link sausage—yes—strawberries and full cream cheese—yes—new potatoes. Joe send me some of them all—a plenty of each, yes, plenty. And the bill, Joe. That's right. Oh, one minute, Joe. Whatever became of your Aunt Hannah Peck that I used to see when we all lived neighbors over on May street? She is? You don't say. Joe, I wish you'd send her over with the eatables. My land, I don't know when I've ever wanted to see anybody the way I do her. Yes, I will, I'll phone right over to your house and tell her so."

In two minutes more Mrs. Doremus had Joe Gandy's house and was talking to Hannah Peck. They talked until both realized that they were being denied the actual sight of each other by prolonging the conversation.

With so many groceries and other provender coming and company to prepare it for, Mrs. Doremus found herself more occupied and more interested than she had been for years. When the big basket was brought in and the different articles were set forth upon the kitchen table she viewed them with pride. Joe had sent her just the right quantity of each—you could trust Joe. She had traded with him for years before Ella took charge and sent all her orders to a more up-to-date grocery.

"That other package, Joe says he'll bring himself in the automobile," the boy said, grinning.

Mrs. Doremus laughed as she tied on her apron and went to work. By the time the "other package" arrived very nicely delivered by smiling Joe, she had the potatoes boiling, the onions cleaned and in a glass, bouquet fashion, right in the centre of the table.

"Well, well, Hannah Peck!" cried the hostess to her guest. They clung to each other and studied each other's countenances. Then with a sigh of gratification, they moved apart. "Well, set down, Hannah—right here in the kitchen if you will 'less you prefer to go in where it's cooler."

"Cool enough for me here," said Hannah Peck. "My, how good you smell! I guess you're getting up a feast, Nancy. And I know I shall enjoy it. You see, they've got me on a diet at home. Fanny, that's my daughteri-n-law, she's got an idea that my stummick's all out of sorts and I can't eat much solid victual. I tell her it's because she's got a delicate stummick that she thinks everybody else has. I just had to get loose some way so I came out here to Joe's a-visiting. But what do you think? Fanny wrote a letter telling Joe's wife to be very particular about what I eat—and you know how Louise is. She's conscientious to a T and after she'd given her word to Fanny that she'd look after me she wouldn't go back on her word for a farm. I'm glad to get out where I can do a little as I please. Can't I do something to help you, Nancy? I declare, I sit still so much that my hands fairly ache with emptiness."

"Why, yes, you can hull the strawerries," said Mrs. Doremus. "I did think I'd like to stir up a soft biscuit dough for a shortcake, but I was afraid my hand was out, I hain't made any in so long."

" Let me do it," Hannah said eagerly. "I can't no more than fail, can I?"

At six o'clock the old ladies sat down to a feast which they enjoyed to the utmost.

"Now, you know, Han," Mrs. Doremus said when they were filled to repletion, "I don't dare keep these left-overs in the house. Ella'd throw 'em all into the garbage can, and I never could bear to see good victuals wasted. I've a good will to send the whole kit and biling over to Mrs. Dunn. They're awful poor and she's got four children. You'll help me take 'em, Han?"

"Of course I will, and glad to, Nancy. Long as I had anything to give away I always gave it where it'd do the most good."

So the remains of the feast went to the delighted Dunns, who otherwise would have fared poorly for their supper. Then the old ladies washed the dishes and put the kitchen to rights.

"I expected Ella home before this," sail old Mrs. Doremus. "Long as she don't come let's go in and play a game of backgammon. What say, Han?"

But even after several games Ella and Leonard did not appear.

"Must be they're going to stay away all night," said Mrs. Peck.

"Like as not. Well, you can stay here just as well as over to Joe's, Han. I'll 'phone and tell Louise. But what in the world are we going to do for breakfast now we've given all our victuals away?"

"We can stir up some batter cakes and melt some sugar down into syrup," replied Mrs. Peck calmly.

The old ladies slept refreshingly and were quite ready for their batter

Can Eat Anything Now.

How Many Dyspeptics Can Say This?

The sufferer from dyspepsia and indigestion who has to pick and choose his food, is the most miserable of all mankind.

Even the little he does eat causes such torture, and is digested so imperfectly that it does him little good.

What dyspeptics need is not dieting or artificial digestants, but something that will put the stomach right so it will manufacture its own digestive ferments.

For over 40 years Burdock Blood Bitters has been restoring stomachs to a normal, healthy condition so that the food no longer causes distress, but is thoroughly digested and assimilated, and the dyspeptic can eat what he pleases without any suffering.

Mr. F. Dalton, Collingwood, Ont., writes:—"I was troubled with dyspepsia and was induced to try Burdock Blood Bitters. I took three bottles and am cured entirely; my stomach is free of all pain; I can eat anything I wish, and do not feel any bad effects."

B.B.B. is manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

Old Dutch Cleanser

cleans Kitchen Utensils easily. It quickly cuts the burnt-in grease like nothing else can do. Try it on something hard to clean.
Old Dutch Cleanser
Chases Dirt
Old Dutch Cleanser
Chases Dirt

cakes when they awakened. Then Hannah with many farewells was carried away by her nephew.

Mrs. Doremus sat calmly knitting when Ella rushed in.

"Oh, mother!" she cried, distractedly. "We've had such a time! The car broke down in that terrible storm, and we had no chains, so we didn't dare move for two hours for fear of skidding; and after Leonard fixed it we only got as far as Airlie, and I couldn't 'phone, for all the wires were down, and——"

"Storm? What storm?" asked Mrs. Doremus in astonishment.

"Why, didn't you know? It came on about eight o'clock last evening. Look at the streets! They're strewn with branches. Where were you that you did not hear it?"

"I was playing back gammon with Hannah Peck," she remarked. "My land! I guess I must have been interested."

CUPS OF TEA

(Contributed)

First come those of washy, lukewarm beverage my mother considered good for young children, in those far distant days! especially those we had for breakfast after some childish illness, instead of the usual coffee. How I hated tea for breakfast; it made me feel so invalidish, and when I felt better, I didn't care for a convalescence, just wanted to jump out of one thing into the other.

The next that come to mind are those of the days I first went calling. There was one house in particular, a favorite; an invalid mother, three nice girls, and quite often, a charming nephew, who painted. The tea was good, and always hot, and every one had a different pattern cup and saucer with 'apostle' spoons. The second daughter used to 'pour out', and always took a spoonful from each cup and poured into the saucer before handing it to you. I don't know what the idea was, but it was never omitted.

Then I left home to train as a nurse. We dined at noon, the patients dinner coming after ours, then we nurses had a cup of tea. We each had our own pretty cup and saucer, mine was white, bearing the crest of Christ's College, Oxford, in colors. The Sister had a dainty tea-pot and we took it in turns to supply the tea.

Sister sat on the only chair in the ward kitchen, we 'pros' standing, leaving for the ward again as soon as our cups had been "read". The ward-maid generally read them, one, a deaf and dumb girl being in great demand.

I got rather good at it, and once while on night duty made a great hit with the night sister who came from Cornwall, and was most superstitious. It was Winter and a wild night. We had two meals during the night in our own ward kitchens. At 11 p. m. I told her there was an accident coming; a tall man in a cab, with a broken leg, and in about half an hour, sure enough he came!

At 4 a. m. I predicted another; a lot of men were with this one, and he was in an ambulance, and had hurt his foot. At 6 a. m. he came, in the railway ambulance and six men with him. He had crushed a foot while shunting in the goods yard.

Of course I was an oracle after that.

Then came marriage, shortly followed by disaster. Business failed, and my husband broken in health. The Vicar gave me the post of church caretaker for which I had a cottage. I was rather deaf so he insisted on my having a dog, his wife paying the license. It was a great mongrel but a good watchdog. One day, feeling more despondent than usual, I went to try to walk it off, taking the dog with me. As we walked over the common, I was counting my troubles instead of my blessings, the thought suddenly struck me, "We won't even be able to have a cup of tea!" I stood stupified till my attention was attracted to the dog, leaping and racing around without a care, and I couldn't feed ourselves yet alone a dog! Gradually the thought came, "She doesn't know, I don't know where to get her next meal from!" Then, "She trusts, why can't I?"

I turned for home and as I walked I prayed for faith. Next day, by the second delivery, the postman brought me a letter from my brother, containing a Postal Order for half a crown, and the assurance I could rely on it weekly through the winter. It bought tea, sugar, margarine and six quarts of skim milk, which I eked out to last seven days.

Ane day a man came to the door and asked me to make him a cup of tea. He was nicely dressed in Norfolk suit and looked like a gentleman on a walking tour. Ready to earn sixpence, I said I would. He had a chair on the porch, asked for the tea in a bowl two slices of bread and butter and asked for more sugar; when finished he bowed politely and said, "Thank you," and departed, never offering to pay. I was so astonished I couldn't speak till he reached the garden gate, then I only said, "Oh, it's alright," but I felt done.

A few years after we came to New Brunswick and found renewed health and fortune and have always managed to have a cup of tea. Indeed, I have gotten into the habit of a cup between meals and when I had to go to town, a drive of sixteen miles, I missed it badly till I came to know some people who live half way. They took me to their hearts and have been as father and mother to me ever since and I never call in but there is a cup of tea, though they didn't know of the habit at first. I said one day I was ashamed of the cups of tea! The dear old man said I was welcome "As long as I have a spoonful of tea and a stick to boil the water, and you must never go by!"

About two years ago a woman and her son, a boy of about sixteen, were tramping up the railroad track, and came to my house and asked for a cup of tea. I was out, but my daughter lit the fire and made her one. When she handed it to the tramp she flew into a rage, saying, "I can't drink that, it's too weak." So you see there are cups of tea and cups of tea.—Joanna M. Hudson.

NOT SOMETHING NEW — BUT SOMETHING GOOD

FOR almost fifty years Beaver Flour has been demonstrating to Canadian women that it is unrivalled as the best flour for general baking purposes.

The chief reason for this is that "Beaver" is a blended flour,—containing all the richness and goodness of the world-famed Ontario Winter Wheat combined with enough Western Hard Wheat to give it strength.

BEAVER FLOUR

enables any cook to produce bakings that are real food treats.

Bread made with Beaver Flour has that delicious, nut-like, homemade flavor so much sought after by all who appreciate good things to eat; while pies, cake and pastries are noted for their lightness, crisp flakiness and even texture.

Beaver Flour has earned its enviable reputation for superiority. If you are not using it now—try it! Sold by your grocer.

THE T. H. TAYLOR CO. LIMITED
Chatham, Ontario

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PILES Do not suffer another day with Itching, Bleeding, or Protruding Piles. No surgical operation required. Dr. Chase's Ointment will relieve you at once and as certainly cure you. 60c. a box; all dealers, or Edmanson Bates & Co., Limited, Toronto. Sample box free if you mention this paper and enclose 2c. stamp to pay postage.

ABOUT BLANKETS

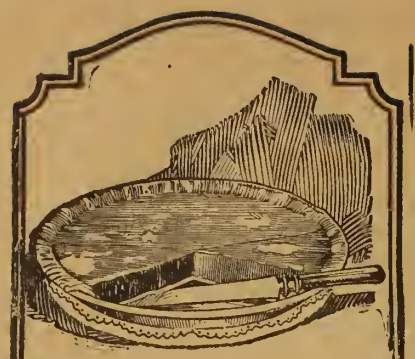
Wash woolen blankets in strong suds, not too hot, rubbing on as little soap as possible, rinse always in warm water, dry where they will not freeze, and they wil lnot shrink. Pull them into shape and fold neatly—do not iron.

Hang up woolen blankets lengthwise so that if the colors in the striped ends are inclined to run they will run down the stripe and not discolor the rest of the blanket.

Spanking Doesn't Cure!

Don't think children can be cured of bed-wetting by spanking them. The trouble is constitutional, the child cannot help it. I will send FREE to any mother my successful home treatment, with full instructions. If your children trouble you in this way, send no money, but write me to-day. My treatment is highly recommended to adults troubled with urine difficulties by day or night. Write for free trial treatment.

Mrs. M. Summers
BOX 309 WINDSOR, Ontario



COOKERY COLUMN

COCOA PIE

4 tablespoons Cowan Cocoa
3 tablespoons cornstarch or ⅓ cup flour
1½ cups hot milk
1 tablespoon butter
2 eggs
¼ teaspoon salt
1 teaspoon vanilla

1. Heat milk.
2. Mix cornstarch, sugar, salt and cocoa.
3. Add gradually to hot milk.
4. Cook over hot water 45 minutes.
5. Beat egg yolks slightly, add and cook a few minutes longer.
6. Fill baked crust cover with meringue made of beaten whites and two tablespoons icing sugar.
7. Brown in oven.

WINTER HOUSE PLANTS

To one who appreciates flowers, there is no work more pleasing or gatrifying than the raising of them, and with a little experience very satisfying results can be admitted. For the winter house plants, varieties easily grown should be selected, and special attention given to the kind of treatment necessary, the soil, the amount of sun and water, and the temperature for each particular plant.

Plants which have large, strong roots will do beter in a loam containing less sand, while those with thin, hairy roots must have a fine, light soil. To obtain good loam, the following should be used: Rich earth from the garden or leaf mould from the woods. It may be necessary to heat it in the oven kill all animal life. Mix this with sand until the earth is crumbly. Fill a small pot with the mixture and wet it thoroughly. If the water runs right through and leaves the soil mealy and wet, it is in the proper condition, but if muddy and smooth, it needs a greater amount of sand. Mix more than is needed and keep it in reserve for the time when the plants require shifting into larger pots.

Always select pots in proportion to the size of the plant, as it is as weakening to the plant to have too much earth as too little young plants can be started in pots three or four inches in diameter.

To examine the roots, place the first and second fingers on each side of the plant, turn the pot upside down, give it a quick rap, then lift off the pot. If the soil is covered with a fine network of roots, place in another perfectly clean pot one or two sizes larger. Do not disturb the root ball. Simply put fresh soil under and around it, shaking the new earth into place rather than pressing it down. Water it well and protect from the sun for a few days.

When potting plants, it is most important to provide drainage. The best material to use for drainage is an old pot or bricks broken into pieces the size of pebbles. Put about an inch of this into four or five-inch pots, a little more in larger pots, over this put a thin layer of sod, then the soil prepared from loam and sand.

When watering, pour on enough to thoroughly saturate all the earth in the pot, or until a little runs out into until the earth begins to look dry. unil the earth begins to look dry. Keep the earth at the top of the pot loose, so that air may circulate. This is especially important with ferns and other plants which do not have sunlight, as the roots sometimes sour. Wash the leaves frequently with a soft sponge, as these are the plant's lungs. Change the air of the room every day, taking care to open a window. When the atmosphere is dry, keep a pan of water on the stove near the flower stand. Spraying the plants with a regular florists' sprayer is also helpful. Moist air is not only beneficial to the plants, but will keep away various insects which will multiply in a dry atmosphere.

In arranging plants about the house, place them in rooms where they will have as even temperature as possible, in the kitchen, dining or living rooms.

In the bedroom, where the windows would be open at night, plants might be frosted. Next assort them according to the sun they require. Roses, geraniums, carnation and nearly all flowers with rich coloring thrive best with southern or western exposures.

Fuchsias, begonias, marguerites and lilies will do well in windows facing east. Ferns and palms require no sun at all, and add much to the attractive appearance of a room. Occasionally turn the plants around so that they will not grow one-sided. If they grow straggling and send up only one tall stalk, cut the stalk back or pinch off the bud until the plant has acquired the desired bushy shape.

MEAT THAT IS DIFFERENT

Liver Loaf.—Slice and scald a pound and a half of calf's liver; drain and put through the food chopper; mix with this, three-quarters of a pound of chopped suet; add a cup of fine bread crumbs, one-half tablespoonful of salt, one-half tablespoonful of black pepper, a dash of cayenne, a teaspoonful of onion juice or finely minced raw onion; pack in a deep bread pan greased with soft butter, stand in a pan of hot water, cover closely and steam in a moderate oven for three hours. Can be served hot with a brown sauce.

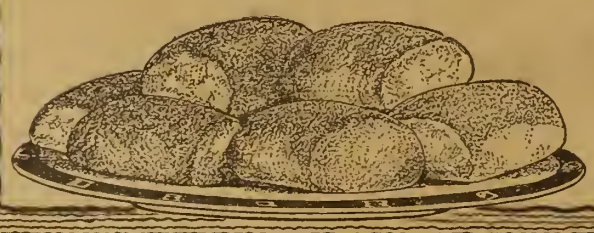
Spanish Mutton.—One pound of mutton, two small carrots, one turnip, three-quarters of a pint of split peas, one large Spanish onion, three potatoes. Soak the peas for 18 hours, then put them into a casserole with the meat, cut into fairly small pieces. Slice the vegetables and add them to the casserole; cover well with cold water, season to taste, and bake in a hot oven for two hours.

Beef Loaf.—Mix together 3 lbs. of chopped raw beef, ¼lb. of minced salt pork, one cup of cracker dust, one-half teaspoonful each of salt and pepper, and moisten all with beaten eggs, and a teaspoonful of onion juice. Work in two tablespoonfuls of melted butter, and pack in a greased mold. Cover; set in a roasting pan of boiling water and cook in a steady oven for two hours. Let the loaf get cold in the mold before turning out.

Beef Hash, Russian Style.—Chop fine 2 lbs. of round steak, two small slices of onion and a sprig or two of parsley. Add half a cup of fine bread crumbs, half a cup of broth or beaten egg (both may be used), a teaspoonful and a half of salt and a dash of pepper. Mix thoroughly and shape in a loaf. Turn into an agate pan on which a slice of salt pork has been laid. Sprinkle the top with fine crumbs and bake about 40 minutes, basting four or five times with fat taken from the top of the soup kettle. Remove to a serving dish, put hot mashed potato well seasoned and beaten very light through pastry tube as a border for the meat. Brown the edges of the potato with beaten egg. Set the dish in oven over a dish of hot water and brown.

Braised Fish Tongue.—Boil tongue for an hour and leave it in the water for 15 minutes after taking it from the fire. Trim off the rough bits and fasten the root and tip of the tongue firmly together with a skewer. Put it into a covered roaster, placing it upon a bed of vegetables cut into dice of uniform size. The vegetables should consist of two carrots, two stalks of celery, one large tomato, a sliced onion and some minced parsley. Cover the tongue with diced vegetables, pour into the pan a cupful of the water in which it was boiled, cover the roaster and cook slowly for two hours. Lay the tongue on a heated dish and keep hot while you rub the pan gravy through a colander into a saucepan, adding the vegetables. Boil up at once, thicken slightly with

MAGIC BAKING POWDER
Contains no alum
We unhesitatingly recommend Magic Baking Powder as being the best and purest baking powder possible to produce. It possesses elements of food that have to do the building up of brain and nerve matter and is absolutely free from alum or other injurious substitutes.

Cream of the West Flour
the hard wheat flour that is guaranteed for bread

Homey, hot breakfast rolls
—Crisp, inviting, delicious!
Maple Leaf Milling Co., Limited,
Toronto, Canada.

11

The Bogey of many a game

TORN clothes are inevitable, yet they remain the bogey of many a childish summer game. Fear of the scolding that may follow the discovery of a ripped blouse, or skirt or trousers, helps turn many a youngster into a prim little old man or a finnicky little old woman.

OF course the good mother has plenty to do without the mending of unnecessary holes and the head of the family has sufficient demands on his income without having to buy unnecessary suits of play clothes.

BUT an excellent compromise may be made in this way: Ask at the Cottons counter for "PRUE COTTONS." For example, one of the *Prue* Cottons is *"Steel Clad Galatea"*—and it *is* steel-clad. On the other hand PRUE Cotton prints offer a great variety of light, clean, cheery long-wearing and washable materials at prices so low as to make a rip or two seem unimportant. If these are not what you wish there is a wide range of ducks or heavy plain cottons, all with the PRUE Cotton mark to guarantee their superiority.

"PRUE" stands for PRUDENCE

It is the seal of the prudent housewife's approval that has established Dominion Textile Cottons—*"Prue"* Cottons—as the best entering the Canadian household

DOMINION TEXTILE COMPANY LIMITED

MONTREAL TORONTO WINNIPEG

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ittle browned flour, then season
ı a few drops of lemon juice, salt
pepper, as required.
leat Roll.—Two pints of ground
f, two pints of bread crumbs,
stened with one pint of milk, and
:e eggs, beaten together, one rounding teaspoonful of salt, one saltspoonful of pepper, two teaspoonfuls of butter, one tablespoonful of fine sage. The butter need not be used if there is sufficient fat in the meat. To make this meat roll nice the beef must be run through the grinder twice, removing the strings and bits of gristle carefully each time. Mix the meat then lightly with softened bread, and with a fork run the mass through to catch any possible remaining strings. Mold in two loaves in a pan and put in a hot oven 10 minutes to form a crust, then pour a little hot water in the pan. Bake one hour. Serve with white gravy. In this meat roll very cheap cuts of beef may be used, as the careful grinding makes it as good as choice meat.

MILBURN'S LAXA-LIVER PILLS

Keep the Bowels Regular and Prevent Constipation.

When the bowels cease to work properly all the organs of the body become deranged, therefore a free motion of the bowels every day should be the rule of every one who aspires to perfect health.

Keep the bowels regular and you will have no constipation, no bilious or sick headaches, no painful internal, bleeding or protruding piles, etc.

Milburn's Laxa-Liver Pills will regulate the bowels so that you will have a free and easy motion every day.

They do not gripe, weaken, or sicken, nor do they leave any bad after-effects.

Mrs. I. F. Boutilier, North West Cove, N.S., writes:—"I suffered with sick headache and constipation for over a year. I used Milburn's Laxa-Liver Pills and am completely cured now. I will recommend your medicine to all sufferers."

Milburn's Laxa-Liver Pills are 25c. a vial at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

MINARD'S "KING OF PAIN" LINIMENT

The old reliable remedy for rheumatism, neuralgia, sore throat and sprains.

Best Liniment Made

MR. A. E. LAUNDRY, EDMONTON, writes:—"I fell from a building and received what the doctor called a very bad sprained ankle, and told me I must not walk on it for three weeks. I got MINARD'S LINIMENT and in six days I was out to work again. I think it the best Liniment made."

Minard's Liniment always gives satisfaction. For any ache or pain. It gives instant relief.

Minard's Liniment
Co., Limited
Yarmouth, - - N.S.

Mr. W. T. Charlton of Waterville, P. Q. restored his frozen feet to health after doctors had advised him to have them amputated because mortification had set in. Use Egyptian Liniment also for Cuts, Burns, Scalds, Bruises, Chilblains, Sore Throat and Chest, Neuralgia, etc.

DOUGLAS' EGYPTIAN LINIMENT
AT ALL DEALERS 35¢ BOTTLE
DOUGLAS & CO MANUFACTURERS, NAPANEE, ONT

Advertise in the Farmer.

WASTE IN THE KITCHEN

The influence of food upon the welfare of the household must be considered. A persons shelter may be poor, his clothing inadequate for his needs, but food he must have and upon proper food depends his capacity for doing work and doing it well.

The child must be properly nourished that it may be a strong little animal growing into healthy, happy youth. The adult must be well nourished to be an efficient member of the community. The food supply must be right, for errors and wrong doings here show their effects in a weakened power to perform work or ressist disease. In this lies the justification of the poor man who possibly spends two thirds of his income on food. Over nutrition is often as dangerous as under nutrition and the cost of food does not determine its nutritive value. It by no means follows that because a family has large butcher and grocer's bills it is therefore better nourished. The same causes affect the cost of foods as influence the price of other commodities. The demand for and the scarcity of any article; being in or out of season; cost of transportation; fancy price asked for certain rare flavors; all these determine prices outside of any consideration of nutritive value.

Bullock gives five ways in which he estimates that one-fifth of the money expended for food is actually

1.—Needlessly expensive material, providing little nutrition.

2.—A great deal thrown away.

3.—Bad preparation.

4.—Failure to select rightly, according to season.

5.—Badly constructed ovens.

In Mrs. Richards' book on the cost of living it is claimed that twenty-five or thirty cents per person a day is ample to supply all the physical needs of one whose tastes have not been perverted by wrong habits of eating. Good substantial living, meeting all the needs of people of simple habits, con be secured at less than that. When the expense exceeds that sum it is due to one or more of the following reasons:

1.—Waste.

2.—Buying out of season.

3.—Choice of food of which there is a limited supply therefore is high.

4.—Perishable food stuffs.

5.—Fads or fashions in dishes.

6.—High priced products because of choice flavors as "Gilt Edged Butter" or food which is "in season" but a short time as venison.

The housewife should carefully consider these estimates and the causes most fruitful of waste in the household. Far too lavish provision is often made in ordering. Study and observation must be given to the necessary quantity of meat, vegetables, etc., to be provided and served. Large portions are left to be improperly warmed over, wasted in the kitchen, or thrown away altogether. Waste in the household arises mainly from lack of thought, planning, or carefulness in detail, just as in any other business. A study of food and food value is necessary in order to know what less expensive material may be provided to supply the same need, but above all else must the housewife who desires to make a study of these things and reduce the waste in the household, realize that no waste is greater than poor material illy prepared. The more knowledge, the more science used in the selection and preparation of food for the table should mean more not less appetizing results.

Of course the price paid for food cannot be regulated entirely by a consideration of nutriment alone. It must satisfy aesthetic demands as well. Food must be enjoyed in order to be thoroughly well digested. This is a strong argument in favor of moderate use of animal foods. Although vastly more expensive then vegetable foods, they do not gratify the palate of most people in ways which vegetable foods do not. This fact together with their superiority in being more easily and completely digested are valid reasons for paying somewhat more for the sake of securing them.

Dry Groceries

There is a class in buying which much time and thought may be saved by supplying enough for a month at least in advance. This is dry groceries such as sugar, flour, cereals, flavorings, coffee (unroasted) tea, chocolate, spices, soap, starch and all like necessities.

A store closet large enough to allow the purchase of these things at a wholesale store, and so arranged as to temperature, dryness, light and ventilation as to keep them in perfect condition is a saving so great as to astonish one who tries the method for the first time. Often the difference amounts to twenty per cent.

Sugar should be bought by the hundred weight at least, flour by the barrel, caned goods by the dozen or better still by the case, cereals by the dozen packages after the fall supply is in, vanilla by the quart (at the drug store to secure better quality) baking powder by the five pound box from which smaller quantities are transferred as needed to the box in use, soap by the box so that it may have a chance to dry out thoroughly and so waste less readily, and son on through a long list. Anything that does not deterioate in storage can be bought to much greater advantage in quantity. In groceries it is better not to buy an inferior grade. Here the best is the cheapest and wisest, especially in these days of competition and fraud. It is well to know a good brand and insist on having it. It should be remembered that the customer who knows and is particular receives the best of goods and services.

The expert business man is an expert in judging the materials in which he deals; he is perfectly familiar with the range of prices and quick to take advantage of all favorable conditions. The household manager needs to be just as familiar with all the goods that relates to the home and their prices. One cent less on a ten cent article seems a trivial saving, yet it is ten per cent.—ten dollars in every hundred. It is fair to state that there will be a difference in money paid of from ten to twenty

The Best Washer You Ever Met!
Never gets tired or cross! Never "skimps." Handles light or heavy goods—blankets table cloths, or handkerchiefs—a full tub or a few articles equally well. Doesn't wear or tear the most delicate fabrics, and only takes half the time! Isn't that the kind of a washer to have in your home? Then go to your dealer's to-day and meet the—
Maxwell
"Home" Washer
—a ball-bearing washer—light, noiseless, easy-running—of handsomely-finished cypress. Specially-designed dasher makes it best for washing everything. Enclosed gears mean safety. Write us for booklet—FREE.
MAXWELLS LIMITED, Dept. X St. Marys, Ont. 36

End Your Suffering!

Each year thousands of people throughout Canada put an end to their sufferings by the prompt use of Gin Pills. It is estimated that in the Dominion alone one out of every fifteen people annually use and derive the greatest benefit from these wonderful pills.

Prepared with the greatest care and thought from a formula that was only achieved after profound study and patient experimenting.

Gin Pills FOR THE KIDNEYS

have done more to relieve pain and prevent serious Kidney and Bladder Troubles than perhaps any other preparation that can be obtained.

Mr. Frank Ide, a pullman conductor, suffered intensely from pains in the groins, sore back and very severely from gravel and sediment. After taking Gin Pills Mr. Ide wrote us. "The pain left me entirely. I have no trouble whatever in urinating and I feel as well as I ever did in my life. I recommend Gin Pills to everybody in any way troubled with kidneys or bladder."

Mrs. Percy, Halifax, N.S., after trying a sample sent for six boxes. She wrote—"Before I finished the third box I found myself for the first time in years free from pain—the pains did not return. I wish everyone who suffers from backache and kidney trouble would use Gin Pills. They are great,"

If you suffer with pains in the groins or back, Rheumatism, swollen ankles, stiff joints, gravel, constant headache and lassitude constipation and dizziness, take Gin Pills and nip the trouble in the bud.

Send for free sample or get a box from your druggist or dealer, 50c with money-back guarantee.

THE NATIONAL DRUG AND CHEMICAL CO. OF CANADA, LIMITED, TORONTO

U.S. Address: Na-Dru-Co., Inc., 202 Main Street, Buffalo, N.Y.

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per cent. between careless and careful purchases.

One becomes an expert only through experience, but experience is not gained simply by ordering goods, appearance must be noted carefully and results compared intelligently to acquire the trained eye and the trained judgment necessary to the successful household manager.

SOME LITTLE WAYS OF SAVING FUEL

Here are some studied out ways of preparing foons before consigning them to the stove that will aid materially in saving fuel. Take potatoes for instance. They will bake better and more quickly if a thin slice is cut off each end and the potato laid on a rack with a pan of water beneath. Large potatoes may be cut in half to bake. Again, if they are boiled a few minutes before putting them in the oven, that, too, will hasten the baking process. Vegetables to be fried or scalloped should be diced—it cuts the time of cooking down about half. So should apples for pies. Thin slices take longer to cook because they pack and leave little ais space. Cut potatoes that are to be mashed into three or four pieces, and do not use more water than is necessary in cooking anything, for it only takes that much longer to heat. If you render your own lard or suet, it will melt faster if it is first run through the food chopper. Cut biscuits quite thin and your soup meat in small pieces.

Use close fitting covers for utensils, and after boiling has once started lower, the blaze, if you are using a coal oil stove, but see that the lid is not lifted every little while for steam to escape. After a certain temperature has been reached it does not require much heat to retain it. And use the heat of th tea kettle to reheat foods or to keep them warm, and save lighting the oven for that purpose. Rolls, bread or cake may be warmed by placing them in a paper sack over the simmering tea kettle. Set the dish of food to be kept warm in a colander and place over the kettle or over another pan of hot, or imitate the thrifty cook and set all such foods in a large pan of hot water set back on the stove. The double boiler, also, will come in handy in this connection. Salt causes the temperature to rise quickly, so a spoonful or two in the outer vessel of the double boiler is another help. When foods are to be cooked in boiling salted water, put the salt in the water first and it will heat faster. A large thermos bottle will save much reheating of liquids that are to be used in the same day. Leftover soup from luncheon may be thus kept hot for dinner, and sufficient coffee, tea or cocoa may be made for two meals, the surplus being kept in the bottle.

MENDING RENTS IN DIFFERENT GARMENTS

A garment properly repaired is not to be slighted. The patch may be made as perfect almost, as artistic embroidery. Each article and material, however, demands its own special treatment. For instance: Fine hose or woven garments should be mended before the threads break. That is they should be "run," using fine silk, wool or cotton, as the case may be, taking each stitch with your needle through the woven stitch and going a little beyond the thin places. Darn these on the wrong side. The thread for mending should be about the same texture as the material, never coarser. Thread finer than the material is preferred.

A pulled rent is about the most difficult of all garment tears. If possible, place a piece of material with threads running the same way under it and baste it in place. Then darn it down neatly and flat with ravelings. The "three-cornered" tear also requires patience. These two kinds of injjuries should be attended to as soon as possible to avoid stretching. Do the work on the right side and, it might be well to add, do not trim the rough edges of the tear, but baste, then sew the deges down, working exactly with the weave of the goods.

When it becomes necessary to patch a garment, as is often the case with children's clothing, place the patch under the material as described; baste it on evenly, cut the edges of the garment and patch, turn them under and make a tiny "snip" at the corners; see that the pattern of the material matches, plaid for plaid, stripe for stripe or thread for thread in plain goods; hem it on the right side nand then on the wrong; make little stitches with fine cotton, remove the bastings carefully, cutting in small pieces, not just pulling them out hurriedly.

To mend fine embroidery, first reinforce it with sheer lawn, then work over it either buttonhole or plain stitch, as the case may be. For lace, an underlay of net, fine or coarse, according to the texture of the fabric to be mended, is best and most durable. It will be less in evidence when the work is done.

What Does Health Mean to You?

HAVE you ever waited to think out the answer to that question?

Or are you like the great majority, who only appreciate good health after it is lost?

Slowly, but certainly, we are getting round to the idea of preserving health so as to avoid serious disease.

The old way of waiting until you are seriously ill before sending for the doctor is all wrong.

We all know the old saying, "an ounce of prevention is worth a pound of cure," but we neglect to carry it out in actual practice.

If you are familiar with Dr. Chase's Receipt Book you know that "Dr. Chase's Plan of Health" is built up on this idea of preventing disease, and the same applies to his well-known medicines.

Take Dr. Chase's Nerve Food for example. This food cure has established a wonderful record as a cure for nervous prostration, nervous exhaustion, nervous headaches and indigestion, and all forms of nervous disorders. And yet above all it is recommended as a means of keeping the blood rich, the nervous system in good condition and thereby preventing serious nervous disorders.

To most of us our health is our working capital.

We cannot afford time or money for rest cure in a sanitarium or expensive trips down South. For this reason we must seek other means of keeping the health up to high water mark.

So long as the blood is kept rich and pure the nervous system is well nourished, and it is by this means that Dr. Chase's Nerve Food effects such splendid results in the building up of the system when there are signs of exhaustion.

When you cannot sleep and begin to feel tired and irritable it is time to call in the aid of Dr. Chase's Nerve Food. You may also find your appetite failing and your digestion slow, for as the nerves become exhausted every organ of the human body is bound to lag in its work.

Dr. Chase's Nerve Food, 50 cents a box, 6 for $2.75, all dealers, or Edmanson, Bates & Co., Limited, Toronto. Every box of the genuine bears the portrait and signature of A. W. Chase, M.D., the famous Receipt Book author.

Ginger Drops

They may be made as follows: One cupful of molasses, half a cupful of sugar, butter and cold water, each, two teaspoonfuls of soda, one of ginger and enough flour to make a stiff batter. Mix and drop on buttered tins, place a blanched almond in the center of each cake.

LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

A MESSAGE TO WOMEN!!

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.

Mrs. M. Summers, Box 309 Windsor, Ont.

HOUSEHOLD SCIENCE COURSE

A Short Course in Household Science will be held in the Agricultural School, Sussex, March 2-12, 1920. Classes in Cookery, Milinery and Nursing will be conducted each day by efficient instructors.

Prizes will be awarded in each class for the highest total of credit marks in practise and written tests. Further information re these prizes will be given at the Short Courses.

Applications may be made for all classes, but students are at liberty to make a choice of classe, specifying such choice in their application.

Do not lose this opportunity. **Apply at once** to the Supervisor of Women's Institutes, Fredericton, N. B. Applications will be accepted in the order received.

How to make a soup without meat stock is sometimes a problem. The pot of meat stock has been a familiar object on the pantryy shelf so long that it has become synonomous with soup, but there are many other ways of making soup.

Cream is a good basis for soups, also bran and bean broth. Bran broth is made with one pint wheat bran, to which add one pint boiling water. Let it stand on the back of the stove for an hour and simmer, but not boil; strain and use a generous amount of butter to give it richness. eBan stock is made by soaking white beans over night and boiling until done, mash and strain through a collander. Water in which vegetables are boiled may be used as soup stock. In white soups always use white pepper.

Still Doing Great Work For Women

WHAT MISS SIMPSON SAYS OF DODD'S KIDNEY PILLS

Before Taking Them She Could Not Walk—Now She Can Walk and Work, and She Gives All the Credit to Dodd's Kidney Pills.

Ville Marie, Que. Feby. 13th. (Special)—One more tribute to the great work Dodd's Kidney Pills are doing for the women of Canada comes from Miss Angele Simpson, well known and highly respected here.

"When I commenced to take Dodd's Kidney Pills," Miss Simpson states, "My heart bothered me so I could not walk.

"Now I can walk and work."

Miss Simpson is not entirely cured yet but so great are the benefits she has received from Dodd's Kidney Pills that she is firmly convinced they will effect a complete cure. She has been a sufferer for eighteen years and underwent four months' treatment in a hospital before trying Dodd's Kidney Pills.

Dodd's Kidney Pills are a Kidney remedy. They relieve the work of the heart by putting the kidneys in shape to strain all the impurities out of the blood. Pure blood carried to all parts of the body means new health all over the body.

NEW BRUNSWICK'S RECORD IN THE EGG-LAYING CONTEST

PLACE — Dominion Experimental Farm, Charlottetown, P. E. I.

DATE—November 1st, 1918, to September 30th, 1919, (11 months.)

PENS COMPETING—Twenty.

VARIETIES REPRESENTED—Barred Plymouth Rocks 5 pens, White Wyandottes 3 pens, Rhode Island Reds 3 pens, White Leghorns 8 pens, Anconas 1 pen.

This is perhaps the first time a poultry raiser or breeder in New Brunswick has participated in an annual Egg Laying Contest of one year or eleven months' duration, under government supervision and her pens made a most creditable record.

The following is the record of the different varieties in egg production:

Barred Rocks—Pens, 5; total eggs, 5866; average per bird, 146.6.

White Wyandottes—Pens, 3; total eggs, 3084; average per bird, 128.5.

Rhode Island Reds—Pens, 3; total eggs, 2544; average per bird, 106.0.

White Leghorns and Anconas—Pens, 9; total eggs, 9211; average per bird, 127.9.

Egg Production of Pens from each Province

New Brunswick—Pens, 3; total eggs, 3702; average per bird 154.2.

Ontario—Pens, 1; total eggs 1174; average per bird 146.7.

Quebec—Pens, 4; total eggs 4588; average per bird 143.3.

P. E. Island—Pens, 7; total eggs, 6871; average per bird, 122.7.

Nova Scotia—Pens, 5; total eggs, 4370; average per bird, 109.2.

The three New Brunswick pens finished the contest FIRST, THIRD and SIXTH places in point of number of eggs laid.

Owner of Pen—W. E. B. Tait, Dorchester, N. B.—Total eggs, 1347; profit over feed cost, $20.35.

Owner of Pen—A. T. Reed, Rollingdam Sta., N. B.—Total eggs 1238; profit over feed cost, $19.85.

Owner of Pen—Molly Neales, Hartland, N. B.—Total eggs, 1117; profit over feed cost. $16.47.

Average profit per bird over feed cost, $2.36.

The N ewBrunswick pens were all of the Barred Plymouth Rock variety. They were bred-to-lay stock, hatched from eggs imported by the Poultry Division, Department of Agriculture, Fredericton, for distribution to Boys' and Girls' Poultry Clubs, and for sale at cost price to poultry raisers generally. During the last two seasons approximately 50,000 eggs have been thus distributed.

The hen that lays is the hen that pays.

The creditable record in egg production made by New Brunswick in the Prince Edward egg laying contest last year is being repeated at the present contest in progress at the Dominion Experimental Farm, Nappan, N. S. The Island contest was composed of 20 pens of 8 birds each representing the five Eastern Provinces and continuing for 11 months from Nov. 1st, 1918 to Sept. 30th, 1919. The three New Brunswick pens, which were Barred Plymouth Rocks, had an average production of 154.2 eggs per ird. Ontario was the closest competitor with an average production of 146.7 eggs per bird, but Ontario had only one pen in competition. New Brunswick had a yield of 29.2 eggs per bird over the average of the other provinces. The three New Brunswick pens were composed entirely of birds hatched from eggs imported by the Poultry Division of the Department of Agriculture in the spring of 1918. The New Brunswick pens at the close of the contest were in first, third and sixth places.

Careful feed records showed each bird of the New Brunswick pens to consume $2.96 worth of feed in 11 months, lay a gross value in eggs of $5.32 yielding a net profit of $2.36 per bird over food cost.

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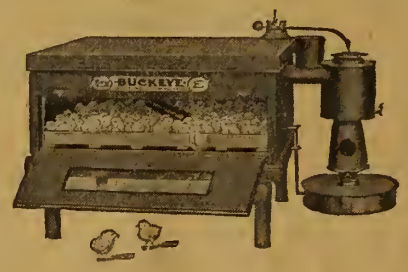

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By Charles J. Korinek, V. S.
A work on the afflictions of Horses, Cattle, Sheep, Swine, Poultry, etc.
75c from the Maritime Farmer, Sussex

The Nova Scotia Contest

The present contest in Nova Scotia is composed of 20 pens of 10 birds each and the same provinces, except Prince Edward Island, are represented. New Brunswick's quota is 8 pens all Barred Plymouth Rocks except a pen of White Leghorns owned by R. A. Snowball, Chatham, N. B. The contest began Nov. 1st, 1919 and the reports for the eleventh week which ended Friday, Jan. 16th, shows New Brunswick's pens occupying the first four places as well as the seventh, eighth, tenth and fourteenth. The pen in fourteenth place gained four places in the last week. At present the average number of eggs per pen for the New Brunswick entries is 145.2 and for the other pens 62.8 or less than one-half as many.

The following shows the egg production per pen for each week, the New Brunswick pens and the others being represented in separate columns:

Nov. 7, '19....	1.8 eggs	.0 eggs
Nov. 14, '19....	4.2 eggs	.5 eggs
Nov. 21, '19....	5.8 eggs	1.3 eggs
Nov. 28, '19....	9.2 eggs	3.4 eggs
Dec. 5, '19....	13.1 eggs	4.9 eggs
Dec. 12, '19....	18.1 eggs	8.2 eggs
Dec. 19,' 19....	21.5 eggs	10.0 eggs
Dec. 26, '19....	16.3 eggs	11.3 eggs
Jan. 2, '20....	18.0 eggs	8.5 eggs
Jan. 9, '20....	17,2 eggs	5.5 eggs
Jan. 16, '20....	19.6 eggs	9.0 eggs

Immaturity of the birds accounts for the rather low production in the early weeks. It is evident that the New Brunswick pens are continually increasing their lead over the other pens.

The report for the last week shows seven of the New Brunswick pens in the first eight places as regards production for that week only. Fourth pen in the weeks production went to a Nova Scotia pen.

The leading individual bird is in the leading pen. These are owned by A. T. Reed, Rollingdam, Charlotte Co., N. B. This bird commenced laying the first day of the contest, has laid 60 eggs to Jan. 16th and in no week has laid less than 5 eggs. This pen has averaged over 25 eggs per bird to date. The same breeder won third place in the Prince Edward Island contest last year.

Six of the eight New Brunswick entries are of the stock imported by the Poultry Division of the Department of Agriculture in its program for the improvement of the poultry stock of the province. Between 20,000 and 25,000 eggs per year have been imported during the past two seasons. Though the production in the contest pens is not high the results are at least comparative. Several pens of the same stock in the province are giving much higher production.

New Brunswick's record in the two contests has won for her, assurance from the Experimental Farms Branch of the Dominion Department of Agriculture that a similar contest will be held in New Brunswick commencing Nov. 1st, of this year. Poultrymen interested in heavy laying stock should begin now to prepare for it.

High egg production is an inherited character. Seldom will a strain or flock produce heavily unless the art of breeding for high production is applied. Not all birds in a bred-to-lay strain will lay heavily but other things being equal, the average should be considerably higher than from those not so bred. High egg production and the standardization of our stocks are the two factors which will contribute most to the promotion of our poultry industry.

A POULTRY SELLING FAIR

Among the many live wires on the staff of the various departments of agriculture, local and federal, in Canada, one may justly mention the name of Mr. G. R. Wilson, Dominion Poultry Representative for New Brunswick.

Mr. Wilson has been in the Maritime Provinces for only a comparatively short time, yet his pleasing personality and strict attention to business has won for him the admiration of his associates and the good people of the North Shore who know his finer parts.

One of the most important functions staged recently by Mr. Wilson was the Port Elgin Poultry Selling Fair in the County of Westmorland. The object was not so much the matter of price to the farmers, although from their point of view that was rather acceptable, as to improve the conditions in which poultry is being put on the market. These poultry selling fairs have been carried on in Ontario for some time past, but it was a new departure in New Brunswick, where in many parts the custom has been to kill the fowl by cutting off the head, scald and draw the birds.

Previous to holding the fair, assisted by the Agricultural Representative for the county, Mr. J. H. King, another live wire, eight meetings and seven killing and dressing demonstrations were held to acquaint the people of the Port Elgin District with the proposition of a selling fair and showing how to bleed the fowl through the roof of the mouth, and the manner in which birds should be dressed for market.

The Agricultural Hall was secured, where there was ample table space to display lots of well-finished and well dressed birds, along side of poorly finished and poorly dressed birds. Everybody present had a chance to see the value of dressing and finishing. Prices automatically did the grading, the better lots ranging three or four cents a pound higher than inferior lots.

The manner in which the progressive farmers of the Parish of Botsford responded will be seen when we say that about 7500 pounds of turkeys, 4,000 pounds geese, 3600 pounds chicken, 800 pounds fowl and 500 pounds ducks, an aggregation of 16,400 pounds was disposed of at a value to the growers of approximately $7000.00.

It is interesting to note that the prevailing price per pound was 50 cents for turkeys, 40 cents for geese, 35 cents for chickens and 38 cents for ducks. Previous to the Fair, the best price offered for turkeys was 55 cents, drawn, head and feet ermoved, which is equivalent to about 45 cents undrawn and heads and feet on.

We trust that other sections of the Province, after seeing the success of the venture at Port Elgin, will get in touch with Mr. Wilson and organize to dispose of their surplus poultry next fall in a manner that will be a credit to the province.

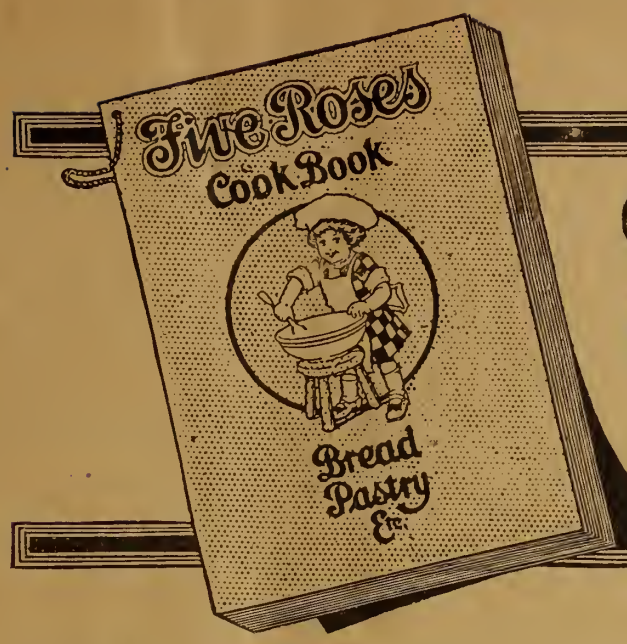
TOO MANY ROOSTERS

No more cocks should be retained than absolutely necessary for the spring matings. To have extra cocks running around the farm is as practical as having two or three extra bulls in the dairy herd. Keep as many as necessary and no more.

For Leghorns, one cock for every fifteen hens or pullets will be ample; for larger breeds, one to every ten hens or pullets. Oftentimes one to every twenty hens will be sufficient where you have a particularly vigorous male line.

Cock birds should be retained for mating with the pullets and cockerels for the yearling hens. Only those cocks which have proved themselves good breeders the previous season should be kept. Then gather up all the others and send them off to market.

The cocks had best not be permitted to run with the hens except during the breeding season. You can keep them without trouble if you will put the cockerels in a small pen with one old cock bird. The old fellow will keep order and they will get along nicely together. C. S.



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THIS book is a source of baking-inspiration to over 300,000 ambitious housewives, and helps them to prepare delightful things for their 1,500,000 family folks.

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¶ We obtained the favourite recipes of more than 2,000 successful Canadian home bakers, added to them the best suggestions we could find in our vast experience and turned them over to critical examination and actual test.

¶ Our cooking experts studied them. For months they baked, boiled, stewed and fried breads, cakes, puddings, pies, doughnuts, pancakes, muffins, biscuits, etc., and they approved only the very best recipes out of the thousands submitted.

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Thousands of grove owners do not work their groves for very little reason. Lots of them just can't make up their minds. Yet if we were to put a proper outfit in their grove and they saw it work so easily and the money there was in it—for one season—they would fight to prevent us taking the outfit away again, even if the cost were a good deal more. An unworked grove these days is like an untapped reservoir with thirsty people around. A big demand and no supply. Why not put a

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in your grove. One of a right size to work your bush to full capacity. Then there will be no waste and every dollar extra means more production. We can fit out any grove from sap spout to Champion Evaporator. Get in touch with us right away.

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60 Wellington Street, : Montreal

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We Manufacture Strawberry Boxes and Crates for same, 6 qt. Baskets, Apple Boxes, Box Shooks, Apple Graders, Wheelbarrows. Now is the time to lay in a supply of Fruit Packages for the coming season. We have a good stock on hand, order early and ensure prompt shipment. Price on application to

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To act also as Secretary-Treasurer, and carry on the Association's general work, under the direction of the President and the Board of Directors, study the interests of the various classes of publications in the Association, and plan and carry on promotion work in their interests. Applicants should understand advertising and merchandising.

Apply in writing only, stating age, full details of experience, and salary expected. Applications will be treated as confidential.

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ANNUAL MEETING OF THE NOVA SCOTIA POULTRY ASSOCIATION

(Continued from page 346)

venture could be made it was felt that the fancy and industry could be much better served than by holding an exhibition open to the county only. Only by energy and hard work, however, could we hope to carry such a prospect successfully through, particularly when it will be remembered that a few months before the Association had only come into being, that most of the members were altogether inexperienced in show matters, and that the treasury held but some twenty odd dollars. However, these conditions did not deter the Committee that was appointed to carry the prospect through. Each member threw his heart and soul into the work. The support of the public was solicited and it responded royally. No less than 56 cups were donated and some 50 other specials. The support of the breeders was not belied and some 1205 entries were received. Nothing more was lacking but the patronage of the public, when the show came off, and blessed with good weather, this was given in fullest measure. The whole venture became an unqualified success. The work of the committee, which had labored harmoniously and well, bore fruit almost beyond expectation. The public was given the greatest poultry exhibition ever staged in Pictou County and one of the best ever pulled off in Eastern Canada. Everything was run on the cleanest possible lines, and the exhibitors showed their appreciation in the many letters and eulogies received by the executive.

But we must not rest upon our oars. The success of 1919 is but an earnest of what that of 1920 can be. Gentlemen, this Association has a great future ahead of it. The splendid body of men who go to make up its membership, the central location of its operations, the splendid impression made on the breeders throughout the Provinces and the handling of our last show, the enthusiasm and keenness of the officers who are carrying on its work all contribute as factors to make for unbounded success. We have great things ahead of us. Let me make a strong plea for that unity, harmony and good-fellowship in succeeding years that we have had in 1919. It is only by these qualities that we can hope to succeed. Our meetings have never yet been marred by the voice of dissention or of petulence. Get together, keep together, work together, let us forget all our petty grievances and have but one aim—the working for the comon good of the Association, with an earnest and keen desire to make it second to none in Eastern Canada.

PERCY GORDON, Pres.
3rd January, 1920.

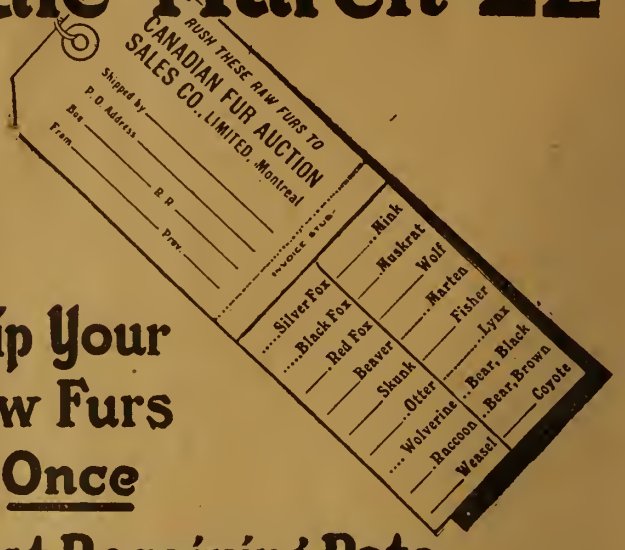
Guysboro County Poultry Club

The Chedabucto Poultry Club begs to report that fair progress has been made and that its membership is still increasing, but the President and directors would like to see a greater interest manifested in it by the farming community of the County, as we feel its benefits are not confined to the few who at present are members, but to the whole Community. We are pleased to report that Special Prizes have this year been offered and hope that a much deeper interest will be taken in the Club in the futurefi

The Egg Laying Contest now going on at Truro should open the eyes of the farmers to consider if 10, 20 or 30 per cent bore eggs can be produced by using trap nests and thus weeding out the poor layers. It would be to their interest to use them, thus enabling them to get rid of those which must be classed as poor egg producers and the Chedabucto Poultry Club would recommend that the Blue Prints of the trap nests be more freely distributed amongst the farmers or better if the Experimental Farm could get some firm to manufacture the parts ready to be put together at a reasonable cost for shipment as other necessaries for poultry breeding are manufactured.

Again, we believe that farmers in leaving everything connected with poultry raising to their wives are not as thoughtful of the benefits to be derived from this source as they should be. It must be borne in mind that whilst the heavier breeds may not be as good layers, still a good laying strain of the heavy breed may be secured by the trap nests, and that circulars setting forth the plan of feeding and preparing the young chicks for market should be distributed more freely. One question arises in our minds. Is midwinter the best time

Sale March 22nd



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IS IT TAG DAY FOR YOU?

Attach one of these tags to your package, bale or bales—take to express or post office and it will be on its way to join thousands of others already in our warehouse, sorted, listed and put up in best possible shape, for the inspection and bids of hundreds of eager buyers.

You will get the opinions on your furs expressed in the satisfying form of RECORD PRICES by at least 300 buyers from the chief great distributing centers of the world.

The SMALL SHIPPER is welcome—we want to prove to all consignors, large or small, our certain ability to get them real results.

WE HAVE NOTHING to offer buyers at this sale but genuine average Canadian furs in ORIGINAL collections—that's all—just the best in the world! Immense quantities of every variety marked on this tag are on hand—yet we have not nearly enough—there are not enough anywhere to supply the universally keen demand existent.

March 1st is last receiving date; all shippers are cordially invited to attend the sale.

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for Poultry Shows? Some members of our Club would be ready to ship their stock to other shows but owing to winter transportation and inclemency of the weather they do not now care to take the risks, as they read from the papers of losses and delays both from Amherst and other points.

We have the honor to remain,
Yours respectively,
Sec'y Chedabucto Poultry Club.

Halifax Poultry Club

Mr. President and Gentlemen:

During the past year, 1919, the Halifax Poultry and Pet Stock Association held regular monthly meetings at which the members discussed many subjects in regard to Poultry, and also arranged for demonstration in different up-to-date subjects.

Amongst the most satisfactory and most interesting meeting held was one at which Prof. Landry gave a lecture and demonstration in the art of caponizing.

At this meeting several of our members not only saw the operation performed but actually caponized a few birds themselves. The birds on which we performed the operation made exeellent progress and in no case was there a failure. More of this work will be done this year and we consider that the poultrymen of Halifax are greatly benefited by the knowledge they gained at this lecture, and it is due to the lecturer who explained his subject to us in a most thorough style. It might be added here that on any occasion that we are having a demonstration which we knew would interest any person, whether he or she were members of our association or not, we took the trouble to see that the meeting was made known to them and the public at large, through the Halifax papers, and incidentally we have enlarged our membership considerably in this way.

Towards the latter part of the year, one of our members published a paper called the "Halifax Poultry and Pet Stock Bulletin." In this paper he published the doings of our association, also seasonable articles on poultry keeping with insets from the pamphlets of the Dominion Department of Agriculture, which gave cuts of such things as Trap Nests, Poultry Houses, Egg Candling appliances and many other useful articles which the most extreme novice would have no difficulty in understanding.

Other features of this little paper were reports of the Halifax and New Glasgow shows, also acounts of the two Government Exhibitions which were held at Musquodoboit and Shubenacadie. The reports of the 1st Nova Scotia Egg Laying Contest were also published. It should be noted that this paper was distributed FREE to all people whom we knew kept poultry, the advertising being the only means of financial return, and it must be said to the credit of the publisher, that on one occasion, he published the paper at a loss to himself, in order to keep up the good work.

Our object in telling you all about the Halifax Poultry Bulletin is, that we believe that many people received information through this paper that they could not get elsewhere and we feel that the Bulletin has done much towards getting new poultry breeders around Halifax. It might be added here that the Bulletin was made the official organ of the Halifax Association, through which we publish the notices of our meetings and any other news of interest, which show what we are doing to help poultry breeding in Nova Scotia.

The last point on which we wish to speak is the Halifax show, which we consider second to none in the Maritime Provinces. At our last show we had one thousand eight hundred and one entries, which we feel sure cannot be beaten down this part of the country. There were over fifty silver cups up for competition and in addition to these many special prizes which would be worth about $3,000.00 in cash. The weather during our show was very bad indeed, Halifax having one of the worst storms in its history, but in spite of this we came out with a good balance on the right side. A new departure was made this year, in that we had a class for novices, which will be an annual event with us. This class more than justified itself, there being more than seventy entries. We feel sure that this is the way to get more people interested in poultry and it can be plainly seen that it brought out many whom we probably would not have seen otherwise.

The judges for our 1919 show were Prof. Landry, Dr. C. Bowes and Mr. L. G. Jarvis, of Ontario, who gave absolute satisfaction and we take this opportunity of expressing our appreciation of their services.

In conclusion we beg to state that in our opinion, we have had a very successful poultry year and we hope to repeat this year, and get more people in with us at this most interesting work. Wishing all our sister associations, the Government Farms and College a most successful and prosperous poultry year for 1920.

Believe us, fraternally your,
Eugene L. Cote, Asst. Sec'y.
Wm. Coates, President.
Representatives, Halifax Poultry and Pet Stock Association.

Mr. A. A. G. Stronach reported for Antigonish and stated that the show in this county has not been a financial success. From a utility point of view the poultrymen have had much success and have made much imporvement in their work.

Mr. Frank E. Jackson reported for North Sydney Poultrymen and stated that they had a keen interest in everything pertaining to the poultry industry. He had secured feed and stock for their members, at greatly reduced rates that assisted the industry. He had been invited by the St. Johns Poultry Club of Newfoundland to attend their exhibition held there. He wanted the Nova Scotia Poultrymen to know that the breeders of poultry in Newfoundland had good poultry and were also very best of exhibitors and splendid men to meet.

Mr. Hull reported that the war had played havoc with the membership of the Glace Bay Association. Last spring school work had been done which helped to bring a great many of the younger generation as members into their association. Owing to the lack of accommodation, a building not being found large enough to hold the show, they had decided to forego this show until a suitable building would be available. The rink was undergoing extensive repairs and it was hoped would be available for the next show. A large membership was secured by having a collector call upon members to renew their membership in their association. The town and county councillors have contributed funds and the association proposes to organize branch clubs in this district.

The afternoon session of the Poultry Association opened at 2.30 at the College. Mr. Hull presided as chairman. Mr. Shaffner, of the Annapolis County Poultry Club, was called upon for his report of his society. Mr. Shaffner said he had no prepared report

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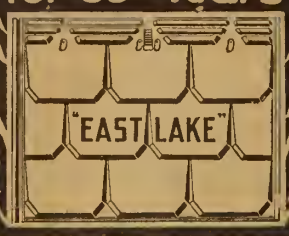

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but would tell of the progress of their club. Although they had not been able to hold a Poultry Show this year they were trying to promote the breeding of better live stock, their progress having gone more along the lines of utility birds. He spoke of their buildings for holding poultry shows and also of the room they held their meetings in which was very pleasant and spoke of many a pleasant evening spent there. He also spoke of their intention of holding a poultry show this year.

Mr. Hull then took up the Constitution and By-Laws clause by clause. It was moved and seconded that 1st, 2nd, 3rd and 4th clauses be passed as read. Mr. Bath made a motion that in clause 5 the following be inserted: "That delegates shall not exceed two from any one club." This motion was seconded by Mr. Jackson. Clauses 6, 7, 8, 9, 10, 11 to be passed as read. In clause 12 it was moved that "By virtue of their office President and Vice-President, Secretary-Treasurer should be members of each committee appointed. Clauses 13, 14, 15, 16 and 17 to be passed as read.

Meeting adjourned for one hour, which time was spent up at the Poultry Plant.

On their return to the college again new business was taken up. Mr. Hull brought up under new business the win on the piano at the Halifax Poultry Show. It was discussed and it was suggested that Mr. Johnson get in communication with the Halifax Poultry Club, and state his case. The Halifax Poultry Delegates were quite sure he would be treated fairly. Mr. Johnson was willing to do this. The following resolution was passed:

That the poultry entered and exhibited must in every case be owned and in the possession of the person exhibiting them for a period of 30 days before the opening of the poultry show.

If any person shall exhibit any poultry of which he is not the bona fide owner thirty days before the opening day of the show he shall forfeit any premiums won during the show and may be debarred from future shows for a period of two years.

In any case where the ownership of any exhibit is objected to by an exhibitor it shall be the duty of the owner of such exhibit in question to produce an affidavit made before a notary or Commissioner for taking oaths setting forth the facts relative to the ownership of the exhibits in question.

Resolved further: That this regulation be incorporated into the rules of every poultry club prize list which receives any aid from the Department of Agriculture of the Province of Nova Scotia. Failure to enforce this regulation will be sufficient reason to withhold grant to any show.

Secretary was to see that each Association received a copy of this resolution. It was moved and seconded that the Department of Agriculture be asked to furnish a poultry judge for Musquodoboit and Sydney until they should improve and make satisfactory arrangements for exhibits of Poultry at their exhibitions. Mr. Osborne brought up the question of spraying of coops after each Society was finished with them for their Show. It was moved and seconded that the new executive appointed to place the prize money to best advantage. It was moved by J. R. McMullen and seconded by W. W. Osborne that the Halifax Poultry Show be Official Provincial Show for this year and the department be asked to give $1,000.00 for this purpose. This motion was carried. An amendment was offered that bids be asked from the different poultry clubs of the Province. This amendment upon motion was not carried.

Election of Officers

The election of officers resulted as follows:

President—Mr. H. H. Hull, Glace Bay.

Vice-President—Mr. E. C. Griffin, Port Wililams.

Executive Committee—Mr. E. L. Cote, Halifax; Mr. W. W. Osborne, New Glasgow; Mr. F. E. Jackson, North Sydney; Mr. Fred Bath, Bridgetown; Mr. John R. McMullen, Truro.

Delegates to the Federal Poultry Conference—Mr. W. W. Osborne, New Glasgow; Mr. F. E. Jackson, Sydney.

Secretary-Treasurer—J. P. Landry, Truro.

The Executive, immediately after the close of the meeting, decided to meet at 7.30 in room 4, Stanley Hotel, Truro.

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The Executive meeting was called to order at 7.30 p. m., Stanley Hotel, Truro, N. S., Mr. H. H. Hull, President, ocupying the chair and all members of the Executive present. After some discussion re the placing of prizes on contest pens it was finally decided on motion of Mr. E. L. Cote, seconded by John R. McMullen, that $50.00 be given to the hens laying the largest number of Canadian Standard marketable sized eggs during the period of the contest. These prizes to be divided as follows: 1st, $10.00; 2nd, $9.00; 3rd, $8.00; 4th, $7.00; 5th, $5.00; 6th, $4.00; 7th, $3.00; 8th, 2.00; 9th and 10th, 1.00 each. Included in the same motion it was decided to place $100.00 on the pens laying the largest number of Canadian Standard marketable sized eggs. These prizes to be awarded as follows: 1st, $20.00; 2nd, $18.00; 3rd, $16.00; 4th, $14.00; 5th, $11.00; 6th, $8.00; 7th, $5.00; 8th, $4.00; 9th, $3.00; 10th, $1.00. Some discussion took place in regard to the placing of the representation made at the convention before the department of agriculture, but no definite action was decided upon. Discussion also followed re obtaining arrangements for holding and managing the poultry show for the Province, but in this case the Executive decided not to make any recommendation.

Delegates present were as follows: F. E. Bath, Ed. Griffin, A. A. G. Stronach, F. E. Jackson, Chas. Johnson, F. A. Driscoll, John R. McMullen, Fred Barrs, Guysboro, Capt. Borrett, E. L. Cote, Alden Harris, E. C. Shaffner, F. Innis, H. H. Hull, W. W. Osborne, Elwood Gratto, Chas. McKeen.

J. P. LANDRY, Sec'y-Treas.

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Keep your animals thriving so that they will lose no time picking up when put on pasture. The most economical way to accomplish this is to give them Herbageum twice daily. The cost for each horse, cow, beeve or hog is less than one cent a day, and the cost for three sheep or three calves or twenty fowl is less than one cent a day. To be exact only five-sixths of a cent a day, as one pound costing 25c is sufficient for a fowl for 20 days, that is five-sixths of a cent a day. If you cannot purchase it where you deal The Beaver Mfg. Co., Ltd., of Galt, Ont., will send to any Post Office in Canada a 4-lb. package by Registered Parcel Post for $1.40 or will deliver freight prepaid to your station 50 llbs. for $12.00 or 100 lbs. mor $23.00. Cash with order.

By its use you will be able to use more roughage and save expensive meals and grains at the same time keeping your animals in better condition. While the flesh, milk and butter produced will be in every respect better and the eggs return increased. As good calves can be raised on skim milk or separated milk with Herbageum as on whole new milk without it. And no "Sheep Dips" will be required as the sheep will be free from ticks and will produce stronger lambs, while at shearing time there will be more wool and of better quality. In over thirty years Herbageum has never failed, when used as directed, to do all that has been claimed for it.

With present prices of farm produce Herbageum would be profitable for regular use if it were $40.00 per 100 lbs. instead of $23.00. Use it regularly with all animals when not on a good pasture. It is not a food nor is it a medicine. It replaces values which are in good pasture but which are lacking in dry foods.

Make your own calf meal, as follows: 100 lbs. Oil Cake Meal, 100 lbs. Feed Flour, 200 lbs. Wheat Middlings, 4 lbs. Herbageum. Finesalt. Mix well. Stir about two cupfuls in a gallon of Scalding Water and feed warm. If you cannot get Oil Cake Meal use Ground Oats.—Advt.

Plough and Pen

THE farmer is making himself felt as a political force in the land. People are looking to him for the direction of public affairs, and no doubt he will wield the pen as well as he does the plough. In one, as in the other, he is adopting modern methods, as for instance,

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With a fuller realization of his position in the world of today, the food producer needs the services of the best pen. He writes letters, orders, receipts, and instructions. He signs papers, makes notes, writes cheques. He keeps accounts and records.

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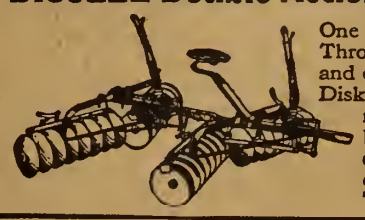
FLAX SEED FOR FREE DISTRIBUTION

This season, for the first time, samples of flax seed are being distributed free to farmers, from the Cereal Division of the Experimental Farm at Ottawa The samples contain about two pounds of seed, enough to sow about one-thirteenth of an acre. The quantity of fibre flax seed available this season is very small and enough requests have already been received to dispose of it all; but applications for samples of flax for the production of seed can be accepted for some little time yet though the number will necessarily be limited. These samples will be reserved chiefly for farmers in districts where the cultivation of flax for sed has been found profitable. The varieties available are ordinary commercial Premost, one of the most popular sorts in Western Canada, and a new selected type called Novelty which seem superior to Premost in productiveness but is not quite so attractive in appearance. These free samples furnish an opportnuity for the farmer to start the growing of a kind of flax superior to the ordinary stock usually sown. If carefully propagated the, second crop will yield enough seed to sow quite a large field. Good, pure flax seed is usually very hard to obtain, and the best plan is for each farmer to produce his own.

The variety of flax for fibre purposes which is being distributed is a new, selected strain named Longstem which has already made a name for itself as a singularly fine variety. Samples are not being sent this season to any new districts where the success of flax as a fibre plant is doubtful or where the industry of fibre production is not already established. It is expected that a much larger stock of Longstem will be available for distribution another year.—C. E. Saunders.

The time to select seed potatoes is before the crop is dug. The field may be gone over a few weeks before digding and the seed hills picked out. Those should be the hills having strong, vigorous vines, preferably with strong lateral side shoots. Stake these hills, and at digging time, dig them separately. If any hill does not come up to the expectation or the ideals set, discard it. A good hill should contain from 6 to 12 potatoes of good, medium size, say, from 10 to 16 ounces. Uniformity in size, smoothness and trueness to type are more important than mere size or weight. The selected tubers should be stored in the cellar separately from the rest of the crop, so as not to be mixed with the main crop. They should be used entirely for seed for the following year.

BISSELL Double Action Harrows will thoroughly cultivate and pulverize any soil. One Harrow is Out Throw; the other is In Throw. They are simply constructed, rigid and durable. The Gangs are flexible and the Disk Plates are so designed that they "hang" right into the soil. Bissell Harrows are built in sizes and weights suitable for horse or tractor use. Write Dept. M for free catalogue. 98



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THE TWENTY-FOURTH ANNUAL CONVENTION OF NOVA SCOTIA FARMERS ASSOCIATION

(Continued from page 335)

Resolutions

Whereas the rural school situation is yearly becoming more serious in this Province, resulting in an unincreasing number of school sections failing to keep schools open, and

Whereas we consider that education and successful farming today are inseparably connected, and

Whereas a very large proportion of our farming population never attend a higher school than the district school, and

Whereas the success of the rural school depends upon better teachers and larger salaries,

Therefore resolved that the N. S. F. A. urge upon our local government the necessity of pressing upon the Federal Government the claims of the people of this province to their share of the school lands of the Western provinces, a claim which is but just and fair, and

Further resolved that until such claim is paid the Local Government supplement the present grant to teachers according to grade by at least trebling the same.

Moved by R. L. McDonald, seconded by Wm. MceKnzie.

* * *

Whereas the Federal Government has refused to comply with the demands for a law prohibiting the manufacture, importation and sale of intoxicating liquors as strongly expressed in petitions and resolutions from temperance, religious and business organizations, and

Whereas at the last session of the Federal Parliament an act was passed relegating this vital question to the Provincial legislatures and to the people through the slow and unsatisfactory medium of a plebiscite,

Therefore resolved that the Nova Scotia Farmers' Association in annual meeting assembled, do strongly disapprove of this method of dealing with the liquor traffic and join with other organizations in calling upon our Federal Representatives to advocate and support the immediate enactment of a Federal prohibition law as the only practical way of dealing with this question, and

Further be it resolved that the Secretary of this Association be instructed to at once forward a copy of the above resolution to the Acting Premier of Canada and to all the members of the Dominion Parliament from Nova Scotia.

Moved by W. D. Creighton, seconded by D. F. Creelman.

* * *

Whereas it of National importance that the languishing production of beef and mutton in particular and all live stock products in general in the Province of Nova Scotia be promoted,

And whereas it is recognized that one of the most important means of promoting live stock production is the improvement of marketing facilities,

And whereas, the establishment of a capacious cold storage plant at the ocean terminals at Halifax would not only help to meet the situation but also take care of transcontinental export trade through a port that is accessible for twelve months every year,

Therefore resolved that th Nova Scotia Farmers' Association do urge upon the Honorable the Minister of Agriculture and the Honorable the Minister of Railways at Ottawa to take measures that will insure the early establishment of a modern storage plant at the ocean terminals at Halifax.

Moved by A. N. Griffins, seconded by V. B. Leonard.

* * *

Whereas we believe that the Public Utilities Commission is not adequately protecting the interests of the telephone subscribers throughout the Province by the exercise of the investigating powers conferred upon it by Statute, but is merely sitting as a judicial body at the hearings of the applications of the Telephone Company and basing their decision rendered solely upon the data submitted,

And whereas the Maritime Telegraph and Telephone Company have at all times in their employ officials whose duty it is to prepare and submit data favorable to and in support of whatever finding they require,

And further whereas the Telephone subscriber, the great body affected by the findings of the Commission, have no organization or advocate whose duty and business it is to prepare and submit data opposing the application of the Company and in support of the public interest and right, as a result of which, there is but one side of the question under review adequately and fully presented to the Commission, whose decision is rendered accordingly,

Therefore be it resolved that the N. S. Farmer's Asosciation in annual meeting assembled, do hereby agree to appoint and employ a suitable advocate whose business and duty it shall be to prepare and submit the case of the telephone subscribers, whenever any further increase in rates or other changes detrimental to the public interest is sought.

And further be it resolved that this meeting immediately appoint a committee to at once consider and recommend to this association, a person suitable for this appointment with recommendation as to the scope of his duties and the remuneration for such service.

Moved by Stanley Fisher, seconded by William Murray.

* * *

Whereas the value of Exhibitions as a means of encouraging the production of improved quality of all kinds of agricultural produce, including live stock, is universally recognized,

And whereas the Province of Nova Scotia has not conducted a Provincial Exhibition since the destruction of the Exhibition property in the Halifax explosion of 1917,

And whereas a movement is now on mott to establish an Old Home Summer and World's Exposition in the season of 1924,

Therefore resolved that the Nova Scotia Farmers' Association do recommend that these projects be taken up jointly with a view to providing some Exhibition facilities at Halifax at the earliest possible date and that the plant be gradually aded to until complete plant is ready for the 1924 Exposition.

Moved by Hugh Dickson, seconded by Stanley Logan.

* * *

Resolved that the resolution re the increase of grant for Agricultural Societies which was adopted last year be brought again to the notice of the

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Formerly Called · MONARCH
BEFORE long you are going to buy a pair of rubber boots. Instead of asking for just rubber boots, ask for "Invincibles". We claim they are the longest wearing boot you can buy and we know you will say so once you have bought the first pair and know for yourself how long they wear. You will do just as tens of thousands of other men from coast to coast have done. You will take nothing else but "Invincibles" in future. Why? Because they wear so long you won't take a chance on any other boot.
"Invincibles" are Pressure Cured. It is the high Pressure Process that produces a solid one piece shoe and makes the rubber so tough that it doubles the wear.
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Government.
Moved by Stanley Logan, seconded by Wm. Murray.

Officers for Ensuing Year

President—J. Howe Cox, Cambridge.
1st Vice President—Johnson Camer- Stellarton.
2nd Vice President—Rev. R. L. MacDonald, St. Peters.

Directors

Walter Churchill—Yarmouth.
Aubrey McKay—Stellarton.
A. N. Griffin—New Mines.
A. R. Richardson—South Bar.
Capt. H. Dickson—Onslow.

Auditors

Prof J. M. Trueman—Thuro.
Prof J. Landry—Truro.

Exhibition Commissioners

Stanley Logan—Amherst.
Wm. O'Brien—Windsor.

Legislative Committee

Ralph Messenger—Bridgetown.
Stanley Logan—Amherst.

Committee re Telephone Resolution

J Howe Cox—Cambridge.
Stanley Fraser—New Glasgow.
A N. Griffin—New Mines.

At a subsequent meeting of Directors C. R. B. Bryan was re-elected Secretary Treasurer.

Bridgewater, North Sydney, Digby and Yarmouth extended invitations to the Association in their respective towns in 1921.

The D. A. R. Industrial Representative Speaks

E. J. Murphy, Industrial and Colonization representative for the D. A. R. then addressed the meeting and told of his work.

The people of Great Britain and Belgium know very little of Nova Scotia through the agency of this office created by the D. A. R. Any wishing to retire or having farm lands for sale could acquaint him with the fact, and through real estate agents the information would be sent to Great Britain and imparted to the eager throngs that are always looking for a chance to immigrate to this great Dominion.

A small section on which they could start a little colony of perhaps four buildings the most advisable. He hopes for the co-operation of the Association in his work.

Sheep and Dog Law

Dr Cumming, by request, then explained the sheep and dog law. He said they had now in Nova Scotia very drastic legislation. Not only was it lawful to shoot the dog on sight when terrorizing the sheep in any way, but two years ago the law was amended and a tax of $1.00 on a male and $3.00 for a female was levied, also it included provision for an indemnity on all losses caused by dogs. This placed at two thirds of loss sustained. The municipalities appointing sheep valuers.

Also the law was amended to allow the shooting of the dog anytime within 24 hours after damage done.

This included the city dog too, the city to pay the indemnity.

Mr. Nicholson then vacated the chair and gave ewlcome to the new president, Mr. Howe Cox.

Mr Rhodenizer moved a vote of thanks to the retiring President.

Mr Nicholson thanked the Association, and the 24th Annual Convention of the Nova Scotia Farmers was brought to a close, after a very interesting and profitable session.

FARMERS OF NOVA SCOTIA ORGANIZED AT KENTVILLE

(Continued from page 337)

He believed they would have the majority on their side when they come to see the thing in the right light, and if all would throw away their party politics and affiliate the farmers movement would be a success.

If Nova Scotia dont' take a share of the responsibility they could not expect to share in the results.

Mr. Crane, Grand Pre, thought the Government and labor interests were awake, and that it was time that the farmers should "get a hustle on."

The question was then called for, and when the motion was put before the meeting it was carried almost unanimously, none at least voting against it.

Mr. Fisher, Berwick, said he was glad to see that the farmers were awake at last, and hoped they would now stand up for their rights.

Mr. Archibald was then called on as one who might give them practical suggestions on how to proceed with organization.

He said he had visited the West, Ontario and New Brunswick, where the farmers had already organized along these lines.

Many mistakes had been made, although not so many in New Brunswick as in Ontario.

He thought it would be well before going any further to get advice from Ontario, New Brunswick and Western Canada, so that these mistakes in this organization might be avoided. He was sure that representatives would be willing to come and meet with a committee and assist them in any way. He suggested that a delegate be sent from this meeting to the United Farmers Convention meeting in Woodstock, New Brunswick, the following week.

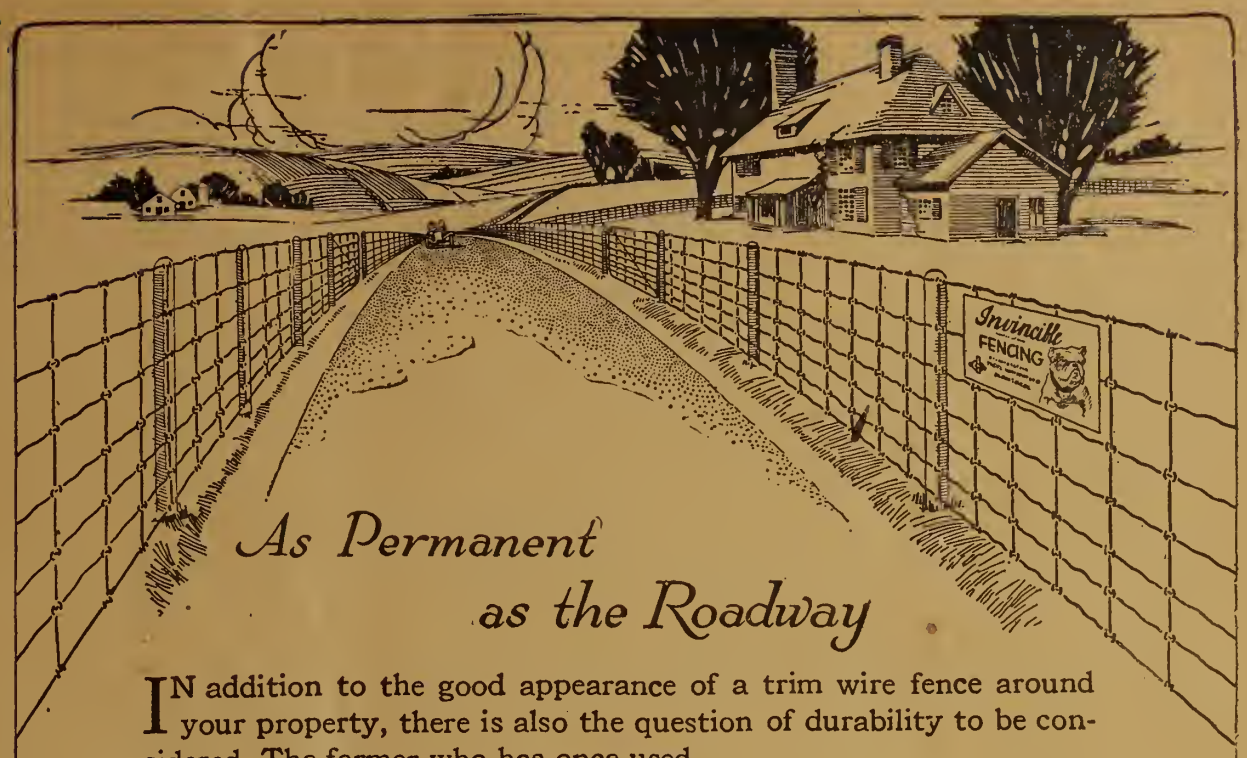
These suggestions were thought practicable by the meeting and Mr. Wm. O'Brien was appointed to be the delegate to Woodstock with Mr. M. K. Ells as alternative.

After the appointing of a committee of five, namely: Mr. Wm. O'Brien, M. K. Ells, D. R. Nicholson, Mr. Bacon and V. B. Leonard, to make arrangements for the coming of representatives from Ontario, New Brunswick and Western Canada to assist in the proper orgasization of this newly formed Union, the meeting adjourned.

Stumps occupy valuable land; foster the growth of weeds, since in order to keep the land in their vicinity clean, much hard labor is necessary; mar the appearance of otherwise smooth fields, and hence reduce the selling price of a farm; furnish shelter for harmful insects and animals; and prevent the efficient use of modern machinery.

It is well understodd by farmers, as by scientists, that a layer of loose dry soil, three or four inches deep, is effective in pheventing the drying out of soils. It stops the water from creeping upwards from the lower depths, thereby conserving moisture.

"It is not the low priced goods that are always the cheapest."



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Jerseys and Shorthorns (Pure Bred)

Jersey Offerings for the Winter of 1919—20

A few registered mature cows due to freshen the coming fall and winter.

Several yearlings, bred and not bred, registered and grades.

Several pure bred and grade calves, male and female.

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Two yearling heifers, very thrifty.

Several pure bred calves, male and female, by Imported English dual purpose Shorthorn bull, out of splendid producing dams.

We can supply intending purchasers a choice list of either Jerseys or Shorthorns to select from.

Come along with your inquiries.

Apply for information to

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Yarmouth North, - Nova Scotia

COSSAR STOCK FARM
Lower Gagetown, N. B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

We are presently offering, one imported Clydesdale Stallion "Dunure Crag" sired by the famous breeding horse "Baron of Buchlyvie."

Also

One Canadian bred Clydesdale Stallion "Baron Cossar", rising 5 years old.

Further particulars on application.

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Pure Bred Shorthorns For Sale !

Am offering for sale my berd of pure bred registered Shorthorn cattle. These cattle range in age from 7 years to 3 years, or a little less, with one bull calf two weeks old, and are all fine in type and color.

I bave also exceptionally good grade cattle of various ages for sale. All will be sold at a reasonable price and offer an unusual opportunity to anyone desiring to start a herd of choice stock or to renew an old herd.

J. E. HETHERINGTON, - Codys, N. B.

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As we have no Clydesdale Stallion in this end of the Province, will sell the Pure Bred Clyde Mare Spring Fashion, foaled June 28th, 1911.

This is a beautiful upheaded mare, sound and kind.

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HEBRON, - - - YAR. CO., N. S.

REG. JERSEY BULL FOR SALE

Princess Pat's Draffan Lad. Dropped Nov. 10th, 1918. Sire, Edgeley's Sunbeam Lad. Dam, Princess Pat of Draffan.

This Bull is bred from producers on both sides, is a high class animal, solid color, large, in fine condition, and fit for service.

Also two bull calves from 4-6 weeks old.

Draffan Farm has been breeding pure bred Jerseys for twenty years.

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One Bull 11 months old, of good breeding, and fit for service. Dam gave 10887 lbs. mllk 3½ test in 10 months. Welght of sire, a ton. Also one Bull Calf 3 months old, with lots of 20 and 25 lb. records in his backing. Also 3 purebred Dorset Ewes. This stuff is priced to sell, so write at once to

WALTER PAYNE,
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Elmwood Stock Farm

We bave a few young bulls to offer, sired by Dutchland Colantha Sir Rag Apple, a son of Colantha Johanna Lad. His dam is a granddaugbter of Pontiac Korndyke. Thus combining tbe blood of two of the greatest bulls the world has ever seen.

Tbe dams are daughters of Dutchland Pieterje Count. Tbese calves are a nice straight growthy lot.

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A competent cbeese maker to take cbarge of factory manufacturing about 100 tons. Factory in operation about 7 months.

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Our cbarge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must he paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
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John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

F. W. C. Nase, Nerepis, N B.
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Ayrshire Cattle

McIntyre Bros., Springbrook Farm, Sussex, N. B.

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co,, N. S.
C. A. Archibald, Truro. N. S.
John H. Hughes, Petitcodiac, N. B.
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YORKSHIRE PIGS

E. Cbaldecott, Monkbam's Farm, West Merigornish, Pictou Co., N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
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Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on, as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue, which will always he found on the editorial page of the proceeding issle. No black faced type or display of any kind will he allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex N. B.

FOR SALE—Registered Yorkshire Pigs farrowing Feb. 20 and March 15. Price $10.—W. M. STARKEY, Cody, N. B.

FOR SALE—1 pure bred Holstein Bull, 18 months. 1, 12 months and 1, 3 months. W. G. CAMPBELL, Salisbury, N. B.

SELL your property quickly for cash, no matter where located, particulars free. REAL ESTATE SALESMAN CO., 530 Brownell, Lincoln, Nebr.

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FOR SALE—Two pure bred Jersey Bulls fit for service. Also Bull Calf. There breeding is the best, price is low. H. J. NORTH, Canning, Kings Co., N. S.

WANT TO HEAR from party having farm for sale; give particulars and lowest price. JOHN J. BLACK, Maritime St., Chippewa Falls, Wis.

WANTED—Cheese maker for Belleisle Cheese factory for season of 1920. Output for 1919, 35 tons. Apply stating salary and qualifications to R. N. PEARSON, Belleisle Creek, Kings Co., N. B.

LADIES WANTED—To do plain and light sewing at bome; whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING COMPANY, Dept. A, Montreal.

FOR SALE—Ayrshire cows—In calf to Prince Armour, a son of Jean Armours' Lotus Laddie, all due to freshen shortly. Also a number of calves from Jean Armour strain. WM. B. LYNCH, Lr. Truro, Nova Scotia.

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GREAT WHITE LIGHT BURNERS—Tbe lamp burner that doubles the light you get from your oil lamps. We bave a few dozen to offer at 18c eacb, postpaid. They are a big investment for any person using oil lamps. In large size only. —THE MARITIME FARMER, Sussex, N. B.

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Ayrshire Cattle and Chester White Swine

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Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.

We have young bulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

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We are offering for sale calves of both sexes, sired by Dutcbland Pieterje Count, a bull of splendid size and type, whose four nearest dams bave records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Johanna Lad, who has 101 A. R. O. daugbters, 4 over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something cboice, come and see these calves or write for further particulars.

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Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 montbs of age,, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

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We have a number of fine young r egistered bulls, to offer. They are sired by Prince Colanthas Canary B., a nd out of good producing dams.

We can make prompt shipment. Correspondence invited.

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R. O. M. HOLSTEINS

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On account of the great shortage in the supply of milk in our home town, we have decided (wlth regret) to dispose of our entire crop of Bull and heifer calves.

If taken Inside of the next 30 days will price them away below their value.

The Dams of these calves are now running In the R. O. P., and the last official test conducted by the R. O. P. inspector showed an average test of 4.62% fat for the lot.

All are sired by our 32.32 lb. herd sire "King Korndyke Johanna", whose Dam is a full sister to Canada's Champion R. O. P. cow, "Jemima Johanna of Riverside". Milk in 365 days 30373; butter in 365 days, 1280 lbs.

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Dealers pay more for cattle that have been dehorned. The hides are worth more and the flesh has less bruises. Write for booklet telling about the KEYSTONE DEHORNER. R. H. McKenna, 219 Robert Street, Toronto.

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Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages Have some good cows to fresben soon. Also booking orders for ram lambs for fall delivery Write or pbone for prices and description.

J. ROBIE MacDONALD,
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Five Ayrshire Bulls for Sale

From good milking strain. All fit for service.

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We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S

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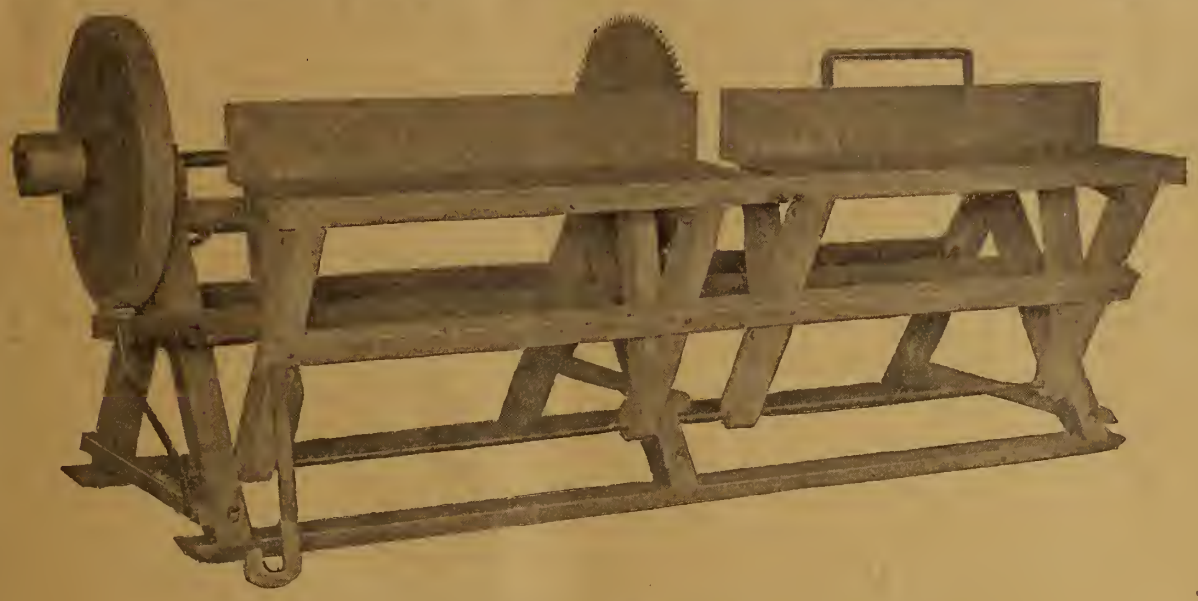

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A herd of 13 purebred Holsteins last year averaged 18812 lbs. milk and 638.57 lbs. fat.

Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in

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We have to offer a nice bunch of Shorthorn bulls and heifers ages 1 to 3 years.

Also span 4 year old horses, span 5 year old horses, span of brood mares and a choice driver

For further particulars apply to

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Out for service, bred from heavy producing stock.

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Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

ANNUAL MEETING N. S. POULTRY ASSOCIATION

One of the most vigorous organization meetings at the Agricultural College, Truro, N. S., during this Farmers' month was the annual meeting of the N. S. Poultry Association. President H. H. Hull, of Glace Bay, occupied the chair and about twenty delegates were present from various points in the Province.

Very encouraging reports were received from a number of branches. One of the main elements in a successful branch, brought out again and again, was the necessity of a good show building. Various means were discussed for the dissemination of agriculture. Too often in the past the poultry flock had been lef to the already over-burdened housewife to care for. It was regarded as being somewhat beneath the plans of a full grown man to be interested in mere hens. That day has passed, and everyone who thinks the matter out knows that there is opportuinty here for the same high intelligence and patient industry which have made other branches of agriculture great and worthy avocations.

A communication was received through the national organization indicating that France and Belgium are in the market for good breeding stock. Altogether, the outlook for the poultry business is exceedingly bright.

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Holstein and Yorkshire Swine

Calves of either sex, eight mos. of age and younger, from well bred and Tuberculin-tested Dams. Write for further particulars or come and see them.

Booking orders for Yorkshire Pigs for Spring delivery—from 1st Prize Sire and Dams at Fredericton Exhibition, Fall 1919—either sex, six weeks old. $10.00 each.

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Have 4 good bulls fit for service, that are well growr and are extra choice individuals, and out of goid, big, heavy producing cows. Also 4 or 5 good bull calves from one to two months, as well as a few good heifers ready to breed, and some already bred to Sir Johanna Ormsby of Hickory, whose dam has a yearly official record of 22,159 lbs. milk asd 971.25 of butter in 365 days. For description and prices write, or come and see our herd.

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We are offering two Ayrshire Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

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Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $2.00 per 15.

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We have to offer one bull, 24 months, 1st prize at Woodstock, Fredericton and Chatham, 1919. Six choice bulls from 8 to 20 months, sired by the prize winning bulls "Morton Mains", Amanth Imp. and Cherrybank Cicero. Also females, all ages.

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For Sale—Registered stock. Male or female.

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Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

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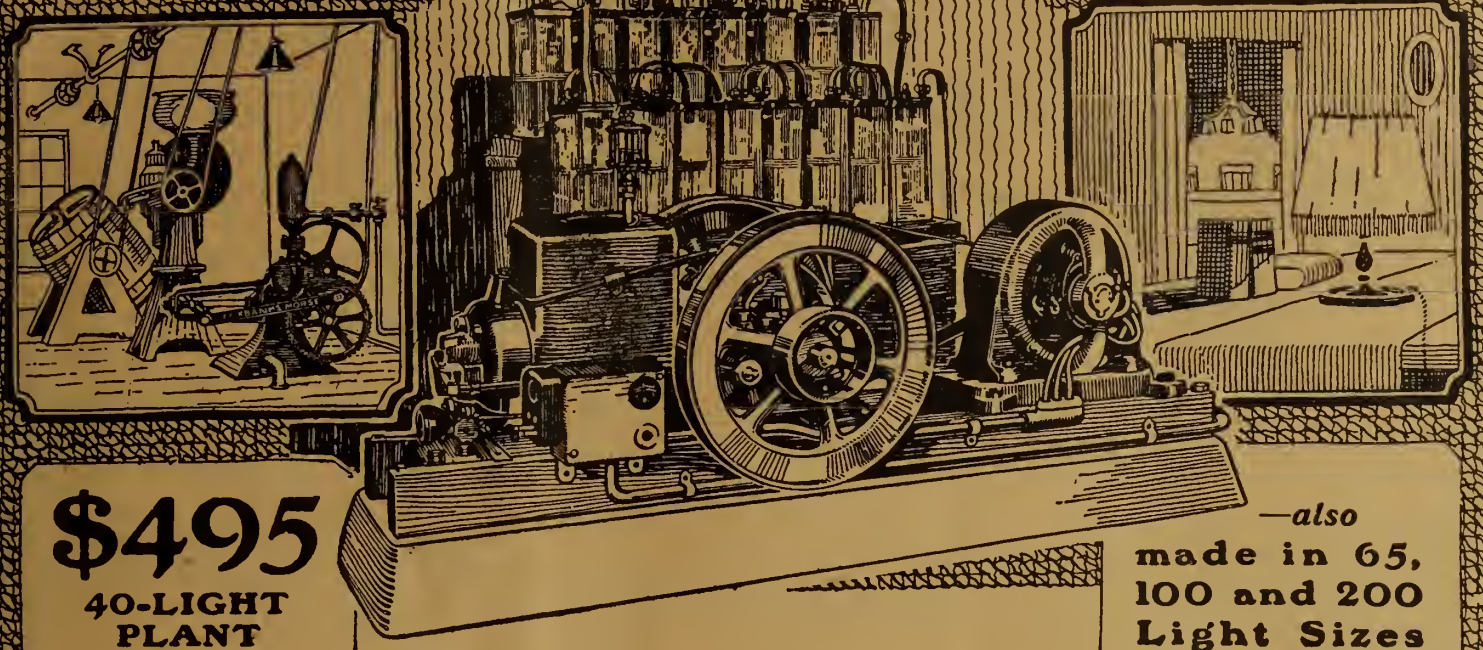

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This remarkable car has the two-fold economy advantages of **Triplex** Springs and light weight. **Triplex** Springs give Overland 4, with 100-inch wheelbase, the riding ease usually associated with great weight and long wheelbase. They take most of the shock and rebound out of road jolts. They lessen greatly the fatigue of long rides.

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Overland 4 is a quality car throughout —in design, finish and riding qualities. Equipped complete from Electric starting and lighting to three speed transmission.

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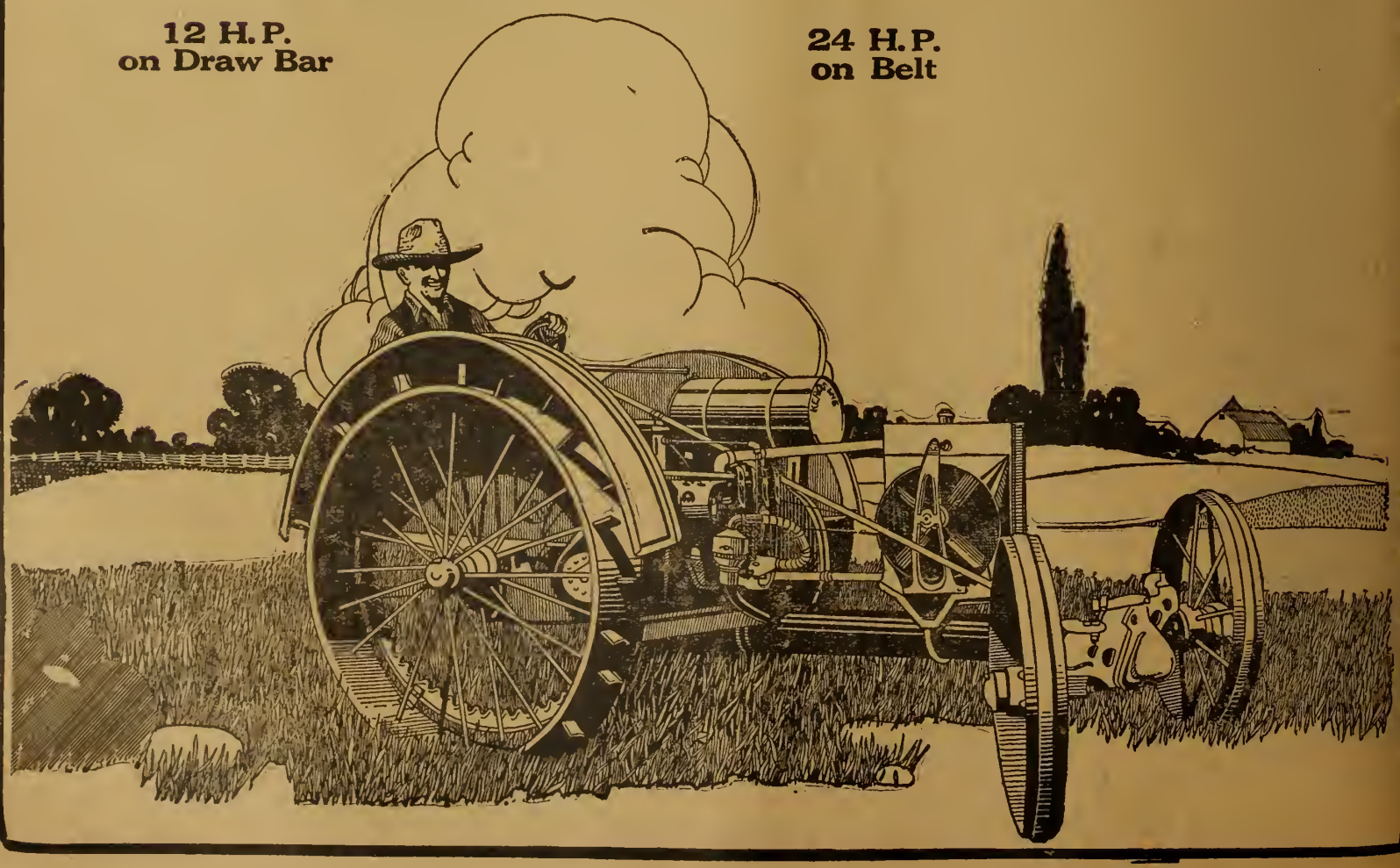

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTESED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 25. SUSSEX, NEW BRUNSWICK, MARCH 2, 1920. Number 11.

Maritime Farmer Stand for East is Endorsed

Contention of this paper that Eastern Farmers Should act Independent of Winnipeg Strongly Supported

The Maritime Farmer is about to utter HERESY.

It believes that the farmers of the Maritime Provinces are being goldbricked with one of the most insideous campaigns that has ever been undertaken in Canada.

For years the Maritime Farmer has preached organization among the farmers in the Maritime Provinces. It has not only preached but it has practised.

There are in the Maritime Provinces thousands of farmers for whom the Maritime Farmer has saved thousands of dollars by putting in practise what it preached.

But the Maritime Farmer has in view a different kind of organization to that which is being presently attempted in the Maritimes.

It has in view an organization where freedom of speech will be permitted; an organization in which any man may be permitted to use the brains and the good common sense, with which Providence so generously endowed the people of Nova Scotia, New Brunswick and Prince Edward Island.

It did not have in mind an organization in which the farmers of these three provinces were to dance to tunes composed in Winnipeg, and to hop to strings manipulated by the same artists.

The United Farmers of New Brunswick is an organization which pins its faith to a political constitution laid down absolutely in the interests of Western farmers. In its preparation no voice from the East was heard. It is a dictum, as unalterable as the laws of the Medes and the Persians, except insofar as the strong majority in whose interests it was framed will permit of its amendment.

To become an associate in advancing the ideals of the United Farmers, one must absolutely accept the whole doctrine or none. There is no halfway. If you think differently you must nevertheless do as "the Romans do." If a United Farmer member of parliament choses to use his brains or to act in any other way, except as he may be directed, he is liable to a recall and told to go about his business and give way to more servile menials.

This is somewhat different to the methods of Maritime Province practise. We have had men who "DARED". May we have more of them. The Howes, Tuppers, Johnstons, Blairs, and their like, met big issues and dared to oppose. And may we preserve that tradition of ours, and fail again to be led like sheep by every demagogue that choses to prattle pretty promises, which up to the present have not been fulfilled in these parts.

The Maritime Farmer is a journal which believes in the east. It thinks rightly or wrongly that the interests of the east and west are not at all in keeping. Our farmers FARM. Most of the western farmers MINE. They not only want the earth, but they are reaching out for some of the planets.

Why the Big Stake?

Speaking at the United Farmers of New Brunswick convention at Woodstock, Mr. Pratt, of the Grain Growers' Guide, Winnipeg, was asked what would happen if the Maritime offshoot of the Grain Grower's Guide goes broke.

Mr. Pratt replied to the effect that "The paper would not be permitted to fail while there was a dollar behind the Grain Growers' Guide, as the management realized that the failure of the paper would mean the failure of the "FURTHERANCE OF THE OBJECTS OF THE GRAIN GROWERS OF THE WEST?"

MAY WE ASK WHAT ARE THE OBJECTS WHICH INDUCES A PLEDGE OF MILLIONS OF DOLLARS?

WHY ARE THE GRAIN GROWERS SO WILLING TO RISK HUNDREDS OF THOUSANDS OF DOLLARS IN "FURTHERANCE OF THE OBJECTS OF THE GRAIN GROWERS OF THE WEST?"

IT MUST BE A BIG GAME.

At present they are insisting that the government again buy their wheat at fancy prices and force the rest of Canada to pay the bill. We say no. Not only do we say "no" to that, but we again urge the farmers of these provinces to protest against any such use of the monies of this country, unless the farmers of the Maritime Provinces are accorded like treatment. The United Farmers of the west are going to Ottawa to force that unholy proposition on the government of the Dominion. Just so surely as they succeed, just so surely will every farmer continue to pay exhorbitant prices for his flour and feeds for the next year. The United States has decided to have no more price fixing.. Then why should we continue to pay an unheard of tax to the United Farmers of the West? The men who are doing this thing are the same men who are professing brotherly love for the farmers of the east, but who at the same time are making an attempt to rifle their victims' pockets as have pockets never been rifled before.

It is against such absolutely confiscatory methods that the Maritime Farmer protests. If wheat is to get special treatment, then let us have our potato growers looked after. Where is all the performance that was promised by the United Farmers in the marketing of potatoes? Has a single business-like effort been made to improve the condition of the farmers of the potato growing counties of this province? Has any person heard of any delegation being sent to Ottawa to urge the claims of the men who grow "spuds"? If there has been, it has been a very thin voice that has been raised in support of such a suggestion. Letters to the Maritime Farmer from up-river commend the course of this paper and claim that the United Farmers have been mighty short in fulfilling their pledges. They have stores which are owned by shareholders, the same as other stores. They are operated for profit, just as other stores are and they earn and pay dividends to their shareholders. And they pay these dlvidends to the shoreholders only. So far as the fellow on the outside is concerned he gets nothing.

Just contrast this with the policy of the Maritime Farmer. We assisted in co-operation. We help Agricultural Socities to get in touch with sources of supply which save money—not for the select few but for every farmer in the organization. More than that we have been buying for United Farmer organizations and there has been no profit asked on the goods, as in the case of the head office of the United Farmers at Woodstock, which charges every branch a profit on every purchase made. That Is to say a branch United Farmer store, must not only pay the wholesale price ruling at the time of purchase, but it must pay a second wholesale profit to the head office at Woodstock. And for rendering what service? For rendering the same service that the Maritime Farmer has been giving to scores of farm organizations in this province and in Nova Scotia without charging a single cent for that service. And yet we are asked to view the United Farmer organization as at present constituted—as something purely charitable and philanthropic.

Gentle reader, the Maritime Farmer sold car after car of feed and flour this year to farmers in the Maritime Provinces just one hundred dollars per car cheaper than the United Farmers sold the same commodities from their stores. Did you get it? We said one hundred dollars per car less?

It was because of its knowledge of these things that the Maritime Farmer refused the offer of Winnipeg to acquire this paper. The Maritime Farmer made up its mind that if there was to be a campaign of Big Promises, there would be at least one paper left with sufficient courage to say something about the hoax.

We believe that it is good for the farmers to organize, but we believe that the United Farmers of New Brunswick, or the United Farmers of Nova Scotia, or the United Farmers of Prince Edward Island should be the United Farmers of New Brunswick or the United Farmers of Nova Scotia or the United Farmers of Prince Edward Island. We do not believe that they should be that in name only, and be dictated to by Winnipeg and the West.

The recent meeting of the United Farmers at Woodstock was attended by about 200 delegates. Some 3000 farmers were expected. The program was one calculated to make farmers believe that there was nothing left on earth for the farmer except what Winnipeg in due course will supply. (Probably the increased price for flour and feeds will be the most notable contribution to this section). A resolution demanding a Canadian born Governor-General was widely debated. Yet when the question of forcing the Dominion government to provide abattoir facilities for the Maritime Provinces was brought up, Mr. A. E. Trites, of Salisbury, and Mr. C. F. Alward, of Havelock, two of the sanest men In this province, were given about three minutes in which to lay the important facts in their possession before the meeting. Yet only a few short months ago the United Farmers were very insistent upon the inauguration of a scheme which they dismissed in three minutes. The rest of the time was spent in lining up schemes in accord with the program adopted at Winnipeg.

The Nova Scotia delegates to the convention were given as warm a welcome as others. And let the Maritime Farmer say right here, that the United Farmer delegates could have heard more to their advantage and profit from Mr. Trites and Mr. Alward

(Continued on page 398)

SPRAYING AND DUSTING

By George E. Sanders, Dominion Entomological Laboratory, Annapolis Royal, N. S.

Mr. President and Gentlemen:

It is most certainly gratifying to find that your President and Council now ergard me as such a fixture in the apple industry (of Nova Scotia) as to put my name and subject on your programme without consulting me at all.

The apple crop of 1919 was very large and the general quality was very poor, as many of you realize. On account of changes due to frost damage to the trees, changes in freight rates, changes in transportation facilities, and the amount of money that the laborers now has to spend, enabling him to be a consumer of No. 1 instead of No. 3 apples, the apple trade this year has been radically different from ever before. Looking over the situation we must realize that the apple industry of the American Continent is now in a state of flux, and that within a very few years the permanent apples areas of the Continent will be determined. Many areas not well suited to the production of apples are now going behind in output and will eventually be eliminated as exporters, while other areas, among which is the Annapolis Valley, being well situated regarding soil, climate and markets, are going forward and taking their place.

Probably the one thing that has had the most serious effect on the apple crop of the past season is the fact that our old friend and consumer of No. 3 apples, the, so-called, poor down trodden laboring man, is no more. He is extinct. In his place we have a laborer whose income often exceeds that of Doctors, Lawyers, Members of Parliament, Judges or Bishops, and who exceeds all of the above mentioned classes in prodigal spending. The laboring men of a few years ago were gald to ge tNo. 3 apples, now they will only look at No. 1, and they are not at all particular about the price. They want only the best. This change is well shown in our apple returns this year. The market is willing to pay almost any price for No. 1 apples but thousands of barrels of No. 3's have been marketed at a loss. As growers we must adapt ourselves to this change in order to get best returns. We have two alternatives in the No. 3 business. One is to spray properly and make them No. 1's at a cost of twenty cents per barrel, or sell them to the canners and evaporators, at from two to four dollars less than could be obtained for No. 1's of the same varieties. On account of the wide spread between the prices of No. 1's and No. 3's I do not think that there is anyone here but who regrets having so many of the No. 3 grade. In most cases the preponderence of No. 3's is due to missing the first spray and that in turn was largely due to the spraying equipment having got into bad shape. Whether the neglect of the first spray and the poor quality of the crops was wholly or partially due to neglect the result is the same—a big loss financially to the grower.

The big argument in favor of spraying has always been improvement of quality and as the spread in prices between No. 1 and No. 3 becomes wider that argument grows in importance. This year the argument in favor of spraying based on improvement in quality is greater than ever before as the cost of spraying for four times runs around twenty cents per barrel while the difference in price between No. 3's and No. 1's is averaging around $2.50.

Duing the past three months one of the most misleading arguments ever put forward against spraying has been going the rounds of the Valley. The contention is that it will not pay to spray so long as the evaporators and canners will pay $1.50 or $2.00 tree run for apples. If the canners were able to pay $5.00 per barrel tree run it would pay to spray and the more they pay the better it will pay to spray, for spraying not only gives more apples but it gives larger apples and controls the insect pests and any one of these will pay for the spraying and leave the other two together with imporvement in quality as clear gain.

Increase in Quality of Fruit Alone Pays for the Spray

Here in Nova Scotia we are always in danger of an early infection of apple scab affecting the stems of the blossoms and runining the set in unsparyed orchards. In 1913 a person only needed to look at the trees in the fall in order to tell the owner whether he sprayed before the blossoms the previous spring. Where there was a crop of apples it was a sure indication that the owner had sprayed before the blossoms the previous spring, for where the early sparys were neglected that year the stems of the apples invariably became infected by apple scab and the set and crop ruined.

Some years ago I told you of an orchard in which we demonstrated the value of spraying in increasing crops. In 1915 we sprayed an orchard in Annapolis that had not given over 25 barrels per year for the four previous years, and in 1914 only 16 barrels. The year we sprayed it, 1915, it gave 85 barrels. In 1916 it was not sprayed but it gave 160 barrels, demonstrating what is the general rule, that spraying increases the crop of the coming year more than it does the crop of the present year. In spite of this demonstration the owner did not keep up his spraying after we left it, and in 1917 and since the crops have been about the same as in 1914 and before.

Insect Control Alone Pays for the Spray

Spraiyng will reduce insect pests as the Budmoth, Fruit Worms, and Coddling Moth, which are always present in small numbers, and is an insurance against outbreaks of such insects as Canker Worm, Tent Caterillar and Tussovk Moth which periodically defoliate unsparyed orchards thereby causing the loss of from two to four crops in the defoliated area.

Increase in the Size of the Fruit Alone Pays for the Spray

The fact is not often recognized that a sprayed tree not only grows cleaner fruit, more fruit and more regular crops, but it grows larger fruit.. On an average enough larger fruit to pay for the cost of spraying. The increase in size due to spraying seems to vary with the susceptibility of the leaves of that particular variety to apple scab. Recognizing that most of the solid matter of the apples must originally be taken through the leaves as carbon dioxide, this is most reasonable. Spraying or keeping the leaves free from fungus theefore enables the leaves to gather more plant food from the air and so grow larger apples. This benefit would be at the maximum in such varieties as McIntosh, and at the minimum in such varieties as Blenheim.

In the S. B. Chute orchard this year the results on this point were as follows:

Variety, Gravenstein — Average on 5,500 apples.

	No. of tree run apples required to fill 1 bbl.
Sprayed with the 1919 Spray Calendar	392
Unsprayed	440

This shows an increase in size of 12.76 per cent. Valuing tree run Gravensteins at $2.00 per barrel this increase is worth 25½ cents per barrel or more than it costs to spray four times.

Results on size of apples in the orchard of . Grevatt.—McIntosh.

	No. of tree run apples required to fill 1 bbl.
Sprayed with the 1919 Spray Calendar	690
Unsprayed	1956

Disregarding improvement in quality altogether and considering only the increase in quality, increase in size and insect control, no man can afford not to spray even if all his fruit is grown under contract to evaporators and canners at the price of domestic and No. 3's.

I am convinced that, so far as Nova Scotia is concerned, that if all of the ochards were sprayed there would be a great total quantity of canners and evaporators in the country than if no spraying were done. In other words our experiments go to show that if an unsprayed orchard produces 500 barrels of apple fruit for the canners and evaporators only it would, if sprayed, grow more apples for the canners and evaporators than before, and in addition form 500 to 1,000 barrels of No. 1 and No. fruit.

That argument is backel up by the fact that the canning and evaporating people are abandoning districts which formerly were large apple producers but which have neglected their orchards during the past five years and are now building expensive and apparently permanent establishments here in the Annapolis Valley where we have continuously kept our orchards in a good producing condition.

If we do not spray our production will drop off in quantity just as surely as it drops off in quality.

The Spray Calendar

This is the first year for the past five that I have not come here to advocate a radical change in the Spray Calendar. We have at last developed our recommendations to a point where they seem pretty nearly perfect for Nova Scotia conditions. Our present calendar is as follows:

1st spary—3-10-40 Bordeaux, 1 lb. arsenate of lime to 40 gallons.

2nd spray—2-10-40 Bordeaux, 1 lb. arsenate of lime to 40 gallons.

3rd spray—1 lb. soluble sulphur, 5 lbs. hydrated lime, ½ lb. arsenate lime to 40 gallons.

4th spray—2-10-40 Bordeaux, 1 lb. arsenate of lime to 40 gallons.

This has given perfect satisfaction in freedom from russeting, absence of dropping of fruit, and good foliage, and it has in most cases given excellent contol of apple scab. In cases where scab is hard to control, or where it is customary to apply smaller amounts of spray than the average, it might be preferable to make the second and fourth spray a 3-10-40 Bordeaux. Better scab control will result and the increased amount of russeting would be very slight.

In ergard to mixing Bordeaux after the Thompson formula. We published in our spray calendar last year a method of mixing which I devised and which calls for the handling of dry materials only. The pulverized copper sulphate and hydrated lime will be available in quantity this year through the United Fruit Companies, so you will not need to bother dissolving copper sulphate in advance or slaking lime. The formula and method of mixing is on the Spray Calendar which we have here for distribution.

Lime Sulphur Injury

This year we again tested lime sulphur for its effect in the removing apples and as usual got a very serious drop of fruit from the use of lime sulphur in the fourth application. The second and third applications did not give any indication of a drop in 1919 such as we got from them in 1918 and 1917. It is very satisfactory to be certain that we were right in advising you to change to the Thompson Bordeaux for I am now satisfied that lime sulphur has at least been partially responsible for the short crops between the years 1911 and 1919. Substantiating this statement is the fact that M. Thompson and Mr. Buchanan who have used the new Bordeaux since 1915 have had large crops continuously, while the crop in the majority of orchards was small, as indicated by the total. Lime sulphur injury usually carries over and injures one or more succeeding crops. I know in my own orchard that I hired the spraying done in 1914 and had apples only in the tops of the trees higher up than the spary rods would reach. I did not then dream of lime sulphur causing a drop of the apples. I remember the next spring, 1915, the tops of my trees were full of blossoms while the sides had only a few and at that I did not realize that it was lime sulphur injury until Mr. Thompson showed me the injury in his orchard. In this connection Mr. F. H. Johnson tells me that the four Wagner trees which we sprayed with lime sulphur in 1915 and from which we removed the fruit, stood bare of fruit during the years 1916, 1917 and 1918, while the trees around them were bearing full crops. I saw them myself in 1917. This year these four trees had the first good crop on the since 1914.

We could go on and produce an endless string of evidence to show that lime sulphur has been at least partially responsible for our having less than one million barrels of apples in Nova Scotia per year from 1912 to 1918, whereas in 1911 we had 1,735,047 and in 1919 after generally going back to Bordeaux close to 2,000,000 barrels. It may interest you to know that even today Prof. Brittain and I are standing alone among the Entomologists and Plant Pathologists of America in condemning lime sulphur as a summer spray on the apple.

One injury from lime sulphur that has never before been noticed is the fact that it reduces the size of the fruit. This is reasonable in view of the fact that lime sulphur injury, we believe, is an injury to the chlorophyll of the leaf so lessening the food gathering power of the leaf. The following table shows the reduction in size of three varieties of apples on account of lime sulphur injury:

Dusting

A great number of experiments have been conducted and much writing done on the subject of dusting during the last few years. The high cost of material, the fact that results from it were not always good, and the fact that a good contact dust was not known, were objections that kept us from considering the method seriously until the winter of 1917-18. The first objection has now been def-

	No. apples required to fill 1 bbl. McIntosh	Ben Davis	Wagner
Nova Scotia 1919 Spray Calendar	690	655	788
Lime sulphur, Arsenate of lead 4 sprays	780	748	855

initely removed. The second now appears less formidable than in the past, while there seems good reason to believe that the third will also be removed. Removing the third objection or the developing of a contact dust is in the hands of Prof. W. H. Brittain and I will therefore not refer to it.

Sulphur Dust

During the past year a great deal of sulphur lead arsenate dust or 90-10 was used in the Annapolis Valley. A proportion of this came in ready mixed and a portion was mixed by the United Fruit Companies. There seems but little difference in the results from the two. The following results were obtained by Mr. C. M. Roscoe, of Centreville, from the dust mixed by the United Fruit Companies. His program was as follows:

2nd dust—90-10 sulphur lead arsenate
3rd dust—85-15 sulphur lead arsenate
4th dust—90-10 sulphur lead arsenate

Percentage of apple scab on Gravensteins: Dusted, 9.64; untreated, 97.5.

On the whole the results from dusting with sulphur during the past season were remarkably good. I think that the good results were largely due to the fact that most of the dust was applied in the morning, when the air was still, and the trees damp, or on still, foggy days.

On an orchard that required 150 gallons of liquid spray per application per acre we used 75 pounds of 90-10 sulphur lead arsenate dust per application per acre.

Copper-Lime-Arsenate Dust

This material has as yet hardly had a trial as it is only two years now since we happened to get the idea of making it and only last month we were awarded a patent on it by the United States Government.

Last year we made the new dust so that anyone applying 75 pounds per acre per application would put on the same amount of copper as are contained in 50 gallons of 2-10-40 Bordeaux. In practice we found it very difficult to apply as much as 75 pounds per acre. In our experiments at Mr. Chute's we applied only 55 pounds or only 81% as much copper as we applied in the liquid spray plot. On analysis we found 85% as much copper on the leaves as on the liquid sprayed leaves, thus indicating that there is less wastage of material in dust than in liquid spraying and as the scab control from the new dust and the Spray Calendar was practically identical, it also indicated great fungicidal value per unit of copper employed.

This year we are increasing the copper and arsenic content of the new dust by 25%, making 50 pounds the full equivalent, in copper and arsenic, 150 gallons of 2-10-40 Bordeaux and the equivalent in spreading value of 75 pounds of sulphur dust. The formlua which we will use on the apple in 1920 is ten pounds of dehydrated copper sulphate, five pounds of arsenate of lime, and eighty-five pounds of hydrted lime.

This experiment shows the sulphur giving the best results, but I do not think from observations that it would do this on every occasion. In one experiment Porf. Brittain used the new dust at the strength we are recommending for 1920, and it gave better results than sulphur dust.

Cost of Dusting Vs. Cost of Spraying

Accurate results as to costs of applying dust and liquid were worked out in the S. B. Chute orchard, and the whole later brought to an acre basis for comparison.

Cost of Applying Four Applications of Dust per Acre.—Time, 16 Minutes for Each Application

Two men 1 hour and 4 minutes each at $0.25 per hour	$0.53
Team 1 hour and 4 minutes at $0.35 per hour	0.37
Interest on dusting outfit, $290 at 6% $17.b0 per acre 1/10)	1.74
Depreciation on outfit 10% on duster, $140 $14.00	
5% on engine, $100 5.00	
5% on truck, 50 2.50	
$21.50	
Per acre 1/10	2.15
Gasoline .21 of a gallon at $0.40 per gallon	.08
Cost of applying per acre	$4.87

Cost of Spraying Liquid Spray per Acre, Four Applications.—Time, 1 Hour and 20 Minutes for Each Application

Two men 6 hours and 40 minutes each at $0.25 per hour	$3.32
Team 6 hours and 40 minutes at $0.35 per hour	2.33
Interest on spray outfit, $450 at 6%, $27.00 (per acre 1/10)	2.70
Depreciation $450 at 15%—$57.50 (per acre 1/10)	6.75
Gasoline 1.6 galons at $0.40 per gallon	.66
Cost of applying liquid per acre	$15.76

The results in the S. B. Chute orchard were obtained from 73 pounds of sulphur dust per acre, 54 pounds of copper-lime-arsenate dust per acre and 150 gallons of liquid spray per acre. In increasing the strength of the copper lime arsenate dust we are reckoning on applying 50 pounds of copper-lime-arsenate dust or 75 pounds of sulphur dust to an acre requiring 150 gallons of liquid, per application, on an acre of 20 to 25 foot trees.

The costs of material for liquid spraying, four applications, following the 1919 Spray Calendar is, according to 1920 prices, $7.21 per acre, which makes the total cost of spraying an acre four times $22.97.

The cost of dusting depends largely upon the cost of dust. On account of the immense buying power of the United Fruit Companies, and the fact that the only way to get low priced 90-10 sulphur lead arsenate is to import the sulphur and buy Canadian made lead arsenate and mix here, enables the Fruit Companies to put out 90-10 for around $6.00 or $7.00 per hundred pounds. The copper-lime-arsenate dust will cost around $5.00 or $6.00 per one hundred pounds.

Table showing cost of four applications of 90-10 sulphur dust at various prices, using 75 pounds per application or 300 pounds per season:

When 100 lbs. of material costs	Cost of material per acre	Expenses of application	Total cost per acre
$3.00	$9.00	$4.87	$13.87
3.50	10.50	4.87	15.37
4.00	12.00	4.87	16.97
4.50	13.50	4.87	18.37
5.00	15.00	4.87	19.87
5.50	16.50	4.87	21.37
6.00	18.00	4.87	22.87
6.50	19.50	4.87	24.37
7.00	21.00	4.87	25.87
7.50	22.50	4.87	27.37
8.00	24.00	4.87	27.37
8.50	25.50	4.87	30.37
9.00	27.00	4.87	31.87
9.50	28.50	4.87	33.37
10.00	30.00	4.87	34.87
10.50	31.50	4.87	36.37
11.00	33.00	4.87	37.87
11.50	34.50	4.87	39.37
12.00	36.00	4.87	40.87

Table showing cost of four applications of Copper-Lime-Arsenate dust at various prices, using 50 pounds per application, or 200 pounds per acre.

When 100 lbs. of material costs	Cost of material per acre	Expenses of application	Total cost per acre
$2.00	$4.00	$4.87	$8.87
2.50	5.00	4.87	9.87
3.00	6.00	4.87	10.87
3.50	7.00	4.87	11.87
4.00	8.00	4.87	12.87
4.50	9.00	4.87	13.87
5.00	10.00	4.87	14.87
5.50	11.00	4.87	15.87
6.00	12.00	4.87	16.87
6.50	13.00	4.87	17.87
7.00	14.00	4.87	18.87
7.50	15.00	4.87	19.87
8.00	16.00	4.87	20.87
8.50	17.00	4.87	21.87
9.00	18.00	4.87	22.87
9.50	19.00	4.87	23.87
10.00	20.00	4.87	24.87
10.50	21.00	4.87	25.87
11.00	22.00	4.87	26.87
11.50	23.00	4.87	27.87
12.00	24.00	4.87	28.87

During 1920, therefore, four applications of the 1919 Spray Calendar will cost $22.97 per acre; four applications of sulphur dust will cost $22.87 to $25.87; and four applications of copper-lime-arsenate dust will cost $14.87 to $16.87 per acre. In other words, dusting with the copper-lime-arsenate dust next year will cost from $6.00 to $8.00 less than liquid spraying or dusting with sulphur. I may here say that there is a strong prospect of our being able to still further reduce the cost of the copper-lime-arsenate dust.

On account of the dust having less sticking power than the liquid it is probably best to apply the material five times in place of four. That is follow the weather more than in liquid spraying.

If one is using the copper-lime-arsenate dust it might be best to put in a 90-10 sulphur lead arsenate dust on the third or Calyx application, on varieties that russet easily like Ben Davis. The new dust will give about one-half as much russeting as a 2-10-40 Thompson Bordeaux, and that in turn will give about one-half as much as a 2-2-40 Bordeaux, but if it is applied to susceptible varieties on the Calyx application some noticable russeting will result.

The copper-lime-arsenate dust is new and I want you to expect some changes in the formula as we work towards perfecting it. The formula that we now have has, in most cases, given excellent results, but there is every probability that we can not only imporve it, but make it much cheaper.

I do not want to persuade any of you who are spraying to leave it for dust, but if any of you will not spray I would certainly advise you to dust. Your results will probably be almost if not quite, as good as from liquid spraying.

I do not believe that a dust machine should do as many acres as the makers claim for it. I believe that the dust should be applied when the air is still and the trees damp or from four to eight o'clock in the morning. One can reckon on treating from twelve to fifteen acres each morning in this way. I would not advise anyone to dust in the wind or when the trees are dry.

One of the biggest advantages of the dust is that a man can treat his orchard when he cannot attend to crops on account of dew, while spraying must be done in weather well adapted to other farm work. Thus not only saving time but exchanging good crop weather for treating the orchard.

I have tried to be impartial in summing up our experience with the two methods and not favor either too much for I am sure that there a place for both for several years to come.

Everyone has seen a grain of oats. It is very small and common looking and yet it contains a living plant. The examination of an oat grain shows that it is made up of two main parts, the outer covering or the hull, and the kernel containing the germ or young plant. The hull serves to protect the kernel but is of little value for food, therefore the oat with a thick heavy hull is not the best kind to grow. "A guide in the Study and Improvement of Plants and Seeds" is a pamphlet prepared by the Canadian Seed Growers' Association, and istributed free upon application to the Publictaions Branch, Department of Agriculture, Ottawa. It has been prepared as a guide for boys and girls in the study and improvement of seeds and plants. Owing to the oat's relative importance among cultivated crops, and to the fact that it lends itself admirably to special investigation, it has ben chosen for this study. What is said about this plant as regards methods of improvement will apply equally to wheat and barley but not to corn or potatoes or to the grasses and clovers.

Culling the flocks in the fall insures that the feed will be consumed by the best producing hens and saves those that will make the best breeding birds. Among the pullets those that are hatched early in the season, that mature early and have begun to lay in the fall are generally the birds that should be kept.

Results from S. B. Chute's Orchard, Gravensteins:

No. of plot	Material	Clean	Scab	Bud-moth	Codling	Green Fruit Worm	Russet	Tussock
0	Unsprayed	.29	98.81	2.98	.11	3.12	.16	.78
1	Sprayed with 1919 Spray Calendar	77.89	21.14	1.58	.16	.89	2.16	.07
4	Dusted with Copper-Lime-Arsenate	73.49	20.45	3.32	.07	2.14	.23	.27
6	Dusted with 90-10 sulphur lead arsenate	85.29	11.04	2.32	0	1.9	0	.03

Gleanings of Agricultural Progress in New Brunswick

DEVELOPMENT OF THE DAIRY INDUSTRY IN NEW BRUNSWICK

Marked progress has been made in the quality of the dairy products in the Province. Two years ago cheese buyers were afraid to touch the output of many New Brunswick factories. To-day the relationship between the buyer and seller is very satisfactory. The cheese is graded by Department officials and these grades accepted by the trade. This has resulted in a very marked improvement in the general quality of the cheese going on the market. New Brunswick cheese is fast approaching as high a standard as that put out by any other part of Canada. Marketing facilities were greatly improved by the organization of a Cheese Board in the spring of 1919. Every two weeks factory managers boarded their cheese and it was sold by auction on a competitive market, buyers from the larger firms being present to bid in the offerings. This system of marketing met with marked success. It was more satisfactory to both buyer and seller. The buyers could get their supplies without having to hunt all over the province for them. Higher prices were secured than would have been obtained under the old system of selling.

A Dairy Show and Convention was held at Sussex early in December, 1919. Butter and cheese from nearly all the creameries and cheese factories in the province was on exhibition. These products represented the regular make of June, July, August and September. The Cheese and Butter was scored by competent judges and prizes awarded to makers and factories coming up to a certain standard. Much valuable information was obtained by the makers in comparing the quality of their product with that put out by other factories.

The Dominion Butter Scoring Competition was also entered into by a number of the creameries in the province. The showing made in comparison with other provinces was very good and indicates that a high quality product can be produced in the province.

The policy adopted by the Department in encouraging and assisting the Central Creamery plan is proving sound. The Moncton Creamery, which began operations in 1918, will in 1919 pay out nearly four times as much money to patrons as in 1918. The number of patrons has increased from three hundred to six hundred. This Creamery is rapidly forging ahead. The making of ice-cream was commenced during the past season. This part of the business will be enlarged considerably next year. The company will find it necessary to enlarge the whole plant in order to take care of the increased business. A Chemical Cold Storage is being installed.

Attention is also being paid to the Creamery at St. Hilaire in Madawaska County. The Department have been assisting in getting this creamery on a sound basis. The output was materially increased over 1918. Meetings will be held during the coming winter and an effort made to secure more patrons for nert year. There is a splendid plant and equipment at this place and an unlimited market for butter at top prices. With a larger volume of business the creamery will soon be on a sound basis.

The establishment of these large Central Creameries has brought about a development in the Dairy Herds of the province. More and better cows are kept as a result of the superior market for cream which the creameries provide.

With the hearty cooperation of the milk producers, the makers and the Department, the next few years will see a rapid development of the dairy industry in the province.

A definite start has been made toward the establishing of a Farmers' Cooperative Creamery at Fredericton. The company is incorporated and is now selling stock. The capitalization is $25,000 divided into 1000 shares of $25.00 each. An outline of the proposal will be found on page 381 of this issue. When this creamery is established, the Province will be well served with creameries.

As an indication of the development of dairying in New Brunswick, the following statistics are suggestive:—

NEW BRUNSWICK DAIRY STATISTICS, 1919

Butter Production

Year	Creamerics Reported	Patrons	Lbs. Milk Received	Lbs. Cream Received	Lbs. Butter Mfgd.	Value Butter
1919	17	1692	3,088,668	3,154,700	915,816	$504.602.22
1918	15	1352	3,244,017	2,504,912	660,884	297,397.80
1917	14	861	801,660	719,238	500,050	199,686.33
1916	21	1263	783,587	2,499,916	709,932	236,194.38
1915	20	1235	858,681	2,792,955	776,416	231,837.82

Increase in 1919 over 1918, Butter Manufactured, 254,932 lbs., Value $207,204.42

Cheese Production

Year	Reported Factories	Patrons	Received Lbs. Milk	Mfgd. Lbs. Cheese	Cheese Value
1919	24	675	12,898,003	1,256,388	$347,772.02
1918			12,111,317	1,174,362	264,304.05
1917			11,150,000	1,115,753	232,527.36
1914	24	555	10,168,839	1,022,026	138,714.73
1912	23	595	10,248,723	1,022,646	130,859.53

Increase in 1919 over 1918, Cheese Manufactured, 82,026 lbs., Value $83,467.07

INJURY TO FRUIT TREES FROM HEAVY SNOW

Dear Sir:—

The recent heavy storms have brought the depth of snow in many orchards well up into the crotch of the trees, a heavy crust first forming a considerable distance from the ground—from 18 to 20 inches—and on top of which subsequent storms have piled in.

It is important that the forks or crotches of all trees now filled with snow should be cleaned out or the snow broken down by foot or club—otherwise branches may be broken off by the heavy weight or crotch damage may result from alternatc freezing and thawing and consequent injury or destruction of the tender growing cells of the bark.

In the case of young trees—from one to ten years—unprotected against mice injury—the crust should be broken through and the snow tramped down firmly around the trunk.

To prevent the possibility of serious damage, immediate attention to your orchard is urged.

Yours very truly,
A. G. TURNEY,
Horticulturist.

BARRED PLYMOUTH ROCKS

Hatching Eggs Day-Old Chicks
from heavy laying strains

imported by the Poultry Division, Department of Agriculture, Fredericton, from the highest laying strains in Maine and the province of Ontario.

Birds from our importations on 1st, 3rd, and 6th places, for number of eggs laid, in the P. E. Island laying contest last year, in competition with pens from the 5 Eastern Provinces. They averaged 29.2 eggs each more than the alance of the contest birds.

In the present laying contest at Nappan, N. S., the entries from New Brunswick are leading.

Eggs 10c each, Chicks 25c each, both F. O. B. Fredericton.

Cash with order.

A. C. McCULLOCH,
Poultry Superintendent,
Department of Agriculture, Fredericton

NEW BRUNSWICK SEED FAIRS

Seed Fairs are eing held at the following points and dates in the province:—

Chatham, February 24th; Port Elgin, March 2nd, Florenceville, March 10th; Provincial Seed Fair, and York County Seed Fair, Fredericton, March 17th; Sussex, March 27th; Buctouche, March 30th; St. Hilaire, April 2nd.

Canadian Ayrshire Breeders Association Annual Meeting

The annual meeting of the above Association, held in Toronto, on Feb. 5th, was one of the best ever held in that city. A most progressive policy was outlined and legislation passed, which, if backed up by the breeders should bring splendid results to Ayrshire men.

That there was need of a more progressive policy was evident and legislation shaped towards that end as the following lists of resolutions will show:—

Two classes were made for the Record of Performance,—a. Continue the present test with the fifteen months freshening requirement eliminated. b. Establish a 305 day test with a freshening period of 400 days; the publication of a monthly periodical was authorized and a committee appointed to take care of publicity work; it was recommended that Fair Boards be asked to raise prizes in keeping with the present cost of showing; in order to stimulate testing in the R. O. P. it was decided to offer a special prize of $50. for every cow breaking a previous record, and to give $100. to the owner of the first Ayrshire cow in Canada to give over 20,000 of milk a year, under R. O. P. rules; the system of Accredited herds was approved, and a resolution passed asking Fair Boards to provide stables at Exhibitions for cattle from Accredited herds; the Constitution was amended to provide for proportionate representation by zones. This will enable Quebec province to have 6 Directors, Ontario 5, Manitoba and Saskatchewan 1, Alberta and British Columbia 1 and the Maritime Provinces 1; grants for prizes at Fairs and Exhibitions were increased from 25 to 100 per cent, and delegates and judges to Fairs appointed. A resolution was also passed approving and supporting the new Royal Agricultural Winter Fair and Dairy Show at Toronto. The Association voiced its disapproval of any interference with the length of the working day on the farm, either by labour unions or legislatures, and also disapproved of Daylight saving, so called.

Both the president and secretary in their reports voiced their opinion that the future of the breed in Canada, must be built on the intelligent use of the Record of Performance test.

That there was need of more funds to "carry on" with increased expense for administration and publicity work was evident, and to meet this emergency the annual members fee was raised to $4. in 1921, and the Registration fees were also increased as follows:—Registrations, to MEMBERS—Females, under ONE year, $2. Males, under ONE year, $3., Males or Females, ONE year and under TWO years, $5., Males or Females, TWO years and over, $10. Transfers, if made within 60 days from date of sale, $1., Transfers, if made after 60 days from date of sale, $2., Duplicate Certificates, .50, Old Form Certificates changed to National Certificates, .50c, For recording pedigrees of ancestors, $1., Imported animals, $5. To NON MEMBERS—Females under ONE year, $3., Males under ONE year $4., Males or Females ONE year and under TWO years, $8., Males or Females, TWO years and over, $10., Transfers if made within 60 days from date of sale, $2., Transfers, if made after 60 days from date of sale, $3., Eliminate free transfer at present granted to second owners when applying for registration. These fees to come into effect on May 1st, 1920.

Mr. H. S. Arkell, Live Stock Commissioner was present and gave a brief address, intimating to the breeders that we are approaching a critical time in the development of the live stock industry in Canada. He advised breeders to consider what the future holds in store for the industry, and to begin a reconstructive policy with the future in view. Dr. Hilton, of the Health of Animals Branch, fully explained the Accredited herd system. Prof. Archibald, Director Experimental Farms, advocated the making of bigger records in the R. O. P. and told what they were doing for Ayrshires on a number of the Experimental farms throughout Canada.

The following Directors were elected:—Eastern, R. R. Ness, Howick, Que.; M. Ste. Marie. Compton, Que.; J. H. Black, Lachute, Que.; Gilbert McMillan, Huntingdon, Que.; Hector Gordon, Howick, Que.; Frank Byrne, Charlesbourg, Que.; Bert R. Brown, Little York, P. E. I.

Western—W. W. Ballantyne, Stratford, Ont.; John McKee, Norwich, Ont.; Alex. Hume, Campbellford, Ont.; A. S. Turner, Ryckman's Corners, Ont.; Wm. Hunter, Freeman, Ont.; George Gillespie, Ventnor, Ont.; Sam Shannon, Cloverdale, B. C.

At a subsequent meeting of the Directors, Gilbert McMillan was elected President, Wm. Hunter, Vice-President and W. F. Stephen, Secretary-Treasurer for the 16th year.

Life is a solemn reality based upon eternity and encompassed by eternity. Find out your task; stand to it; the night cometh when no man can work. —T. Carlyle.

Notes From the Nova Scotia Agricultural College

NOTES ON FERTILIZERS

In this year's report of the Secretary for Agriculture, under the heading of the Farm Superintendent's report, there is a very interesting account of the use of Nitrate of Soda. A thirty acre field of run out land was sown to oats, with various fertilizers applied in sections. These were crossed with strips here and there to which nitrate of soda was applied at the rate of 100 lbs. to the acre.

The most striking fact to be deduced from the tests thus made was that the addition of this material to slag, acid phosphate, bone meal, ilme phosphate, etc., increased the productoin by 10 bushels per acre. Nitrate of soda can be bought this year at from $4.00 to $5.00 a hundred. In other words, the cost of an effective appli cation is, say, $4.50 per acre. An extra ten bushels of oats at present market prices is worth at least $10.00.

Farmers in the Annapolis Valley region are each year increasing their use of nitrate of soda. The Annapolis Valley United Fruit Co. alone has been buying 100 tons more each year than the preceding one.

Practically every kind of crop responds with increased yield to the use of this kind of fertilizer. It may be applied either before seeding or after the plants are up. The only precaution to be observed when applying after is to be sure that the plants are dry.

Nova Scotia farmers, outside the Annapolis region, have not heretofore used nitrate of soda in any great quantity because of the seeming high price. This, however ,is more apparent than real. While it costs about $100 per ton, the quantity used is only about 1/5 as much as is necessary of other fertilizers.

The Secretary for Agriculture was recently looking over the record of sales made by one of the largest Fertilizer firms in Eastern Canada. He was struck with the fact that N. B. farmers, particularly those of the large growing sections, are buying nothing but high grade fertilizers, while N. S. farmers in the main are investing in the low grade materials. This is poor business on the part of the latter. Low grade fertilizers are made low by the addition of sand or other inert and useless matter. Thus the purchaser of these is simply paying for stuff that he has abundance of all over his farm, and incidentally enriching the transportation companies by paying freight on it.

At the recent Annual Meeting of the Nova Scotia Farmers' Association ,held at Kentville. Mr. Margison of East Centreville ,N. B., a man recognized as one of the most successful potato growers in that province, gave a very practical talk on Potato growing. What he said about fertilizers is worth considernig by every Nova Scotia farmer.

He stated that he could not afford to use anything but the high grade fertilizers. While they cost more per ton, they cost less per unit of plant food. The low grade material is simply sanded down.

Mr. Margison himself uses 5-7-7 potato fertilizer, i. e., 5% ammonia, 7% phosphoric acid and 7% potash. Farms that have been well supplied with barnyard manure may not require so large a quantity of potash, but experiments carried on at the Agricultural College farm have clearly shown nthat the fertilizers with a high content of ammonia and phosphoric acid are always cheaper in the long run, and that potash in large quantities should be applied on lands which have not been enriched by heavy applications of barnyard manure.

The speaker also stated that he applied these high grade materials at the rate of 1500 to 2,000 llbs. per acre, which is at least double the amount used by the average Nova Scotia potato grower. Except on very rich soil, it paid Mr. Margison to use this large quantity, and the same experience doubtles would fall to the lot of any other farmer who makes a like outlay.

The whole question of commercial fertilizers is one on which the farmer needs to apply the same keen intelligence he is in the habit of showing on other questions. Cheapnesss must not be the criterion of choice. This is one line in which cheapness should repel.

The Secretary for Agriculture used a rather striking illustration at a recent gathering of farmers in Truro. He said that the man who chose low grade fertilizers on account of its cheapness is like a man who goes to an apple dealer with $3.00 when the market price is $4.00, and, unable to buy a barrel at his own price, asks the merchant to put in as many as he can for that money, and to fill up the barrel with stones so that he will will have a barrel-full anyway. Low grade fertilizer is made up more cheaply in exactly the same manner. Anyone who feels that he would like more information on the whole question would do well to write to the College.

ECHOES FROM THE DAIRYMEN'S CONVENTION

Nova Scotia manufactured 331,439 lbs. more of creamery butter in 1919 than in 1918. The Creamery butter production of the Province now runs away over the million mark.

If butter is to have good keeping qualities, the cream must be right to begin with. Then it must be pasteurized.

A large and properly equipped Dairy School is an immediate necessity in the Maritime Provinces if they are to keep pace with the Dairy world.

Cream grading is an effective step toward improving the quality of butter.

The Dominion Educational Butter Scoring Contest is a big move in the right direction. Canada needs a medium whereby to secure a uniform quality of butter from East to West.

The time has arrived when more definite knowledge of the cost of producing a quart of milk, or a pound of butter fat, should be available to any enquirer. This is a piece of work which can best be done by the Dairy Division, N. S. Department of Agriculture.

Railway employees should 'Have a heart." Our milk and cream cans ought not to be treated as if they were footballs. They are easily damaged, and they are expensive.

The Summer Butter Competition has been a good thing, but there has been opportunity to do some 'selecting." We hope the new directors will eliminate this.

Among the many good moves made during this year is the moving of the Dairymen"s Convention to the Dairying towns. Accordingly, Bridgewater is to be the next place of meeting.

The Dairymen's Associdtion must branch out and do smething to stimulate milk production.

Now we are attaining our majority, and are to be the first Agricultural Association to walk alone. The Association aims to be absolutely self-sustaining henceforth. Give us your good wishes.

R. B. McLennan has proven himself a good inspector, and an effective instructor. We are sorry to lose him, but wish him every success in his enlarged business at Truro.

Harry Brown is laying the foundations of dairying in cow testing and herd improvement, and doing it well. These are first essentials.

Canadian Co-Operative Wool Growers, Limited

The Second Annual Meeting of the Canadian Co-operative Wool Growers, Limited, was held in the office of the Company at 128 Simcoe Street, Toronto, February 5 and 6th, 1920. Delegates from parctically every Sheep Breeders' and Wool Growers' Association in Canada were present to go into the work of the year just closed and to formulate the policy of the organization for 1920.

These delegate shareholders were as follows: J. E. Davidson ,S. A. Logan, Nova Scotia; W. H. McGregor, P. E. Island; T. Hetherington, New Brunswick; Wm. Hay, E. E. Temple, J. R. McDowell, M. Ste. Marie, J. A. McClary, Quebec; W. A. Dryden, Col. Robt. McEwen, J. E. Cousins ,Ontario; Geo. Gordon, W. I. Smale, J. R. Hume, Miss E. C. Hind, Manitoba; J. D. Wilson, W. W. Thomson, Geo. Sutherland, Wm. Kerr, J. L. Beattie, Saskatchewan; J. W. Renton, Bishop Harker, Richard Knights, W. G. Smith, Alberta; and Geo. C. Hay, British Columbia.

The Balance Sheet of the organization as at the close of the financial year ending 31st December, 1919, together with a statement of the Profit and Loss Account ,were presentetd to the meeting. The profits for the year, after paying the cost of management and all other exenses, amounted to $33,589.66. A dividend of 6% per annum was declared payable March 1st, 1920 on the Paid Up Capital Stock as on the books as at 31st October, 1919, while after providing for a general Reserve and a Reserve for Income Taxation purposes, the balance, some $10,000.00, is to be distributed to patrons of the organization according to the business done.

Many representatives of the Provincial Departments of Agriculture and the Dominion Department of Agriculture were present and these men contributed towards the success of the meeting.

Mr. H. S. Arkell, Live Stock Commissioner, Ottawa, in addressing the meeting congratulated the delegate shareholds present on the success that has been achieved. He outlined the plan of co-operation with this organization for the coming year in grading the wool. The work of grading, which formerly has been done by the Department, will be continued during the coming year an much the same basis as past years except that the work would be centralized as far as possible, this being in accord with the views of the Canadian Co-operative Wool Growers, Limiited.

Weston Warehouse

During the year a warehouse, two storey, having a total of 40,000 square feet of available space, was erected at Western Ontaior, for the purpose mainly of handling the Western wools. This warehouse during the past season was taxel to its utmost so that with the proposed policy of centralizing grading it will be necessary to erect an additional storey before the wool season opens this year. The warehouse was erected at a cost of $73,143.60 and with the proposed addition the Growers will have a first class warehouse worth well over $100,000.00.

Lennoxville Warehouse

In order to competently handle wools from the Province of Quebec, rather than bringing them to Toronto, it was deemed advisable to construct a warehouse at Lennoxville, Quebec. This is already under way and it is now expected it will be completed by the 1st of May and will have a capacity of about 10,000 square feet.

Mr. Akeroyd's Address

Mr. Alfred Akeroyd, the Boston representative of this orangization outlined to the meeting the situation in the wool market of the finer grades of wool compared with the lower grades. He emphasized the continued demand throughout the season for fine wools while the lower grades were very much neglected. This naturally caused a very marked spread in price between the lower grades and the finne grades, the latter of which had a very considerable advance during 1919, while of the lower grades it is a very difficult problem to dispose of same satisfactorily in comparison with the higher priced wools. Another factor has been the dumping of wool by both the British and American Governments. The question was asked Mr. Akeroyd whether he would recommend the Canadian breeders to change their breed of sheep and produce fine wools. He answered emphatically "NO," for the demand would swing back for the long combing wools which Canada was producing. The very fact that the supplies of fine wool was nearly exhausted would ultimately swing back to the demand for tweeds and serges that could be made from the lower grade of wools.

Change in By-Law

By-law No. 38 of the Company provides for the rate of interest to be paid to shareholders and stipulates that the erserve fund should be 1% of the year's sales but at no time should exceed the Paid Up Capital. Notice of Motion has been given to amend this By-law and this amendment occasioned the longest disucssion of the Annual Meeting. The amendment proposed was "That the Board of Directors is authorized to so conduct the affairs of the Company as to provide a charge against all business sufficient for an annual payment of 8% on the Paid Up Capital and to provide, from year to year, such reserve fund as to the directors may seem encessary in the interests of the Company. Any further annual surplus in possession of the Company should be distributed to the patrons of the Company, whether shareholders or not, in porportion to the volume of business done.

Plans for the Coming Year

Plans for the coming year were very fully discussed and were finally consolidated into a series of resolutions for the guidance of the Board of Directors and the Executive.

One of the most important of these resolutions was to the effect: "That this organization during the coming year recommend to all shippers of wool that, with a view of establishing better grades on their product and as a result of a better market therefor, all wool be shipped to the central

(Continued on page 391)

THE MARITIME FARMER

And Co-operative Dairyman
Registered Trade Mark

Fortnightly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

Subscription price $1.00 per year. This paper is sent to subscribers unless a definite order for discontinuance is given.

The date after your name on the little green label on front page, is in every case the time to which your subscription is paid.

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MARCH 2, 1920

FOR EASTERN FARMERS

The Harrisville Agricultural Society is the first to have a kick at the Western United Farmers plan for high priced flour and feed. Here is a straight-from-the-shoulder resolution (not dictated from Winnipeg), passed by the progressive farmers of Lewisville:

Editor Maritime Farmer,

Dear Sir:—

We, members of Harirsville Agricultural Society and other progressive farmers convened in our regular meeting, this tenth day of February, 1920, having considered your article in "Maritime Farmer," February 3rd, under the heading "A Narrow National Policy" in which you protest against a continuation of the unfair discrimination against the products of the Maritime Provinces by the favors given the wheat growers of the West and their expressed purpose at the recent grain growers' meeting at Manitoba, to request the Government for still more.

We would convey to you our appreciation for your timely article on this subject.

We consider the request for further favors to the West to be paid by us, unreasonable and positively detrimental to both Agriculture and labour in the Maritime Provinces.

If, for the flour and feed we receive from the West, we must continue to pay artificial prices, then our products, butter, milk, eggs, potatoes, etc., should also have government protection for special prices. If we follow the example of the organized farmers of the West re wheat, it must ultimately increase all and every necessity of life; a thing no one who regards the best interest of his country and his fellows can endorse.

We stand, irrespective of race, class, creed or political affiliation for a fair and equal deal to every man in every part of our Dominion. We therefore most heartily endorse your position and will stand with you to the last ditch for equal rights to all and special favors to none.

Lewisville gives the lead, what does your farm organization propose to do?

NATIONAL MARKETING OF WHEAT

National marketing of wheat is one of the biggest questions to-day before the farmers of the east. The United Farmers of the west are passing resolutions favoring the continuance of an arrangement which was designed to meet war conditions only. On the other hand, the Nova Scotia Farmers Association passed resolutions protesting against the high prices of feed. The western men are backing up their resolutions by sending delegates to Ottawa to urge their petition. The only logical answer to that is a delegation from the east, which should proceed to Ottawa, be there at the same time as the grain growers, and protest as vehemently as possible against any special treatment for western farmers as against eastern agriculturalists. The passing of resolutions will accomplish little. If something is not done to meet this demand, high prices will continue for feed and the men who must pay it are the stock owners of the Maritime Provinces. The time has arrived in Canada, when it seems that the man making the most noise, gets most attention at Ottawa. It is about time we, in the Maritime Provinces started to make more of a "holler". Noise has paid in the west. Let's start something down here in our own interest. In the meantime, the grain growers have several missionaries in the Maritime Provinces, telling our farmers how western hearts are simply bleeding in sympathy with us in our trials and troubles. Don't you believe a word of it, particularly if you are a stock raiser and need feed. The grain growers are getting ready to put one over. They may have nice things to say, but they have a brick in either hand for those who must buy feed. Let's go to Ottawa, too.

RATHER TOO MODEST

In introducing itself to the business and manufacturing interests of Canada, the United Farmers' Guide neglects to mention that it is controlled by the Grain Growers Guide of Winnipeg, and that it is being run in the interests of the grain growers. It is too modest. Surely it cannot be that it hides its profession under a bushel in order to win sordid dollars from the "Big Interests." Even Brother Chipman, the heavy gunner of the Grain Growers Guide, effaces himself when he appeals to the "Big Interests". In no place does his name find mention, although much prominence has been given to the prestige of his name in approaching Eastern farmers for subscriptions and sample copies of the Winnipeg paper have been used as bait for the unwary. The new journal and Bro. Chipman are modest little things.

FARMERS IN PARLIAMENT

There is plenty of room in the Dominion Parliament and the provincial legislatures for farmers. They will add to the usefulness of all these bodies and give the cultivators of the land that representation they deserve. But it is not necessary to send men there who are pledged in advance to do the bidding of the Winnipef Council of Agriculture. Let us in the Maritime Provinces send farmers to represent us, who will look to the welfare of Nova Scotia, New Brunswick and Prince Edward Island—men for instance who are not pledged to vote for high priced wheat, or by their silence to condone the attempt to inflict on eastern farmers the continuance of artificially priced feed and flour.

BREED UP

There is always plenty of room at the top in breeding pure-bred live stock of any class. The advice "grow into a pure-bred herd," which means purchasing a few good pure-bred animals for a foundation and gradually building up the herd, is very good for the majority of beginners in the pure-bred business. One is always justified in laying a foundation for a pure-bred herd when he has learned the art of selecting, feeding, and rearing animals that have merit in serving their purpose. Not until one has learned, however, the art of salesmanship and has established his reputation as an owner and breeder of pure-bred live stock, is he justified in disposing of too many good grade or native cattle and replacing them with pure-breds. It is a safe policy to grow into good pure-bred live stock and into the art of honorably selling the surplus as fast as possible. Such a policy will add wealth to all who adopt it and be of great advantage to the cattle industry.

LIME STOPS CLUB ROOT

Tests at the Ohio Experiment Station, Wooster, show that the club root of cabbage may be controlled by heavy applications of lime on the infected soil. From 70 to 80 bushels of limestone per acre are required to completely destroy the disease. Club root also attacks cauliflower, particularly when grown on soil infected with the club root of cabbage. The lime applied to control the disease is also effective in sweetening the soil, thus resulting in greater crop increases.

* * *

The Winnipeg Grain Growers proposed publication calls attention in its notice to advertisers that five per cent of the farm population of the Maritime Provinces has left the farm in the past ten years, and solemnly promises to correct this and to make life more pleasant and easy on the farm. Just as a starter, its onwers, the Grain Growers of Winnipeg, have given a lead by asknig Maritime Province farmers to continue to pay inflated prices for flour and mill feeds. No doubt the Maritime Province farmer full appreciates the tender solicitude in his behalf.

* * *

Well done, Lewisville! The first kick against high prices for wheat products comes from the home of the new Grain Growers Guide publication.

* * *

Another Westmorland farm organization on the outskirts of Moncton sends a list of 72 new subscribers to the Maritime Farmer this week, with its best wishes and promises more. The fight against the Western attempt to rob the Eastern farmer is being appreciated.

* * *

No discrimination against the east from Winnipeg.

* * *

We can elect our own farmer members without advice from the West.

* * *

We want men with Eastern ideas—uncontrolled by the voice of the prairies.

* * *

Organize Mr. Farmer, but contril your own organization.

* * *

Twenty dollar flour won't go down.

* * *

See that the fruit trees are pruned and set in condition for next season's crops. Before the spring work begins is a good time to do the job.

The N. B. Farmers' and Dairymen's Association

The forty-fourth annual convention of the New Brunswick Farmers' and Dairymen's Association will be held in the Assembly Hall of the Provincial Normal School, Fredericton, commencing at 9 o'clock on the morning of Tuesday, March 16th and continuing until the evening of the 18th.

The President of the Association is Mr. C. F. Alward, of Havelock, one of our most intelligent farmers, who has done a lot of institute work not only in his own province but also in the other Maritime Provinces and in Ontario. Every Agricultural Society in the province is entitled to send one or two delegates the respective societies paying in full their legitimate travelling and hotel expenses. The Department of Agriculture, in turn, refunding one-half of the expenses of each duly accredited delegate to the treasurer of the respective societies. For instance, Society No. 200 sends as its delegate Mr. B., who buys a single first class railway ticket to Fredericton and at the same time asks the station agent from whom he purchases it for a Standard Certificate. This Standard Certificate must be handed on the arrival of Mr. B. to the Secretary of the meeting, who will sign it and return it to Mr. B. This certificate when presented to either the C. N. R. or C. P. R. station agent at Fredericton, will entitle Mr. B. to a reduced fare for the return trip.

The total of Mr. B.'s railway and hotel expenses, we will say, amounts to $20.00. Mr. B. will be paid this amount and on presentation of Mr. B.'s expense bill by Society No. 200 to the Department of Agriculture at Fredericton one-half of this amount, which, in this case, amounts to $10.00 will be refunded to the Society.

Each and every society sending a delegate to the Association should place in the delegate's hands for introduction at the meeting any resolutions or features that they would like the Farmers' and Dairymen's Association to discuss.

The delegates should see to it that they are present at each meeting of the series and listen attentively to the discussion so that when the question is called they may vote intelligently. There will be ample room for discussions on the various topics that will be brought regularly before the meeting. Each and every delegate will be encouraged and is expected to take part in the discussions.

Following is the proposed program which is subject to revision:

Tuesday, 9 A. M.

Appointment of Committees.
Cloverculture and Seed Selection—O. C. Hicks.
Bee Culture—L. T. Floyd.
Horticulture—A. G. Turney.
Field Crop Competitions—M. A. MacLeod.
Open Discussion.

Tuesday, 1.30 P. M.

Dairying and Co-operative Creameries, A. E. Trites, Salisbury; H. W. Coleman, Sussex.
Breeding and Feeding Dairy Cattle—T. M. Trueman, Truro.
Open Discussion.
4 P. M., French Section—Mr. J. A. Ste-Naire, Ottawa.

Tuesday, 8. P. M.

President's Address.
Mayor's Address.
Reply by Vice-President.
Address—Minister of Agriculture.
Tabling of County Vice-President's Reports.
Fertilizers—Mr. H. G. Bell, Toron, to, Ont.
Open Discussion.

Wednesday, 9 A. M.

Poultry Raising—F. C. Elford, Ottawa; A. C. McCulloch, Fredericton.
Co-operation—J. D. McKenna, Sussex.
Marketing of Eggs and Fowls— G. R. Wilson, Moncton.
Open Discussion.

Wednesday, 1.30 P. M.

Sheep Husbandry—E. P. Bradt.
Marketing of Wool and Lambs—J. K. King, Moncton; Robert Donaldson, Sackville, N. B.
Open Discussion.
4 P. M., French Section—M. Tardif.

Wednesday, 8 P. M.

Pork Production—G. B. Rothwell, Ottawa.
Potato Spraying—George E. Sanders.
Potato Growing and Grading—A. A. T. Margison, Centreville, N. B.; G. B. Porter, Andover, N. B.
Open Discussion.

Thursday, 10 A. M.

Visit to Experimental Farm.
Lime in Agriculture—E. M. Taylor.

Thursday, 8 P. M.

Election of Officers..
Resolutions.
Soldier Settlement Board — Wm. Kerr, St. John, N. B.
General Discussion.

FIELD EXPERIMENTS

An Address by J. A. Clark, B.S.A., Supt. Dominion Experimental Station, Charlottetown, P.E.I., at the recent N.S.F.A. Convention

The field experiments that I will describe this afternoon are a few of a series that we have been conducting at Charlottetown. Your conditions differ from ours slightly and I will simply give a description of our work and let you draw the conclusions or ask questions, as discussion usually brings out the information that you wish most quickly.

Rotation experiments consist of 3, 4, 5 and 7 year rotations. Eradication of Weeds—A three year rotation was started nine years ago on a piece of land with ox-eye daisies and overrun with yarrow. The field had been used for a number of years as permanent pasture as it was wet and unsatisfactory for other crops. We drained the land in 1910 by placing tile about 2½ feet deep and 33 feet apart. The 6 inch main crossing the field diagonally. The area of each section of the rotation was 1 acre and the slope of land was to the west.

The purpose of the rotation was to destroy the perennial weeds present, Ox-eye daisy and yarrow, and to determine the increase in fertility of the land so treated. The plan of the rotation was: 1st year, a hoed crop, and we have usually grown potatoes; 2nd year, grain, this has been wheat; 3rd year, hay, and after the first round of the rotation this has given us good clover.

One section of the rotation after it had been broken from the permanent pasture sod for several years remained very badly infested with yarrow. This was manured on the sod at 15 tons per acre and plowed one year in early August after the hay had been removed. The plow was followed by a heavy roller to put the sod down the way it would not tear up with the cut-away-disc harrows. A double angle scrape of the harrow mentioned was given this field whenever the yarrow would show green between the sods throughout the summer or about every week or ten days. In late autumn the field was ribbed up across the face of the slope to prevent washing and to give the frost a chance to kill the roots of the plants. This effectually rid us of the old roots of the yarrow and the rotation prevented this plant from producing seed as it is like the ox-eye daisy which does not flower the first year after the seed germinates. A description of the handling of this section for one round of the rotation will illustrate our method. The land was levelled by using the spring tooth harrow lengthwise of the ribbing first time after the land was ready in the spring. Then the field was harrowed angleways, usually giving it a double angle scrape each time as it is much easier to turn the disc harrow on a small area in that way. When in good tilth the potatoes were planted with an Iron Age planter in rows 30 inches apart. The rows were levelled with the spike harrow which was used for cultivation until the plants were well above ground. When the potatoes were from 2 to 4 inches high the seed shoe, etc., were removed from the planter and the potato plants covered deeply by two covering discs of the planter; this destroyed many weeds and kept the bugs off for a time. The horse cultivator was used after each heavy rain throughout the early summer and the plants were sprayed with Bordeaux and poison regularly until autumn. The potatoes were dug and stored and the land ridged up in November. The following spring a good seed bed was prepared and the section sown out with 10 pounds red clover, 2 pounds alsike and 12 pounds of timothy with 1¾ bushels of wheat as the nurse crop. We are using our rotations for the multiplying of our best sorts of cereals, and usually grow 1 acre of Elite stock seed of a variety on the sections. This enables us to have a fair amount of first generation seed of all of the leading cereals for sale to breeders. We find the clover plants among the wheat frequently smother many weeds as it usually is up to the hands of the sheaves at harvest.

The third year of the rotation the clover hay is cut when in full bloom and in any event before the 25th of July, since we have found that ox-eye daisy does not mature its seed sufficient to reproduct itself if cut previous to that date. This completes the cycle of the rotation and as the weeds mentioned do not have any chance to mature seed it is only a question of starting all the seeds already in the ground and then destroying the plants to get your field entirely free. At the end of the first three years there was a marked decrease in the daisy; at six years only a sprinkling of the bloom was to be seen over the field and at nine years all the plants left could be easily hand picked and we have decided to cancel the rotation and use this land for other experiments that are now more urgent.

This three years rotation has produced a larger quantity of farm produce per acre than any of our other otations. It is planned for the eradication of certain weeds and is the cheapest method of destroying them when it can be used in connection with suffiicient permanent pasture it is one of the most suitable stock rotations. In 1918 the returns were: 1st year 360 bushels, 55 pounds potatoes; 2nd year 33 1/3 bushels wheat; 3rd year 2 tons, 1083 pounds clover hay.

The four years rotation is most popular with those who prefer to grow their roughages and purchase part of their concentrated food-stuffs. Commencing with hoed crops which are followed by grain, clover hay and pasture; this rotation has a great many good points and can be strongly recommended. The farm can be divided into the four equal sections of the rotation by two fences that cross in the middle of the farm.

The five year rotation: grain, hoed crops, hay and pasture is probably the one best suited to the average dairy farm. It will supply almost twice the quantity of concentrates per year that could be secured from the four years rotation; thus saving large bills for expensive mill feeds. If the grain after sod be seeded down with clover, a good cut of clover hay the fourth year of the rotation is pactically assurred. This, with corn, roots, and O. P. V. grown from the second year of the rotation will supply a large qquantity of the best roughages, for cows.

Seven Years Rotation

This rotation, frequently known as the P. E. Island rotation, has a few good points; one of the best of these being the long interval between hoed crops, which is the best preventative against such diseases as club root of turnips and certain potato diseases. It starts with grain, then hoed crops, grain, hay and pasture. The four years in sod makes it very tough for breaking, greatly erduces the proportion of clover in the hay crop, and frequently allows the land to be overrun with noxious weeds and moss. I scarcely think this should be called a satisfactory rotation, but many of our farmers are still following it or a slight modification of this rotation.

Cultural Experiments

Previous to starting our soil cultural experiments we staked off the field and recorded the yield of oats from all the plots one year and the yield of barley the following year. A fairly accurate record was also secured of the nature of the crops grown for the previous 13 years was also secured as a working basis. The land which is a sandy loam underlaid by a gravel brick-clay hard pan had to be drained. This was done as uniform as possible except in the area devoted to tile drainage experiments, where we laid the tile at depths varying from 24 inches to 48 inches. So far the drained plots have given greatly increased yields over the undrained averaging 21 bushels and 30 pounds per acre over the check plots in between. We find very little difference, however, between the plots tiled at different depths. In fact, the one with tile 24 inches deep gave a better yield than those at 30 or 36 inches. I expect that this is due to the fact that we have an impervious hard pan at about 18 inches below the surface and that the drainage is over the surface of this to each drain and then a straight drop to the tile.

Another experiment that will interest most men, was one comparing autumn and spring plowing.

(Continued on page 396)

HORTICULTURE.

BEES, THEIR VALUE IN THE ORCHARD

(An address by F.W.L. Sladen, Apiarist, Dominion Experimental Farms, at the recent Nova Scotia Fruit Growers' Association.

It is a good sign that the Nova Scotia Fruit Growers' Association has invited a beekeeper to speak on bees, because I can safely predict that before very long the value of honey produced in the province will be as great as that of the fruit produced today. I say this, bearing in mind that honey can be produced very profitably nearly all over the province. But beekeeping in the province is as yet only in its infancy. It looks as if the fruit growers are going to have the honor of taking a leading part in raising this promising infant for the very good reasoon that is the subject of my address today.

The evidence that insect visitors to the blossoms are necessary for the production of apples is strong and convincing. Professor Waite, whose experiments are published in the year book of the United States Department of Agriculture for the year 1896, reported as follows: Out of 2,536 blossoms covered with gauze, only three apples set fruit. The Baldwin, Spitzenburg and the Fameues set some fruit. The Baldwin, which is often self fertilized, gave four times better results when pollinated with a different variety. The cross pollinated apples were larger, more highly colored and better supplied with seeds than those that were self pollinated.

Similar results were obtained at the Experimental Farm at Kentville last year. Uncovered blosoms produced from one hundred to fourn hundred per cent. more fruit than covered blosoms.

The explanation of these results is as follows: Each apple blossom contains the male element consisting of numberless dustlike pollen grains held in the anthers at the tips of the stamens, and the female element, or ovule, of which there are five contained in five ovaries. Each ovary carries a stem or style, ending in a stigma which receives the pollen. In order that the apple pips or seeds, and in practically every case, the apple itself, may develop, the ovules must be fertilized by pollen that has been placed on the stigmas. The pollen grain is caught on the sticky surface of the stigma and throws out a pollen-tube which grows down through the style and after a few days reaches the ovule and fertilizes it.

Several authors assert that if several of the ovules fail to be fertilized the apple will be deformed, and is liable to become a windfall. Most varieties of apples need pollen from a different variety to effect fertilization, or if th evariety is self fertile, the apple is larger and better if the pollen comes from another variety. Among the varietie grown in Nova Scotia, the Nonpariel, Blenheim, Ribston and King of Tompkins are known to be self fertile, while Baldwin and Wealthy are self fertile to some extent.

The pollen of the apple is somewhat adhesive or sticky. It therefore cannot be carried by the wind to any extent. This was demonstrated by Waugh. He exposed sheets of glass covered with vaseline in an orchard in windy weather. An insufficient quantity of pollen collected on these sheets to effect pollination even in warm sunny weather with a direct wind, at a distance equal to that of one tree from another.

The insects visiting fruit blossoms are honey-bees, solitary bees, wasps, flies, flying beetles and ants. The bees and especially the honey-bees, are much better pollenizers than the wasps, flies, etc., because they work regularly from flower to flower to collect the nectar and pollen. They are the regular agent appointed by nature to carry pollen from flower to oower. Their bodies, legs, and tongues are covered with hairs which serve that purpose, and the hairs are frequently branched. The wasps, flies, beetles, etc., are occasional and accidental visitors. They have no regular business at the flowers. They do not work assiduously like the bees. They may alight on a flower and rest there for some time, and then alight on another part of the tree or on the ground. Certain species of social wasps (Vespa) are an exception in that they work like the bee on certain flowers such as Cotoneaster, Rhamnus and Impatiens. These various insects are therefore far lesss useful than the industrious and hairy bee, and of insignificant value in comparison under normal conditions.

I regret to say I have not yet been in Nova Scotia in apple bloom time, so that I cannot say how far the bumble-bees and solitary bees and certain wasps will do the work of fertilizing, but I feel safe in saying that the apple growers of Nova Scotia need honey-bees to do this work more than those of southern Ontario, the Okanagan Valley of British Columbia and New York State for two reasons.

The first and most important reason is that on account of its maritime situation Nova Scotia has a greater rainfall, and especially in parts that are exposed to sea fog, is apt to have less sunshine and lower day temperature to apple bloom time than the other fruit frowing regions. Bees will work well and freely on the blossoms only in gavorable weather. On cold days and in heavy rain they will not work at all. In a season where there are only a few hours of suitable weather for the work of the bees, the bees must be working industriously in large numbers to accomplish pollination. The advantage of the honey-bee is that it winters over in the adult stage in large numbers, 10,000 to 20,000 in the hive, and during the time the apple is in bloom, the population of the hive has increased to 30,000 or 50,000. It takes only five weeks to raise a bee ready for work in the orchard, and breeding begins when the willows start flowering.

Unfavorable weather has also a bad effect on the blossoms. Some recent studies of pollination of plums by Dr. Dorsey at the University of Minnesota show that unfavorable weather at blooming time may completely prevent the setting of fruit. Rain closes the antlers and temporarily locks up the pollen. Further, and this is very important. pollen tube growth is slow, especially in low temperatures, so that unless pollination is done early, fertilization is liable to be missed, because the stigma is receptive for only four to six days. and the style withers eight or twelve days after the blooming. There is no reason to doubt that these conditions are paralleled more or less in the case of apples. and that pollination to be most effective should be done when the buds are opening. This limits the time allowed to the bees for doing their work to a much shorter period than might be supposed and shows how important it is that there should be an abundance of honey-bees to visit the opening buds in their thousands as soon as the weather is favorable.

The other reason Nova Scotia needs honey-bees more than the other principal apple growing areas on this continent is that the number of species of wlid bees in the Annapolis Valley is not nearly so great as in southern Ontario, the Okanagan Valley, New York tate, etc., and I can find no evidence that certain species visiting fruit bloom are particularly abundant or becoming more abundant. However, this is a line in which more investigation should be done, and if any useful species of bumble-bee or solitary bee is inclined to increase, it might be possible to encourage it. I have noticed that bumble-bees are not particularly abundant in the Valley in July and August, not nearly so abundant as in England, which indicates that they must be comparatively scarce in fruit bloom time because the bumble-bee is not like the honey-bee. The bumble-bee colony perishes in the fall, and only the young queen-bees winter over. The queen does not start to lay her eggs until willow bloom is advanced or over, and ten or twelve small workers are all that she can raise at first. This is also true of the social wasps. The numbers of bumble-bees and also of the solitary bees vary very much from year to year in that they are likely to be greatly reduced in some seasons by parasites and

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enemies, and the Nova Scotia winter is very trying to many of them. The solitary bees do not work so industriously on the blossoms as the honey-bees and the bumble-bees.

In the United States, it has been declared by careful investigators that honey-bees are more valuable for fruit production than for the honey they produce. How much more must this be true in Nova Scotia where the climate is less favorable, and wild bees less numerous. Evidently the presence of honey-bees in Nova Scotia orchards in numbers is highly important to ensure against failure of the apple crop in a season of unfavorable weather.

Escaped swarms that have taken up their abode in hollow trees and between the walls of buildings, etc., have probably helped to maintain the bee population in the fruit growing regions. These, owing to a lack of special protection, would be liable to be exterminated during a hard winter.

The foregoing remarks make it quite clear that the keeping of bees in or near the orchards is necessary to ensure the fruit crop against loss in unfavorable seasons, and is beneficial in all seasons. Bees are entirely beneficial to the orchardist. They cannot do any harm in the orchard except possibly carry fireblight, disease that is, I believe uncommon in Nova cotia, and in which the bee is, at most, an unimportant and accidental agent. Indeed, it has not been proven that honey-bees carry this disease.

The question therefore resolves itself into: How are bees to be kept in the orchards. In studying this question, we are at once confronted with the fact that beekeeping is a specialty that con only be successfully carried on by trained beekeeers. Natural aptitude, years of experience, and sufficient spare time to do the right thing as soon as it is needed are essential for success in beekeeping. We have found that the horticulturist, including the fruit grower, more particularly the grower of small fruits, usually makes a better beekeeper than the herdsman or poultryman, so that probably many fruit growers have the natural inclination and apititude to make good beekeepers, but many others, I fear, have not the time, or think they have not, with present shortage of labor, etc., and it is wasteful and may even become criminal when bee disease is in the district, to keep bees and neglect them. By all means keep bees if you like them and can spare the time to attend to them properly, which, after all, will not be much when you have studied and mastered them. This is the most satisfactory solution of the question.

But to the orchardist who has not the time to attend to them, and I believe there are many in this case, what advice can be given? I believe the best thing he can do is to encourage the trained beekeeer to keep his bees in his orchard. In many caes, no doubt, it would pay the orchardist to furnish the bees and supplies and let the beekeeper have half of the honey for his trouble. Let us look at the proposition from the beekeeper's standpoint. He gets more honey from alsike and white clover than from fruit bloom, and therefore prefers a clover country, but fruit bloom provides valuable feed in spring for breeding bees and in favorable seasons a certain amount of surplus honey, and the orchard provides shelter from wind. One place can support at least fifty colonies of bees, and a good beekeeper can look after one hundred and even two hundred colonies, so that the professional beekeeper could attend to at least two large apiaries. But, for the orchardist, it would be better to have the one hundred hives scattered in ten apiaries of ten hives each. The disadvantages of this plan for the beekeeper are that he would have to travel over much ground, and while he was attending to one of the apiaries swarms might be lost in the other nine. The beekeeper would therefore need good compensation, and an easy and effective method of swarm prevention would be necessary, such as the one we are now investigating at the Experimental Farms of removing the queen at the commencement of the honey flow and destroying all days later. In many cases the difficulty of the absent beekeeper might be overcome by a young member of the fruit grower's family, or perhaps his wife, keeping the bees, and he or she could find them an interesting queen-cell except one eight or nine and profitable pursuit. The Annapolis Valley is a good place for honey production. Besides fruit bloom and clover, the wild radish is a valuable honey plant and the fall honey producing weeds, the goldenrods, asters and fall dandelion are more productive than in Ontario. At Kentville, the Experimental Farm bees have always done well ,and Nappan for a time gave the highest yield per colony of any of the Experimental Farms in aCnada, and still stands high. The benefit to the apple crop with a honey crop thrown in makes beekeeping the most profitable sideline the fruit grower can engage in.

It is important that those who keep bees should keep them well for two reaons: First, neglected bees cause the spread of the destructive brood diseases of bees, American and European foul-brood. American foul-brood has already appeared in the Cornwallis Valley, and will cause great loss if neglected. Second, wintering. The Nova Scotia wintering is particularly trying on neglected bees, the winter mortality of bees being evry high, especially in long and hard winters. You cannot keep bees by leaving them alone. You must have them on on movable combs and examine these combs periodically, and have sufficient knowledge of bees to, at the examination, correct any wrong conditions that may have developed and provide for the bees' needs until the next examination is due.

The scarcity of bees in the Valley today is attributed to the exceptionally long and hard winter in 1917-18, which killed nearly all. But severe winters will come again, and the only way to ensure against loss is to prepare the bees properly for winter. The principal thing is to give adequate protection. Have your apiary in a place sheltered from wind, and put the hives in a case, preferably large neough to take four back to back, with a space for three or four inches of shavings, chaff or other packing material containing an abundance of small dead air spaces between the hives and the case both at the ides and below, and eight or nine inches on top, with the entrance reduced in fall and winter to say ⅜ of an inch wide by one inch high. See that the colonies are strong, have good young queens, and plenty of wholesome stores. It is well to use the 10-frame Langstroth hive because then most of the fall honey, some of which may not be very wholesome for wintering, will be put in the supers, and the bees should be given in September ten to twenty pounds of wholesome syrup made form granulated sugar or combs of clover honey to bring the weight of stores up to forty pounds. The employment of cases can be avoided by putting the bees into a dry and well insulated cellar where the temperature remains between 42° and 50° throughout the winter. It is a common practice in the Valley to winter the bees outside without any added protection except perhap spruce branches. This is entirely insufficient protection, and the fact that colonies so treated sometimes pull through is simply due to a fortunate combination of circumstances which can never be depended upon.

Bees will travel several miles from the hive in fine warm weather in search of food, but they will not work to profit at a distance of over one, or in exceptional cases, two miles. But in the cool weather of the spring, and especially in a season of broken weather when they are most needed for pollinizing fruit bloom, they cannot be relied upon to work at these distances, and I should estimate the limit of their effective range at a half a mile or even a quarter of a mile. Their abundance at the fruit blossoms would of course depend on the amount of bloom, and on the number of colonies. Also some of the bees might be diverted to other flower that are out at the same time as fruit bloom such as blueberry. At Ottawa, dandelions are out in great numbers during fruit bloom, and are very attractive to the bees, but the dandelion secretes sufficient nectar

(Continued on page 394)

Eureka Potato Planter

Pays for Itself in Labor and Time Saved

One man and team with an Eureka Potato Planter needs no hired help to plant the whole crop. Whether you plant 4 acres or 400, the Eureka Planter will pay for itself many times over. Better than hand planting. Increases yield. Does 5 operations at once, automatically—accurately.

Opens furrow, drops seed any distance and depth, drops fertilizer (if desired), covers up and marks next row. **Furrow opens and seed drops in plain sight**—an equal distance apart, at uniform depth, with **absolutely no injury to seed.** Easy to operate in any soil, made of steel and malleable iron—assuring long life, light weight and few or no repairs.

Write for **free** catalog on this great line of potato planters—the largest line made. Sizes for 1 or 2 rows, with or without fertilizer attachment. **In Stock Near You.** A success for over 20 years. Whether you are a large or small grower—**write today.**

EUREKA MOWER CO. Box 745 UTICA, N. Y.

PINE TREE BRAND

DICKINSON'S

PINE TREE BRAND SEEDS

Timothy, Clover, Alfalfa and Other Field Seeds

FOR BETTER CROPS

If Your Dealer Cannot Furnish This Brand

WRITE

THE ALBERT DICKINSON CO.

MINNEAPOLIS CHICAGO

TRADE MARK IT STANDS ALONE

"Making two blades grow where only one grew before."

Order Your Spring Fertilizers Early

Indications point to a big increased demand for fertilizers this Spring. Early ordering of supplies is necessary because of the shortage in railroad cars and raw materials. Make sure of your supply by ordering now.

Gunns SHUR-GAIN Fertilizers

Furnish the necessary plant food throughout the growing period, and make for steady, healthy, early maturing plants.

SPUR-GAIN means bumper yields. — At present prices for all farm products, SHUR-GAIN will prove doubly popular.

Don't Delay.—Order your SHUR-CAIN now.

Representatives wahted in unallotted territory

Gunns LIMITED

ST. JOHN, N. B.

Head Office

WEST TORONTO, ONT

DAIRYING.

THE CENTRAL NOVA SCOTIA MILK PRODUCERS' ASSOCIATION

The above organization, which was born a few weeks ago, has rapidly developed into maturity, and held its first "of age" meeting on Monday, Feb. 2nd, with the Persident, Mr. H. L. Taggart in the Chair. The meeting was held in the Assembly Hall of the College at Truro, and was a large and thoroughly live one.

Addresses were given by Mr. H. R. Brown and Dr. Cumming, both very interesting and instructive talks, but the main interest of the day centralized about the resolutions which are given below. A lively discussion arose over (f), which calls for a survey with the object of ascertaining the cost of producing milk under present condi tions.

The general trend of the discussion was to the effect that the farmer at present prices was being but poorly paid for his outlay in capital and labour. Mr. C. P. Blanchard of Bible Hill, a well known breeder of Dairy stock, claimed that a reasonably good cow, if well attended, will at present prices net her owner $100 a year, and warned the Association against demanding more than a fair price. Milk is the great children's food, and higher prices would mean the shortening of the supply for those who need it most.

The resolutions follow:—

RESOLUTIONS

(a) THAT: Constitution and By-laws be published in pamphlet form, for distribution among the members.

(b) Subscriptions to "The Dairyman's League News" be furnished for each Director; the subscription to be paid from Association funds.

(c) THAT: the Central Nova Scotia Milk Producers' Association be affiliated with the Nova Scotia Dairymen's Association and through it with the National Dairy Council of Canada, and that a delegate be elected each year to attend the annual convention of the Nova Scotia Dairymen's Association.

(d) THAT: we get further information re the price of milk to other associations.

(e) THAT: we get all the information possible re cost of production.

(f) THAT: we urge the Department of Agriculture for Nova Scotia to conduct a farm survey or investigation, under the direction of the Dairy Superintendent, with the idea of securing information re cost of production by the farmer. Results of survey to be available to each member.

(g) THAT: a committee be appointed for the purpose of obtaining or selecting some literature for distribution among members with the idea of education along lines of better care of milk in handling and transportation, better cows and better feeding methods, in order to get greater and more economical production.

(h) THAT: a series of meetings be held in different places through our Association, to be addressed by some of the leaders in agricultural thought and practice; the program to be arranged by a special committee; and that as far as possible, the local district Associations be made the center of some social activities in their neighbourhood by securing the co-operation of the farmers' wives and families, having social evenings, with perhaps lunch and program, or short addresses on some current topic or a moving picture program showing the latest in farming operations, etc.

(i) THAT: a farmers' picnic be held some time during the summer; the time and place to be arranged by the Directors. And, that a banquet be held annually in Truro at or near the time of our annual meeting; invitations to be sent to some men who will give inspiring addresses, also to officers and members of other Associations who may be helpful to us.

(j) THAT: we make an arrangement with the Borden Milk Co., for the purchase of feed used by the members of the Association.

(k) THAT: the Directors meet as soon as possible after this meeting to determine the best method for getting at a fair price for milk, and that they appoint a committee to meet with the Borden Co., the retailers and other purchasers of whole milk in the district covered by our Association, relative to the prices set by our Association.

(l) Believing that the prosperity of our members depends as much on increased and cheaper production, which largely means better cows, we would recommend that some sort of a competition be inaugurated as an incentive to that end, i.e., by the giving of cash prizes and diplomas to farms, for, say, largest production per cow per year, figuring the same on the total weight and percentage as paid for by the Borden Co. Therefor be it resolved, that, a committee be appointed to work out some such competition, and solicit at least part of the prize money from the Banks, the Borden Co., or others interested in increased production and the general prosperity of the country, to report at the next annual meeting, when the scheme may be finally adopted, competition to start at the first of January, 1921.

(m) We would suggest as a motto for our Association the word CO-OPERATION. We believe co-operation to be the greatest secret to success in all lines, but much more so in our business. That we go on record as holding to the principles of co-operation, both within our Association and between our Association and those who buy our products. CO-OPERATION rather than COERCION, although, if we deem it necessary to coerce, we will be in a position to do so, and will. Therefor be it resolved that we adopt the word CO-OPERATION as our motto, and that this word be printed at the top of our letter head as the motto of our Association.

AYRSHIRE CHAMPIONS FOR 1919

The following are the Ayrshire cows scoring the highest points in their respective classes in the R. O. P. for 1919. The first one mentioned in each Class being the silver cup winner.

MATURE

Name of Cow	Reg. No.	Lbs. Milk	Lbs. Fat	Points
"Whitney's Lassie"	41683	16081	659	16786
John A. Morrison, Mount Elgin, Ont.				
"Gardrum Bonnie Jean"	33498	14141	552	12211
Nova Scotia Agricultural College, Truro, N. S.				

4 YEAR OLD

"Briery of Springbank 3rd"	44093	12608	519	11023
A. S. Turner & Son, Ryckman's Corner, Ont.				
"Duchess of Briar Crest"	50109	11735	507	9791
Director Experimental Farms, Ottawa, Ont.				

3 YEAR OLD

"Dairy Queen of Orkney 2nd"	57556	11209	500	10174
H. MacPherson, Norwich, Ont.				
"Lone Pine Belle"	49501	9922	408	6641
Edwin Reid, Rollo Bay, P. E. I.				

2 YEAR OLD

"Tanglewyld Princess 4th"	53082	10733	453	10780
Wooddisse Bros., Moorefield, Ont.				
"Springbank Lady Jane"	51316	10560	428	10216
A. S. Turner & Son, Ryckman's Corner, Ont.				

"This nation depends more on dairy foods for its physical welfare than any other foods, and the dairy farmer truly performs a tremendous service in the production of such foods."

—P. M. SHARPLES

"There are no substitutes for dairy foods."

There is a cream separator expert in your neighborhood—

the SHARPLES dealer

HIS advice on modern dairy equipment can mean a lot to you. He stands ready to help the farmer, and his sound judgment on farm and dairy equipment can be relied upon — proved by the fact that he sells the Sharples Suction-feed Cream Separator.

He has elected to sell the Sharples only after a careful study of all cream separators. He has proved to his own satisfaction that the Sharples *"does"* skim clean at any speed." He will gladly demonstrate that fact to you.

The Sharples Suction-feed has other exclusive features; simple, one-piece bowl (no discs), knee-low supply tank, automatic once-a-month oiling system, simple construction that means longer wear. Let the Sharples dealer in your neighborhood show you how these features (found on *no other separator*) will increase *your* dairy profits.

Sharples

SUCTION-FEED CREAM SEPARATOR

Write to nearest office for illustrated booklet describing the Sharples Suction-feed Separator.

Dept. 79

THE SHARPLES SEPARATOR CO.
West Chester, Pa.
Canadian factory:
TORONTO
Branch offices
REGINA and MONTREAL

DEVELOPING THE DAIRY INDUSTRY OF NEW BRUNSWICK

The Dairy Industry of New Brunswick has shown considerable advancement during the past two years. The improvement in the quality of products, both butter and cheese, is especially worthy of mention. The recent Dominion Butter Scoring Competition was an indication that some of the New Brunswick creameries are putting out a product of high quality and one that compares quite favorably with other provinces. Cheese buyers also express themselves as well satisfied with the output of New Brunswick's factories at the present time.

and are now offered for sale to all who are interested in improved and up-to-date methods of handling dairy products, and it is hoped this stock will be taken up by the milk producers, as the business is to be carried on co-operatively by and for the farmers.

A suitable site has been purchased and it is expected the Company will be in a position in the early spring to receive cream by rail and steamer from any shipping point on all lines coming into Fredericton.

Assistance from the Department of Agriculture

To show that they have confidence in the success of the business and feeling that it is in the best interests of both producer and consumer, the Provincial Department of Agriculture will guarantee interest at the rate of six per cent. per annum upon the paid up capital until the business grows sufficiently to meet all legitimate operating charges and interest upon the paid up capital at the aforementioned rate, but this guarantee will not extend for a longer period than five years from date of incorporation.

Results in Other Places

The largest and most successful creameries in Canada are those operated on the cream gathering system, because an extensive territory is served, a large output is ensured and the operating expenses are correspondingly low, thus giving the farmer a better return for his cream.

The following summary of the business done at the Farmers' Co-operative Creamery, Limited, Moncton, N. B., serving the districts within a radius of eighty miles of Moncton, will show the development that is taking place and the returns producers are receiving for their cream.

SUMMARY OF BUSINESS FROM DATE OF OPENING JUNE 5th, 1918 TO DEC. 31st, 1919

Month 1918	No. Patrons	Lbs. Cream Received	Lbs. Butter Mfg.	Paid for Butter Fat	Total Cash Paid Patrons
June	158	43,456	12,559	45c.	$4,953.89
July	304	98,816	26,666	44c.	10,670.39
Aug.	295	87,550	24,209	46c.	9,796.02
Sept.	209	46,664	13,587	50c.	5,703.09
Oct.	141	25,914	7,533	55c.	3,573.43
Nov.	61	10,066	2,884	60c.	1,498.26
Dec.	54	10,636	3,132	60c.	1,540.37
Jan. 1919	58	13,831	4,083	62c.	2,044.11
Feb.	61	13,006	3,814	62c.	1,960.61
Mar.	87	20,139	6,043	64c.	3,109.69
April	141	35,240	10,797	64c.	5,595.51
May	240	74,128	23,549	60c.	11,054.21
June	469	165,053	53,332	56c.	23,493.52
July	540	203,618	64,280	52c.	27,697.17
Aug.	534	172,529	52,981	53c.	24,188.86
Sept.	517	130,275	40,855	59c.	19,587.43
Oct.	372	84,769	26,425	62c.	13,713.13
Nov.	221	36,267	10,845	68c.	6,394.14
Dec.	166	32,722	10,237	72c.	5,922.62

The Cooperative Creameries of the Province are meeting with considerable success. The Department of Agriculture are encouraging the establishment of Central Cooperative Creameries in different parts of the Province, in order that the farmers in every district may have a free outlet for their milk and cream.

The Creamery established in Moncton two years ago is rapidly assuming the leading place in the quantity of butter manufactured, as compared with any Creamery in the Maritime Provinces. Over 300,000 lbs. of butter was made at this Creamery last year.

Proposal for a Cream Gathered Creamery

Realizing that dairying offers good inducements to the farmer who goes into it in a business-like manner, with a determination to improve and build up a good dairy herd, by weeding out unprofitable cows and by more careful breeding and better feeding, and knowing that it will insure a profitable monetary return upon the invested capital and labour, and at the same time conserve and build up the fertility of the farm better than any other system of farming, and also in view of the fact that the home dairy does not offer the same stimulus to the business as the manufacturing and marketing of dairy products co-operatively, a number of farmers in the vicinity of Fredericton met recently in the office of the Minister of Agriculture to consider the advisability of starting on co-operation dairy business in Fredericton to serve the farmers in the Counties of York, Sunbury and Queens, who are not now having their dairy products handled co-operatively.

After hearing reports and examining statements of results attained in other parts of the Provinces it was unanimously decided that it would be in the best interests of the farmers to organize and operate a central creamery in Fredericton, for the handling of the milk products from the above counties.

The Proposition

A Joint Stock Company has been organized, to be known as the Farmers' Co-operative Dairy Company, Limited, with an authorized capital of twenty-five thousand dollars ($25,000.00), divided into one thousand (1,000) shares of twenty-five dollars ($25.00) each,

Fredericton as a Centre

With the railway and steamer connections centering in Fredericton, practically every point in York, Sunburp and Queens Counties can be served, and dairy experts familiar with the outlying districts agree that a better centre for a business of this kind cannot be found in the Maritime Provinces; and again, the demand for pure milk and cream, high grade fresh made creamery butter, buttermilk and ice cream in Fredericton and its adjoining suburbs is an advantage that many of the successful creameries now in operation do not enjoy.

Farmers' Co-operative Dairy Co., Ltd.,
Fredericton, N. B.

DE LAVAL
Separator Savings

De Laval users are on the profit side

No machine used on the farm returns a larger profit on the investment than a De Laval Cream Separator.

It saves from 25% to 50% of cream twice a day every day in the year over crocks and pans; and from 10% to 25% of cream over an inferior or half-worn-out separator.

With butter-fat at the present high prices these savings mount rapidly. Many thousands of users have found that their De Lavals paid for themselves in a few months. De Laval users are always on the profit side of the ledger at the end of the year.

More De Lavals are used than all other makes combined.

Your local De Laval agent will be glad to demonstrate what an Improved De Laval will save you. If you don't know the nearest agent, please simply write the nearest office below

THE DE LAVAL COMPANY, Ltd.
MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 Branches and Local Agencies the World Over

HEAVES IN HORSES

Is bran mash given twice a day good for heaves? I have a mare that is showing signs of having this trouble. Can anything be done to cure her?

Reply: The immediate cause of heaves is rupture of the small cells in the lungs, so that the animal cannot expel the air drawn into the lungs without extra effort. This rupture is generally brought about by putting the horse to hard work with his stomach full of ocarse, undigested food. It is also hereditary, and horses and mares so affected should not be bred. A cure is impossible, but great relief may be had by feeding the horse on light, nutritious food in moderate quantities and by improving digestion by tonics. A purgative should occasionally be given to keep the biwels regular. A bran mash once a day will be useful, but will not cure heaves. A good preparation to help is found in one ounce of Fowler's Solution of Arsenic, given each morning for a month or so.

COWS GIVE MORE MILK and are in better health when given

=OMAZON=

CANADIAN MEDICINAL FOOD

Promotes appetite, aids digestion, prevents disease, removes Worms, cures Colic, Constipation, Diarrhœa, etc.

(It has saved hundreds of valuable animals)

On Sale Everywhere. DR. ED. MORIN & CO., Limited, Quebec, Canada.
2

Successful Men Always Saved

They were thrifty. They were shrewd enough to see that the habit of saving meant the strengthening of character. With the money saved they were able to take advantage of opportunities as they arose.

Resolve today to open a Savings Account in this Bank.

Paid-up Capital $ 9,700,000
Reserve Fund - 18,000,000
Resources - - 220,000,000

THE BANK OF NOVA SCOTIA

We invite your account. Special facilities for banking by mail. Thirty-eight branches in New Brunswick. Head Office, Halifax, N.S.

33A

LIVE STOCK.

IMPROVED LIVE STOCK MEANS LARGER PROFITS

A large class of progressive farme s appreciate already the value of pure-bred live stock. They have settled the question for themselves in the affirmative. They would not think of returning to the old days in which they kept cattle of no especial breeding. But the question is, should the average man on the farm get rid of his scrub cattle and put pure-bred animals in their places?

Were we to consult him about it and tell him of the success of the breeders of pure-bred live stock he would respond that this man has plenty of money. He is able to purchase cattle for the foundation of his pure-bred herd. He has money with which to supply the necessary equipment and to provide the proper care and purchase the necessary labor involved in the management of a pure-bred herd of a high order. But, says the average farmer, "we have no money with which to purchase pure-bred cattle, few of us have silos, our barns are poor and inadequate for the needs of such a herd, and so, we must just scrub along from year to year as we have been doing. We have gotten a living up to now and I guess we shall continue to do so if the prices of farm products continue where they are."

Pure Bred Cattle Best

But is this man right? Can the average farmer afford to retain his ordinary cows when the added advantage of a pure-bred herd is considered? Do the facts of scarcity of money and poor and limited equipment justify him in such a course, and once again, is the average farmer fitted to breed and manage a pure-bred herd? If not, may he be taught to do so successfully?

There is no longer any question of the superiority of pure-bred cattle over those of no especial breeding. Ample data has been secured to prove this fact beyond any possible doubt and an ever-increasing number of people are becoming conscious of it. The time was when we had to argus this question, the objector would say, "there are many pure-bred cattle that are nit worth keeping." He was right, and such a statement would be true even to-day. But there always has been, and there always will be a much larger number of scrub cattle that do not pay for their feed and care. The scrub cow has neither pride in ancestry nor hope in posterity. We have no right when we consider a scrub heifer to form any opinion about her performance when she reaches maturity. She may be the daughter of an excellent cow and yet when she comes into milk she may not pay for half she eats. She may come from only an ordinary mother and may develop into a better cow herself, or on the other hand, she may be even poorer than the mother that gave her birth. There is absolutely no way to tell anything about it. Hereditary tendencies are so crossed and twisted in the average scrub as to destroy each other to an extent that makes improvement along these lines even under the best methods of handling a very discouraging task.

If the pure-bred sire of splendid breeding be introduced into a herd of scrubs great improvement will result, in fact this is where the improvement in most cases should logically begin, because pure-bred cattle of merit are scarce and expensive and the average farmer with a little money must begin the work of improvement with the smallest possible outlay of cash. But every dairyman, every man who wishes to develop a herd of beef cattle or to keep live stock for any purpose should construct a breeders' ideal at the beginning. He may have to begin with simply the pure-bred sire, but if possible he should own one or two registered females, and he should be very careful indeed about these pure-bred heifers or cows that he purchases in the beginning.

The danger is that the man of small means will look for purebred animals purchasable at a price that he feels he can pay. And the anxiety to find something cheap will obscure his vision of what a pure-bred animal really should be if it is to be made the foundation of a future herd.

Breed Them Alike

The importance of standardizing our live stock is rapidly growing in the public mind. It can be accomplished most easily and in the least possible time through the farm bureau movement and what we have to say about it in the remainder of this article will be said in connection with that agency. The county agent will appoint a leader in matters of live stock improvement in every community in the county where the interest will justify such action. The next move will be to establish a uniformity of breeds. It is not necessary that a whole county should unite upon one breed of cattle, but it is desirable to do so always if the people can be made to see alike. On the other hand, it is entirely impossible to accomplish large things in breeding where too many breeds are kept. If all purebred animals were of equal merit it would not matter, but this is far from being true. The very next move after we have established our breed is to begin the weeding out of the poor animals and to discover the individuals of real merit. These two lines of effort must continue just as long as we are in the business if we are going to succeed. If but one man in a community breeds a certain breed of cattle he may continue for years without the discovery of a single animal of unusual merit, but if ten men have united upon a single breed someone is bound sooner or later to discover animals of great value. What is of still more importance, characteristics will have been discovered that will assist in classifying families of merit in the breed and the blood of these good cattle will in a short time diffuse itself throughout the entire community. This is a most telling, and indeed, an unanswerable argument for standardization and for community breeding.

PEERLESS
THE ALL AROUND
FENCE
PEERLESS PERFECTION
Strong enough to keep your own live stock where they belong and your neighbor's out. The best way to hold neighborly friendships is to fence to prevent trespassing. This fence "locks the bars," "stays put." Made of Open Hearth steel wire—heavily galvanized
in such a thorough manner that it will not flake, chip or peel off. The wires are tough, elastic and springy and will not snap or break under sudden shocks or quick atmospheric changes. The joints are securely held with the "Peerless Lock," which will successfully withstand shocks and strains and yet it can be erected on the most hilly and uneven ground without buckling, snapping or kinking. We also build a full line of poultry fence, ornamental fence and gates. Write for our literature. Valuable information on fence construction.
THE BANWELL-HOXIE WIRE FENCE CO.
Limited
Winnipeg, Man. Hamilton, Ont.

The New Brunswick Farmers' and Dairymen's Association

Will hold its 44th Annual Convention in the

Assembly Hall of the Provincial Normal School, Fredericton,

ON

March 16th, 17th, 18th, 1920

First Meeting Tuesday, March 16th, 9 A. M.

Every Agricultural Society in the Province should be represented by delegates, one-half the expenses of each delegate is borne by the Department of Agriculture.

Excursion rates on C. P. Railway and C. N. Railway.

Buy a Single Fare First-Class Ticket to Fredericton and ask for a Standard Certificate, which when filled in and signed by the Secretary, will entitle you to return at reduced rates.

Remember, no refund of fare will be made because of failure of delegate or other person to obtain a Standard Certificate.

The Provincial Seed Fair will be held on Wednesday, March 17th

Open to all farmers in the Province of New Brunswick.

A. J. DOUCET,
Secretary.
Moncton.

C. F. ALWARD,
President N. B. F. & D. A.,
Havelock, N. B.

The County Agent Can Help

The county agent through his live stock man can begin his work in practically every progressive community. Such action lies at the beginning of all true progress in live stock improvement. With the community organized to breed a particular breed let us turn our attention now to these men of small means and poor equipment. They have read farm papers for years, they have attended dairy meetings and farmers' institutes, and from these sources they have gotten much good, but up to now they have lacked the human touch that the farm bureau movement brings to them. But some afternoon during the winter the country agent mects the live stock man and his neighbors and heart to heart they talk matters over. These men with no silos find out how they can obtain them at least cost and resolve to do so. A breeders' association is formed and splendid sires are purchased under the advice of the county agent and almost before they know it these people are on the way with rapid strides toward live stock improvement. Some good purebred heifers are located and purchased by the more prosperous farmer of the community and one or two men of small means borrow the money and invest it in purebred heifers and thus the community gets a start.

Problems of equipment and food are discussed from time to time and the community idea grows always under the watchful care of this new superintendent of agriculture, the county agent. By and by a cow-testing association is formed. It is then that the weeding process begins in earnest. No one interested in live stock improvement can read the history of these associations without ever-increasing enthusiasm. The writer has never known an instance where a cow-testing association ran for three consecutive years and butter-fat production did not increase by leaps and bounds. Such increase is simply the logical result of this movement. The gathering of definite facts on a particular dairy is certain to bring about more economical production.

Working Up in the Game

Every farmer who keeps live stock at all should look forward to the day in which he shall be the owner of a pure-bred herd. In brief, this is the programme—first the county agent, next the organization of the community to this end, then the introduction of the pure-bred sire of the one breed agreed upon, followed by the purchase of as many pure-bred heifers as can be purchased under the circumstances. Community meetings in which to consider local problems unite the individuals in a common vision and a common purpose, then by and by the cow-testing association accomplishes the weeding out of undesirable animals and retention of those of real merit.

Such a course will make practically every farmer in the community who keeps cows a breeder of pure-bred animals in time. Who can estimate the value of such a programme to a rural community?

What may it not mean in the progress of soil improvement, in added home comforts and conveniences in rural homes? In better education privileges for country boys and girls, in adequate rural social centres for young and old, in the reviving of the rural church, and in short, in all lines of desirable improvement out in the open country. Again we ask, who can measure the advantages of such a programme? These are possible because improved live stock means largely increased profits on one hand, and on the other that marvellous intellectual and ethical growth which always comes to individuals singularly or collectively when they catch a new and splendid vision, form a great purpose and then devote their muscle, their minds, and their hearts to its accomplishment.

STOCK NOTES

Harding Bros., Holstein Breeders, write:—

The young bulls mentioned in our ad. are an extra choice bunch, and will be priced right to sell in the next 30 days as we are in need of more room, to accommodate our ever increasing herd. We have had the best year, from a sales' standpoint, of any year since we started breeding Holsteins in 1905. To-day we have the most promising lot of heifers coming on we ever owned, all sired by Sir Fafroit Shcuiling, which was without a doubt the best individual bull ever bred in the Maritime Provinces. He has been repeatedly shown from Ottawa to Halifax, and has been grand champion almost where ever shown. He is a big massive fellow with an abundance of dairy quality and tips the scales, when in show shape, at almost 2700 lbs. He was used in his younger days in the herd of Wm. S. Harding, of Hammond River, who has a number of his daughters in milk with first calf, that on twice a day milking, gave over 60 lbs. of milk a day, as Sr. yearlings. They are also good testers, and all that anyone could ask for in point of type.

Now, we have bought to follow, on the daughters of Sir Faforit Schuiling, Sir Johanna Ormsby of Hickory, bred for long distance production on all his ancestry lines. He is without a doubt one of the best yearly record backed bulls in the Maritime Provinces. His dam has the good record of 22,159 lbs. milk and 971.25 lbs of butter in 365 days. She is a grand, large cow, fit to go into any show and win, and her Sire, Johanna Rue 4th's Lad, has 31 tested daughters and 18 proven sons. We believe this grand old bull has more large yearly record daughters and sons with large yearly record daughters, than any other bull in Canada. Now just a word for Sir Johanna Ormsby of Hickory, as you will see by his picture on another page of this issue, he is not only backed up by large production, but he is a bull of splendid type and is a large fellow, that would take a much better picture today than when he stood for the last. He tips the scales at almost 2500 lbs. He was used for a while as a junior herd sire at the Central Experimental Farm at Ottawa, and was then sent down to the Experimental Farm at Fredericton, where he was when Harding Bros. purchased him last spring. In the next issue of the Maritime Farmer we will tell you something about some of our cows and a few of our recent sales.

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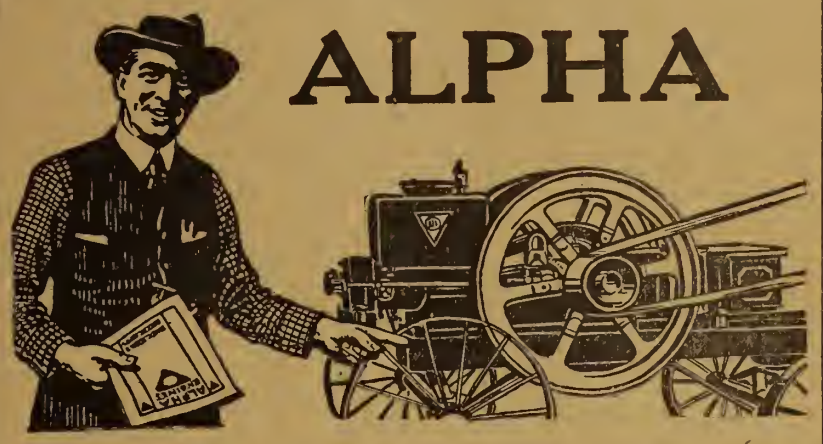

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Size is not an indication of the probable value of the cow as a producer, but is many times taken as such an indication by the inexperienced. Color is only a breed index and is of consideration only in that light.

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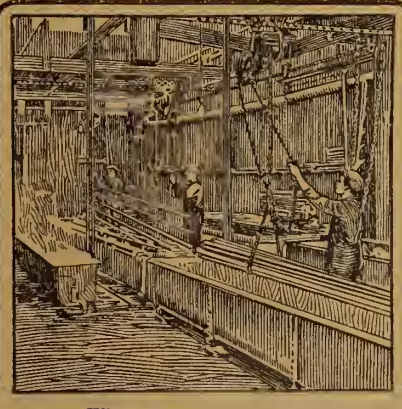

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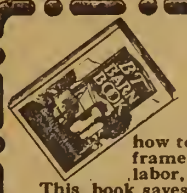

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Reply: Dust on to the lump some powdered burnt alum. You will have to keep at the application repeatedly, till the wiund is dried up, and keep the part free from filth, wet, mud or slushy snow till healed.

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WINTER CARE OF FARM MACHINERY AND HARNESS

How few farmers stop to consider the fact that it is while farm machinery, implements, and harness are idle that the tear and wear, and loss through depreciation mounts the highest. From observation of the general usage given by farmers to the equipment that lies idle throughout the winter, it is evident that many do not realize the truth that it is in the multitude of little things neglected that spells failure, and the careful and intelligent attention to detail that insures success. From attention to small details comes most of the profit not only on the farm but from every business everywhere. The man who studies his business down to the minutest detail, wastes less energy and succeeds easier. He is the farmer who has his work done in season, and in best manner. His farm equipment is ready for use when needed because it has been cleaned up, carefully examined and repaired in advance, and kept under cover where it has not deteriorated. Such machinery and general implements of husbandry will not only last longer but will do better execution when in use.

Winter Care of Machinery

During the winter months all farm machinery, that is used on the field in summer and fall should be relegated to some building or under some covering, to keep them free from climatic tear and wear. All farm machinery should be given a thorough inspection before it is put away for the winter. All broken parts should be noted and repairs ordered now so there will be no delay when the machine is needed again. All bearings and working parts should be well cleaned and then oiled or greased to prevent rusting. Where painting is necessary, all the smears from the oiled bearings should be cleaned off the surface of the parts to be painted. All lose bolts should be drawn tight and minor repairs made at once.

With an implement house or shed for machinery, the off days for farm work in winter can be well spent in repair work, and the saving in the life of farm implements and machinery will pay for the outlay in providing the permanent shelter. A little care at this season will do away with a great deal of trouble next spring.

Storing the Commonplace Implements

Many farmers are of the opinion that plows, harrows, and similar commonplace implements do not require any particular care. This opinion is generated from the fact that these implements of husbandry are to be found during the winter months under snowdrifts on the headlands or by the fence-side. A plow that is left on the headland or under snow all winter will accumulate a deep coating of rust on the mould board and shares. A plow in this condition will waste a lot of gasoline or animal power before it gets into a normal working condition again. The plowing season will almost be finished before the fine smooth polish of the new implement is secured, and instead of having a smooth working plow all the time, there is only a short period at the finish of the plowing season that it works with ease and economy. Inside winter quarters and the parts coated with grease that have been burnished by contact with the soil is the only way to keep the plows in business shape.

Harness Economy

A little effort in the winter time in dressing up the farm harness will also save a whole lot of time in a busier season. It is a common belief that farmers have a lot of idle time during the six months of apparent inactivity on the field, but to exercise the necessary economy in these days farmers have no idle time. There is always an inside job and the harness room can take care of the many spare hours.

There are too few proper places in stables in which to keep harness, and consequently there is great waste. Nowadays a new set of work harness costs like sixty, and anything that keeps down the buying bill should be welcomed. A harness room where all the harness could be kept, or a large cupboard for each team's harness equipment, would not cost half as much as renewing harness does.

When leather is exposed to the damp air caused by the breath of animals and bad ventilation, or the ammonia rising from the manure, it rapidly gets hard and brittle, breaking whes extra strain is put on it. With such harness it is not safe to start out upon the road with a heavy load. Buckles become rusted and snaps are easily broken, and when a leather strap is being adjusted to a buckle to meet some change in the hitch, it

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breaks off in the hand like a piece of glass. Much of this condition is aggravated by the fact that the sweat of the sumer heat from the horses is often allowed to soak into the harness.

Cleaning and Oiling

Before harness is laid aside it should be all taken apart and washed in warm water in which has been added some soda. While in the water it should be brushed clean witr a stiff brush. When clean and dry, oil it thoroughly. It will require two applications to perfect the job. Also it will require to be the best oil for the wor—either Neat's foot or seal oil. Remember any sort of oil will not do. Oil is oil, but all are not leather lubricants. Linseed and cotton seed oil as well as many of the machinery oils will do the leather little good. To the second application of oil, add some lampblack and finish by rubbing it in with a rag.

While washing and oiling the harness, be on the outlook for weak and broken parts. Take an invoice of these lame parts, and the next time you visit the harness maker get the needed straps and buckles. Harness well cared for proves comfortable to the horses and saves them many cuts and bruises and loss of power and a strap in time, a snap in time and a rivet here and there, keeps them in good trim for hard service.

AZOTURIA—HOLIDAY DISEASE

A vacation from work for a horse that has been in heavy duty may cost him his life if his owner is not careful about the feed he gives. Azoturia is really a disease of the liver and blood-forming functions of the body, but because of some of the symptoms seen, many believe it a disease of the kidneys.

In spite of years of study and much investigation, the exact cause of azoturia is not known, but we do know how to prevent it. At one time it was thought to be due to infection with germ life, but this is not now believed by the best informed authorities.

Symptoms Are Many

In its mildest forms it may appear only as a lameness in one limb from no known cause. As a rule there is a dusky brown color of the membranes of eyes and nose. The worse forms come on after one or two days of rest from the usual labor on a full ration when the animal is taken out and started at his usual work. He usually leaves the stable full of vim and life, but soon appears dull with a heaving flank, dilated nostril and a profuse sweat accompanied with a trembling body.

Often his haunch and loin muscles are swolle nad rigid, he crouches behind and if urged onward will soon fall. When down he may show conculsive movement of legs and body. It may end fatally in a few hours or days or if the animal lives he may show a wasting away of the croup muscles nd be unable to stand.

Success in treating these cases is very dependent in recognizing the trouble early and stopping the animal's exertions at once before the symptoms become well marked. Absolute rest for a time accompanied by laxative feeds such as bran mashes, plenty of water and sweet spirits of nitre to increase the activity of the kidneys are goid treatment. In some cases bromides or other sedatives to enforce quiet are beneficial. Hot packs over the loins have advantages in encouraging the kidneys to eliminate the waste products that are poisoning the system as well as tending to relax the body generally.

Call a Veterinarian

If a veterinarian is available call him early and he will pass a catheter and remove the blood stained urine that is always present in the bladder. There may be other symptoms develop as the case progresses that only a trained veterinarian wil be able to handle, but the careful attendant will assist greatly in keeping the patient quiet, feeding lightly and only on laxatime foods and allowing him plenty of water at all times.

It may be necessary for those unable to stand to be turned occasionally to prevent bed sores. When able to stand he should be assisted to his feet. Massage of the muscles of the limbs and back are of great assistance in restoring circulation and preventing later paralysis.

Prevention Possible

While the true cause of azoturia is not known, it is no doubt due to the collection during idleness of a large amount of nutritive substances in the liver which are too suddenly returned to the circulation as the animal resumes exercise. We believe this because animals at regular work never suffer the disease; secondly, it is so often seen early in the resumption of work after a holiday that stablemen often call it "Monday morning disease" and "holiday disease," and lastly, it will not occur in an animal that has his diet markedly cut down when his work stops, or if he is turned to pasture or exercise paddock during the holiday that he may exercise encugh to keep his liver from loading up.

Finally, then, remember that the feeder can prevent all cases of this disease from occurring if he will cut the feed, especially the concentrates such as oats and corn, during the holiday, or, better yet, turn the animal out for some exercise each day during his idleness, as well as cutting down the feed some.

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THE STEEL COMPANY OF CANADA LIMITED MONTREAL

COLT LAME IN THE STIFLE JOINT

(1). I have a two-year-old colt that is lame at times. If I let him out into the yard for exercise the lameness will come on suddenly, and one hind leg will get so stiff that he has to drag it along when trying to walk. These turns come at intervals of one week. Will the colt get better if I keep him in the stable?

(2). Another colt, four-years-old, is all broken out in little lumps all along his neck and on his breast. When they break they leave a very bad sore. When they dry up they break out again at some other place. Will it hurt the colt to work him? What is the matter and how can these colts be treated? C. M.

(1). The sudden lameness of your colt is due to a weak stifle, which gets out of joint when the colt takes some sudden side movement. There is very little hope for a permanent cure, even with a young colt. The best thing to do is to keep him in a box stall, and blister the stifle, with Powdered Cantharides one part and lard heated to boiling point, 12 parts. Mix well together and cool before applying. This is the best blistering to use to leave the least mark. After the blister has been well rubbed in tie the colt's head so that he cannot bite the plare with his mouth, as this will spread the blistering to that part. When the blistering is about healed repeat the operation for three or four times.

(2). This horse is suffering from eczema. Nearly always this disease is confounded with mange, which it closely resembles in appearance; but it differs from it in two important particulars, first, that it is not contagious, and secondly, that it is not caused by an insect.

The most effectual internal remedy is Fowler's solution of arsenic, one ounce, once or twice a day. Continue for a week or so then stop for a day or two, and then repeat the dose, twice a day, for another week.

For the treatment of the eruptions it is necessary to remove the crusts or scabs, by first soaking the parts with sweet oil for a few hours, then washing with soap and water. If the hair is long, it must be clipped, and all dust and dirt removed. Then the whole of the diseased surface and a large space of the healthy skin around, should be covered with the following: Flour of sulphur, half a pound; carbonate of potash, one-four pound; carbolic acid, one ounce; lard, olive oil, each two lbs. Mix thoroughly with the aid of gentle heat. This should be left on the skin two or three days, and then washed off with strong soap and water.

HORSES WITH ITCHY MANES

My horses seem to rub out their manes and tails. I though this might be caused by some kind of an itch. Can you advise me in this matter? J. M.

Reply: Prepare an ointment of equal parts by bulk of vaseline and sulphur adding about 5 per cent. carbolic acid. Mix thoroughly. Wash the mane and tail well with soap and water and when dry, rub in the ointment. Repeat the ointment in three days.

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POULTRY.

VALUE OF EGG LAYING CONTEST

(Experimetnal Farms Note.)

There is at the present time a great wave of enthusiasm in poultry production sweeping over practically the whole world, and particularly the English-speaking world. Undoubtedly the necessity for increased production of all foods has been a great factor in this awakened interest, but before this necessity arose the wave had begun, so that it but increased rather than started it.

While there are a great many factors more or less responsible for the awakened interest, the greatest of all has undoubtedly been Laying Contests.

The primary value of Laying Contests undoubtedly was the advertising and stimulus they gave to the breeders who entered their flocks, but the greatest value to the poultry industry was and is the public attention that they have attracted to the production end of poultry keeping and the establishing of confidence in records made under public supervision.

The shows and exhibition that had been held in the past attracted attention and stirred interest from the love of beauty of form and feather, but with the coming of the Laying Contests the general public—the keen business man and the dissatisfied city worker—realized that here was a business that was more than a fad, a hobby, that here was a business capable of returning a good profit on investment or a good independent living.

The man of means invests in a farm, employs an experienced poultry man and goes into the business. The city worker has not sufficient capital for this, so he starts a small backyard flock, learns how to handle it with profit, gradually expands, looking forward to the time when he can stop his city work and depend entirely on poultry for a living.

It is this awakening of public interest in poultry production that has so far been of first importance but while this, no doubt, will continue, ultimately the greatest value will come from the establishment of Records of Performance that will be above reproach.

In the past, records have been published that were made solely under the supervision of the owner. Many of these needed to be taken with a grain of salt but when records are made in public contests, government supervision creates a confidence that is not felt in home records.

With the establishing of an Official Record of Performance, the door to breeding for greater egg production will be opened in a way that has never been possible before.

iWth a view to stimulating interest in production, the Dominion Experimental Farms have established Egg Laying Contests throughout Canada. The first of these was started at Charlottetown, P.E.I., on November 1st, 1918, and created so much interest in that province that on the following November 1st, six other contests were started as follows:

The Canadian Egg Laying Contest at Ottawa with fifty pens competing. Federal contests of twenty pens each at Nappan, N. S., Cap Rouge, uQe., Brandon, Man., Indian eHad, Sask., and Lethbridge, Alta.

These latter, while not strictly confined to the provinces in which they are held, are intended to be more or less of a Provincial nature, while the Contest at Otawa is international in scope.

It is expected that next year not only will the capacity of the present contests be increased, but that new contests will be established in other districts throughout Canada.—George Robertson, Poultry Division, Experimental Farm, Ottawa, Ont.

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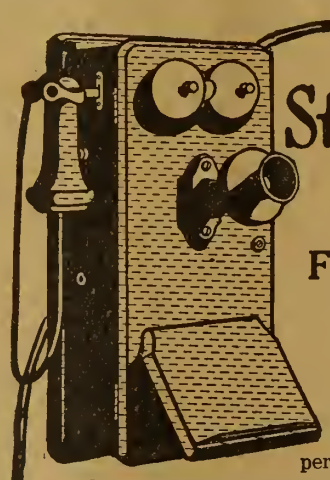
AMHERST BOOT & SHOE COMPANY, LIMITED.

BREDING POULTRY FOR RESTOCKING FRANCE

The Directors of the National Avicultural Society of France have been granted a substantial credit by the French Government for the purpose of acquiring breeding poultry for the restocking of the liberated regions in France. This need was brought to the attention of the Federal Minister of Agriculture by Monsieur M. Chevalier, of the Credit Foncier Franco-Canadien, the Minister referring Monsieur Chevalier to the National Poultry Council.

The Council is now in comunication with the Avicultural Society of France and pending receipt of information as to the quantity of the different breeds required, the Porvincial Representatives of the Council are making a survey of their respective provinces in order to ascertain what stock may be available for export. The varieties favored by the French are the Barred Plymouth Rock, the White Wyandotte, Black Minorca and Rhode Island Red, and also Bronze Turkeys. An appeal is being made by the President of the Council to the Provincial Departments of Agri-



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culture, Agricultural Colelges, and the Canadian Press, to do all possible to assist in the acquiring of the necessary information to carry on negotiations with the Avicultural Society in France, and to take advantage of the opportunity presented to place Canada in a favorable international light as a producer and exporter of breeding poultry. The provincial officers of the National Poultry Council are as follows: P. E. Island—Dr. P. C. Gauthier, Vice-Pres. National Poultry Council, St. Louis; Nova Scotia—Mr. H. H. Hull. Poultry and P. S. Assoc., Glace Bay; New Brunswick—Mr. A. C. McCulloch, Poultry Division, Dept. of Agriculture, Fredericton; Quebec—Dr. S. Lafortune, Pointe Gatineau; Ontario—Dr. Robert Barnes, Health of Animals Branch, Ottawa; Manitoba—Mr. N. W. Kerr, Vice-President, National Poultry Council, Brandon; Saskatchewan—Mr. H. M. Arnaud, Sask. Provincial Poultry Assoc., Regina; Alberta—Mr. C. M. Baker, Alta. Provincial Poultry Assoc., Calgary; British Columbia—Mr. H. E. Waby, Provincial oPultry Assoc., Enderby.

It is interesting to note that in a report issued by the Commissioner General for Canada in France importations of eggs into that country in 1912 amounted to 303,243 (Quintaux Metriques), the exports for the same year being51,155. In 1918 the imports fell to 71,162 and the exports to 4,600. From these figures it will be seen that prior to the war France was a heavy importer of eggs, and no doubt efforts will be made to bring the poultry population of France above the pre-war level in order that she may be self-sustaining. Canada should be in a position to supply all the breding poultry required, but it will be necessary for all interested to give all assitance possible to the National Poultry Council in the locating and the selection of bred-to-lay stock.—Robert Barnes, President; Ernest Rhoades, Secretary, Live Stock Branch, Otawa, Ont.

DAMPNESS IN THE HEN HOUSE

If you have gone into the poultry house on a cold frosty morning and looked up under the roof you have no doubt noticed how the frost has collected there in great particles. Sometimes you will see great long strings if it dangling down and swaying back and forth. As a rule you will find the entire side of the roof covered with frost.

The presence of these frosted particles betokens too much moisture in the air, and to much moisture means that the air is damp, too damp for the biddies to live in if they are to do their best in turning out eggs when you want them most.

If a house is properly ventilated this moisture will pass off rapidly and not cause any great damage, but when the air is still and when there is no means of ventilation employed, the moisture will rise to the roof and collect there in frozen particles. As soon as the weather moderates this frost will dissolve and you will find great drops falling to the floor and wetting up the litter.

There is a way to stop this nuisance and to di it very cheaply. In fact, it is the method used by hundreds of poultrymen and others who live in cold winter climates to so handle the air in the poultry house that the dampness wil be constantly averted.

The method is simply to take a number of planks or poles and place them croswise on the rafters under the roof. Then cover these with new straw, filling up the space from these planks to about six inches of the roof.

You then open two or three small openings in the walls of the house and slightly under the roof. Underneath the straw and on the south side of the building you should have several openings that are allowed to remain wide open regardless of the severity of the weather. When storms are blowing they are covered with muslin frames to protect the inside of the poultry house. This gives you a constant circulation of air coming in below. As the air comes into the house and is heated from contact with the hens or their breath or the evaporation from the droppings, it passes upward and through the straw. The straw absorbs moisture content in the air.

You will find houses so treated sweet and free from dampness at all times. You might wonder why it would be necessary to use the straw at all, if you had the openings above. The answer is that even when there is no circulation of air, the straw is absorbing the dampness, while the small openings prevent it collecting too much at a time, by allowing some to pass out. This prevents too much of a good thing and mouldy straw.—C. S.

A ROOSTER THAT HAS ROUP

Would you please give me advice as to what to do for a rooster that has roup?—A. M.

As roup is a contagious disease, it will be necessary for you to remove the rooster away from the others. Roup is a form of catarrh affecting the mucous membrane of the nose and eyes, extending to the throat. The disease is caused by a germ which multiplies rapidly, and the discharge from the nostrils contains great numbers of these germs.

It is the safest policy to kill all birds so affected, and have their bodies burned, also the house and parts where diseased animals have come in contact should be thoroughly disinfected. In fact so virulent is the disease that it is not safe to put birds in th eaffected house for three months after the disease has stopped.

If your rooster is a valuable one, it may be worth while for you to try to effect a cure. If you have caught the disease in the early stage mix one teaspoonful of common baking soda with four ounces of water. Shake up well and inject a little into each nostril, then inject a little peroxide of hydrogen. If the eyelids are swollen, press them with the thumb and finger and wipe off any matter that may exude and use a little of the above lotion.

FEEDING GEESE

Always fatten geese by shutting them in a small yard and feeding all the shelled corn they will eat, usually for not more than three weeks. Geese should not be fed too long; as soon as they are finished they should be sold, as they will not take on weight after a certain time unless they are forced by cramminfi. Corn and barley rolled are good feeds.

Geese are filthy birds when closely confined and they will not do well in unclean quarters. Until one has had experience in feeding geese they should only handle a small number. There is a good market for extra fat geese in the larger cities, as Hebrews, whose religion forbids the use of lard, use goose grease in cooking. Where geese are force-fed they become exceedingly fat, often weighing 25 pounds, and develop livers of enormous size which sell for as much as $1 per pound. With corn and barley at $1 per bushel it seems to me that geese may be finished for market at a good profit, as prices have ranged high for thre or four years. Where many are to be marketed it would be wel to make ealy arrangements for their sale.—Miller Purvis.

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FLOUR
IN THE HOMES of the people, far and near, "REGAL FLOUR" is known for its high and uniform quality; it is known as the most important factor in bread baking success.
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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

If you'd earn a name worth owning,
Do it now.
Drop all waiting and postponing,
Do it now.
Say, "I Will" and then stick to it,
Choose your purpose and pursue it,
There's but one right way to do it,
Do it now.

All we have is just this minute,
Do it now.
Find your duty and begin it,
Do it now.
Surely you're not always going
To be a "going-to-be," and knowing
You must sometime make a showing,
Do it now.
—Nixon Waterman.

"A NEEDED ANTIDOTE"

Delia Borden, of the "Miss Borden, Millinery," was having a busy day. She had opened her shop at 8 and sold hats ever since. It was now 4 o'clock of a warm, muggy May afternoon, and she was beginning to feel limp.

Still she looked blooming enough as she looked at her own reflection above that of old Mrs. Pearce in the tall mirror. Mrs. Pearce always came to be fitted for a hat just at the time when Delia felt her strength giving away. If ever there was a cantankerous, trying creature on earth, it was old Mrs. Pearce, for she was eighty, had been a beauty and could not give up the idea that she still was. She wanted her hats to make her look sixteen, and when they did'nt she berated the milliner.

Today in exasperation at her fault-finding Delia at last offered a black hat.

Old Mrs. Pearce's cheeks reddened. "Black eh?" she said, witheringly. "Now you must remember Miss Borden, that I never wear black. I don't choose to go about dressed as though for a funeral. If that's the best you can do I shall go to the other store."

"Well, here, try this one," said Delia, and she snatched from a box a red hat of so pronounced a shade and design that she had been keeping it out of sight for fear of offending the taste of conservative customers.

It was a daring thing to do, for she risked losing a good customer, but the old woman actually donned the hat and bought it

As she passed out Victoria Clinton came in. "Deel," she gasped, "did you sell Grandma Pearce that red hat?"

"I'm ashamed to say I did," Delia answered. She sank into a chair. "Victoria, I'm sick of hats. I wish I never had to see another one as long as I live. I feel as though I had been poisoned with millinery."

Victoria laughed merrily. "Take an antidote. How long have you sold hats anyway, Deel?"

"Fifteen years. And it does seem, Victoria, as though I'd rung all the changes possible on chiffon and velvet and straw and hatter's plush. I've used every kind of feather that ever grew on a bird and every kind of flower that ever budded. There aren't any new combinations or colors or shapes. I'm sick of going to New York twice a year to buy, for it only means millinery to me. Every time I stir out of doors I meet my hats and they're expressive as faces. I'm sick of living with girls like Miss DeSmythe in there," she lowered her voice. "It's a new one every season, and they're all the same. Poor little things, how can you expect them to be different? They don't know anything but hats. The worst of it is I'm beginning to dream hats all night. I can't get away from them even in sleep."

"I guess you're in a bad way," said Victoria. "Now I always thought I'd like to try millinery. if for nothing more than the sake of having all the hats I wanted."

"Victoria!" she cried. "Take the business. Buy it, anything so long as you help me to get free."

And so the bargain was made and a week later there was a new name on the sign. This read: "Victoria—Hat Styles."

And Della was free. For three days she sat in her room at Mrs. Pell's and wondered what she was going to do with her life now. The atmosphere of hats still lingered about her. She missed the liveliness of the shop much as she needed rest. "If I don't get away," she thought, "I shall be going back and asking Victoria to take me in as an apprentice! Hats seem to have become a part of my being."

Ten minutes later Joe Saunders, the eral estate man, called her up. "Say, Delia," he 'phoned—they had gone to school together—"now that you're out of the millinery business, don't you want to buy a house and lot or—or a chicken farm, with duck pond, complete, that's going cheap? It's a bargain. Better let me make you a price on it."

He was teasing and Delia knew it. At the same time she surprised herself and him by replying: "Name your price, Joe, and I'll consider it."

"Wait! I'll be right over!" cried Joe Saunders.

That afternoon he took her out to see the farm. It was a small, but neat and thrifty looking. The five-room house was brightened by clumps of daffodils growing in front of it. There were apple and plum and pear trees and a little barn that could be used as a garage.

"You want to get a Ford car," said Joe. "That will shorten the distance to town."

"I shall," said Delia firmly. She had picked a handful of daffodils and was studying them thoughtfully. It had been a good while since she had seen anything but a hothouse flower or an artificial one. Her heart went out to them.

Joe Saunders looked steadily at the wistful face above the daffodils. Hitherto he had only seen in Delia Borden the fashionable milliner, who was the best advertisement of her own creations, but here was a woman with a heart and soul. He went back to the car whistling and tried to start it without turning on the ignition.

"Absent minded, Joe?" Delia inquired.

"Never knew I was before," he muttered.

In a few days he took Delia and Mrs. Cady out to her farm, whither a load of furniture had preceded them. Mrs. Cady was going to help make a home for Delia, and then keep it afterward, for Delia meant to spend her whole time raising chickens. Mrs. Cady knew something about the business, and with such outside help as books Delia was sure she could make a success.

When in mid-summer Joe drove out to the farm to see her he found Delia hovering over a brood of chicks so new that they still had bits of shell clinging to them. "Well, well," said Joe, "you are doing it, aren't you?"

"Why, of course," Delia looked up at him. She wore a gingham pinafore and a "cow's breakfast" hat, which shaded her face and neck. "I've had real good luck with my incubator babies, considering. I don't expect to succeed like an old hand. It's too soon to expect a profit, but I'll make a profit later in the game. I'm sure. You must see the ducklings! They're just learning to paddle. And we've got a cow, Joe—a real Jersey. She only cost $90, which is cheap enough for a Jersey. Come and see her."

"I guess you're having a pretty good time," said Joe.

"Oh, I am! The time of my life. Why, I'm so happy that sometimes I don't know myself. How I ever stuck to millinery as long as I did is a mystery. I was poisoned with hats. But here's my antidote," she waved her hand over her possessions.

Joe stood watching the ducklings take to the water with a great performance of pink paddles. "Game little bird!" he said. "How many ducks have you?"

"Well," Delia considered, "I set a hundred eggs, and I only got nine ducks. I suppose that's a bad percentage for the eggs came awfully high. Eggs and feed are rather ruinous," she added thoughtfully, "but of course, just as soon as I get my flocks established I'll have no trouble."

"Of course," agreed Joe, sympathetically. "You seem to find time to grow a lot of flowers," he remarked, admiring her blazing garden.

"That's extravagance," Delia said shyly, "Mrs. Cady clamors for vegetables, but—— Well, I'll tell you, Jot. After handling artificial posies for 15 years I never thought I'd want to see a flower again, but these are different. They seem to restore my waith in beauty. I don't know that I can make you understand."

"Yes, you can," Joe said earnestly. "I'd understand even if you did not say a word—just by looking at you. There's all the difference between what your are and were than there is between this"—he clipped a glowing rocket from its stem—"and its French prototype." Then he went away and left Delia to ponder upon what he said.

She bent her face over the rockets and smiled, and her face was almost as pink as they.

By fall it was evident to Delia that her venture was far from being successful. She had used up a great deal of money and she had only 11 chickens and four ducks to show for it. All sorts of evil had beset the fowl.

"I guess she's sort of discouraged," Mrs. Cady said to Joe, who had driven out again. "She won't say nothing, but I can tell. She can't afford to keep this up. Why, she'll go back to hat making'

"No she won't," said Joe. "Where is she?"

"Picking up chestnuts back of the house there."

Joe went to find Delia. They came back together and hour later, hand in hand.

"You shall keep house for us, Mrs. Cady," Joe said gayly, "and summers we'll all come out here. What do you say?"

"I'm afraid you're surprised," murmered Delia.

But Mrs. Cady shook her head. "Land no! I should a been surprised if you hadn't. Anyone would fall in love with Delia. They'd be fools if they didn't."

THE MEAT YOU BUY

"I always buy here," observed a neat young owman in a natty blue suit, glancing about her with an air of satisfaction. "Everything looks so spic and span." Her companion nodded, looked keenly about and then grew thoughtful.

The butcher-shop did look spic and span. On the wooden counter reposed several calves' heads, each surrounded with a necklace of onions, carrots, or radishes, and each with a fresh sprig of parsley in its mouth. The meats were arranged by a window artist, who had missed his calling, set out in neat patterns interspersed with green, yellow and red vegetables. Hanging from racks at the sides of the shop were numerous carcasses, all neatly assorted.

The floor was covered with clean sawdust. The butcher and his assistant wore white sleeves and white aprons. From a decorative standpoint the shop was an immense success. But the thoughtful woman pondered.

"Dou you like the meat all out on the counter that way?" she asked. "I should think it would be better inside."

"Oh, well," retorted her companion, "I like to see my meat and make my choice, and you cook it anyway."

That is true. But it is questionable wehther a nice person likes to eat fly-specks, street and road dust and accompanying filth, be it cooked or raw.

That butcher shop was nicely decorated, but it exposed to dust and dirt all its wares. In a good butcher shop no meat is visible unless in coolers covered with glass. Yet not one shop in a thousand can show counters devoid of meat.

RELIEF AT LAST

I want to help you if you are suffering from bleeding, itching, blind or protruding Piles. I can tell you how, in your own home and without anyone's assistance, you can apply the best of all treatments.

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I promise to send you a FREE trial of the new absorption treatment, and references from your own locality if you will but write and ask. I assure you of immediate relief. Send no money, but tell others of this offer.
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MRS. M. SUMMERS,
Box 309, Windsor, Ont.

Do Not Neglect The Bad Cold OF TO-DAY

IT MAY BE SERIOUS TO-MORROW

May Develop Into Bronchitis, Pneumonia and perhaps Consumption.

Miss Mary Prouse, R.R. No. 1, Cedardale, Ont., writes:—"I had the Influenza in November last, and it left me with a terrible cough. I did not attend to it until it got so severe people warned me it was time to see about it. I went to the doctor and got some medicine. He told me it was a bad attack of bronchitis. I could not sleep, and would have to sit up nearly all night, it was so difficult for me to get my breath. The doctor's medicine did not seem to be helping me the least bit.

One of our neighbors came in one day, and told me about Dr. Wood's Norway Pine Syrup. I tried it and took two bottles. No person could believe how it helped me. I have recommended it to different people since, for I believe I have reasons for doing so.

Dr. Wood's Norway Pine Syrup has been on the market for the past 30 years, and stands out by itself as a remedy for all coughs and colds.

Be sure and get the real "Dr. Wood's" when you ask for it. Put up in a yellow wrapper; 3 pine trees the trade mark; price 25c. and 50c.

Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

The fault of this lies with the housewife, not with the butcher. As the young matron said, housewives like to see the meat they buy. They are not satisfied to have the meat man bring one piece out of the ice box. The believe that he must have choicer cuts hidden away, and they make him bring out piece after piece, until the putting away process after every purchase becomes too weary-same to be continued.

In addition, many women, nice women, too, insist upon fingering the meat, punching it here and there to determine its texture. This handling of meat is unnecessary, and it is not justifiable under any circumstances. The appearance of the meat indicates its condition, and the punching adds very little to the information given by one's eyes, not enough to make it worth while.

A housekeeper should insist that her butcher keep his wares covered from flies and dust, and from pernicious testing fingers.

She should do more than this: she should visit the rear rooms of the butcher shop. Comparatively few women are aware that in many butcher-shops sausage is made in the rear room from the scraps and trimmings of the shop.

Clean Chopping Blocks Are Essential

There is no objection to this sausage, provided that it is clean throughout. To accomplish this, the counters, the chopping blocks, the boxes into which the scraps are dropped, must be clean and washed daily. The best meat counters are those made of porcelain or marble, and the best meat chopping blocks are those of a composite material which resist the knife and hatchet and do not cut.

Wooden blocks are almost universally used, but they are almost impossible to keep clean. In deep cuts made by the butcher's tools the meat putrefies and decays. A thorough scraping every day and scrubbings with hot water in which a quantity of washing soda has been dissolved is a help to cleanliness. If the butcher cannot afford to re-equip his shop with the composite blocks, he can at least use this aid.

The boxes into which scraps are dropped should be of some material easily scalded out. They should be washed daily.

How "Fresh Country Sausage" Are Made

In the rear rooms of many establishments barrels of scraps are kept until they begin to smell so objectionable that they must be used. The barrels themselves are never cleaned, the room is filthy, unventilated, unscreened, visited daily by numerous flies, rats, roaches and other vermin. Yet here are produced pounds of "fresh country sausages" spiced and doctored until it tastes sweet and good.

There is no reason why the rear room should not be clean, light, screened, and why the sausage-scrap container should not be clean and washed daily.

Barrels, crates and meat-scrap containers are much cleaner if they are kept on stands and not directly on the floor. This makes them easier to move, especially if the stands are on castors, a very simple matter for any butcher. The stands permit cleaning under them, which heavy barrels set upon the floor do not, and vermin come direct from floor to barrel which stand a long time, such as those of salt, pickled or sour meats. Even if the room is screened such barrels should always be covered from floor dust.

All butcher shops have refuse. Some of them render the fat into lard upon the premises. This is often done in the sausage room or in a rear shed, and the shed used should be screened and clean.

The cooler-room itself should be clean, and should contain no animals with pelts or skins on. This hanging of pelted animals next to dressed meats is a comon practise. Sometimes the skins are infested with vermin, which transfer themselves to the other meats.

The cooler door will always merit attention. It should be dry, and any boxes or barrels in it should be on stands to prevent mold. A thermometer hung near the window in the door will show whether the cooler is really a cooler or merely an unventilated room, where the quantity of ice kept is insufficient to cool anything.

No killing should be done upon the butcher's premises, unless there is a distinct slaughter house attached.

Usually there are municipal or town ordinances which forbid indiscriminate slaughtering of food animals, but often these are disregarded. Chickens are exempt from the rule, and may be killed at the shop, but they should not be kept in the room for days until they are offensive. They must be kept in an open yard and the killing should be done in a screened shed.

A clean shop with sanitary rear rooms, counters free from exposed meats, a good ice box, well-screened windows—these may be acquired by any local butcher if the women of the community demand it of him.

Mr. J. A. McFarlane of Napanee, Ont., had chilblains so bad that he couldn't wear boots. Egyptian Liniment relieved them. Don't suffer from chilblains this winter. This liniment is also for Frost Bites, Burns Scalds, Cuts, Bruises, Sore Chest and Throat, Neuralgia, etc.

DOUGLAS' EGYPTIAN LINIMENT AT ALL DEALERS 35¢ BOTTLE

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J. A. Simmers Limited, Toronto

CARE OF PERSON WITH INFLUENZA

Care of Patient.—Plenty of fresh air in room, without exposure to draft. Keep patient away from rest of family and hang sheet which has been dipped in Carbolic solution across door. Have a basin of solution in room and kep sheet moist with whisk; keep soiled linen separate, and when removing from room roll in something which has been wet with disinfectant. Patient should use gauze or old cotton instead of handkerchiefs, which should be rolled in paper and burnt.

See that patient is well nourished, bowels move daily, normal quantity of urine voided, plenty of water to drink; liquid food should be given every two hours; keep patient warm at all times and STILL, as heart action is usually involved.

Care of Self.—Infection is from respiratory organs so avoid as far as possible direct contact—breathing, sneezing and coughing, of patient; after contact gargle thoroughly and breathe in nostrils disinfectant as doctor shall suggest (1 teaspoon of salt, 1 teaspoon soda, 10 drops carbolic to pint water.) Wear apron, long sleeved if possible, while waiting on patient, hang apron outside of the window of patient's room when not in use. A piece of gauze folded so as to cover ose and mouth should be dipped in a disinfectant and used when attending patient. Disinfect hands after contact with patient and before eating, in bichloride—1 tablet in a quart of water, or whatever the doctor sugests. Bichloride destroys metals so do not wear rings, wrist watches, etc. Keep hair covered with cap or towel; keep in open air as much as possible and keep warm, sleep with windows open. Doctor will prescribe care of patient; do not eat meals in patient's room.

Care of Patient, additional.—Keep patient's dishes separate from those used by other members of the family; food taken from room of patient should be burned at once.

Disinfectants.—2 dozen Bichloride tablets; 8 oz. carbolic. Mecuric Iodine Soap. cans chloride of lime (for excreta). 3 yards of cheese cloth for masks; bolt of tape; aprons with sleeves if possible; warm dressing gown; bedroom slippers; covering for the head; antiseptic soap.

A Few Light Diets, With Doctor's Consent

Albumen Water.—To juice of half lemon add white of one egg cut with with a knife, not beaten, fill glass three-quarters full with water and sweeten to taste; extremely good when patient is very feverish.

Beef Tea.—Cut one pound of beef in small pieces, almost cover with

I KNOW A WOMAN'S SUFFERINGS

I am a woman.

What I have suffered is a far better guide than any MAN'S experience gained second-hand.

I know your need for sympathy and health.

And the treatment that gave me health and strength, new interest in life, I want to pass on to you, that you, too, may enjoy the priceless boon of health.

Are you unhappy, unfit for your duties? Write and tell me how you feel and I will send you ten days' FREE trial of a home treatment to meet your individual needs, together with references to women in Canada who have passed through your troubles and regained health; or you can secure this FREE treatment for your daughter, sister or mother.

If you suffer from pain in the head, back, or bowels, feeling of weight and dragging down sensations, falling or displacement of internal organs, bladder irritation with frequent urination, obstinate constipation or piles, pain in the sides regularly or irregularly, bloating, dyspepsia, extreme nervousness, depressed spirits, melancholy, desire to cry, fear of something evil about to happen, creeping feeling up the spine, palpitation, hot flashes, weariness, sallow complexion, with dark circles under the eyes, pain in the left breast or a general feeling that life is not worth living, I invite you to send to-day for my complete ten days' treatment entirely free and postpaid, to prove to yourself that these ailments can be easily and surely overcome at your own home, without the expense of hospital treatment, or the dangers of an operation. Women everywhere are escaping the surgeon's knife by knowing of my simple method of home treatment, and when you have been benefited, my sister, I shall only ask you to pass the good word along to some other sufferer. My home treatment is for all,—young or old.

MRS. M. SUMMERS, Box 309 Windsor, Ontario

Read My FREE Offer:

To Mothers of Daughters, I will explain a simple home treatment which speedily and effectually dispels green-sickness (chlorosis), irregularities, headaches and lassitude in young women, and restores them to plumpness and health. Tell me if you are worried about your daughter. Remember it costs you nothing to give my method of home treatment a complete ten days' trial, and if you wish to continue, it costs only a few cents a week to do so, and it does not interfere with oue's daily work. Is health worth asking for? Write for the free treatment suited to your needs, and I will send it in plain wrapper by return mail. Cut out this offer, mark the places that tell your feelings, and return to me. Write and ask for the free treatment to-day, as you may not see this offer again. Address:

COOKERY COLUMN

COCOA BISCUIT

2 cups flour
4 teaspoons baking powder
½ teaspoon salt
2 tablespoons sugar
4 tablespoons Cowan Cocoa
3 tablespoons butter
2/3 cup milk

1. Mix and sift dry ingredients.
2. Rub in the butter with the tips of the fingers.
3. Add milk gradually, mixing to a soft dough.
4. Toss on floured board.
5. Roll lightly to one-half inch in thickness, cut into small biscuits.
6. Bake in a hot oven 12 to 15 minutes.

cold water ,put on in double boiler and cook slowly for at least 3 hours, salt to taste.

Boiled Custard.—Thoroughly beat three eggs and add to a pint of milk, add two tablespoons of sugar and ½ teaspoon vanilla and a pinch of salt, put in double boiler and stir till it thickens.

Oatmeal Gruel.—To one cup of oatmeal take three cups of cold water and half teaspoon of salt, let it stand half an hour, put in double boiler and cook slowly 2 hours; strain and thin with milk, sweeten to taste. If patient is very ill gruel should be very thin.

Scraped Beef.—Scrape half a pound of beef, press in little cakes and singe slightly over a hot fire.

Apple Drink.—Cut up two large tart apples; put in one quart cold water, boil down to one pint add sliced lemon and sugar to taste.

If patient refuses to take eggs, one may be put in a cup of tea without patient noticing it.

GENUINE DIAMONDS
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JACOB BROS., Diamond Imp., 15 Toronto Arcade, Toronto

SOME TASTY COOKIES AND GRIDDLE CAKES

Bran Griddle Cakes

Try these some morning as a change from the usual pancakes.

1½ cups bran, 2 teaspoons baking powder, 1 egg, 1½ cups flour, ½ teaspoon salt, sweet milk.

Sift the flour and baking powder add the bran and salt. Beat the egg well, add milk and mix with the flour and bran, using enough milk to make a thin batter. Cook on a hot griddle . Serve with syrup and butter or sprinkle with scraped maple sugar; roll up and serve very hot.

Ginger Bread

1 cup shortening, ½ cup sugar, 2 cups molasses, 1 teaspoonful salt, 2 teaspoonfuls cinnamon, 3 teaspoonfuls sugar, 1 teaspoonful cloves, 1 teaspoonful baking powder.

Cream the shortening and sugar. Add the molasses, sour milk and powder. Beat vigorously for two minutes.

Pour into two well buttered loaf cake pans. Bake in a moderate oven for thirty minutes. Serve with whipped cream as a dessert.

Nut Oatmeal Cookies

1 cup shortening, 3 eggs, 3 cups rolled oats, 1 teaspoonful salt, 2 teaspoonfuls cinnamon, 1 teaspoonful allspice, 1 cup raisins, 2 cups sugar, 2/3 cups milk, 3 cups flour, 1 teaspoonful soda, 1 easpoonful cloves, 1 teaspoonful baking powder, 1 cup nut meats, 1 teaspoonful vanilla.

Cream the shortening, add the sugar and eggs. Beat vigorously for two minutes. Add the milk and the rolled oats (put through a meat grinder.) Mix and sift the flour, salt, soda, cinnamon, cloves, allspice, and baking powder. Combine these dry ingredients, raisins (chopped), nut meats and vanilla, with the creamed mixture.

Mix thoroughly and drop from the end of a spoon upon a well-greased floured pan. Bake in a moderate oven for fifteen minutes.

Salad Dressing

Three eggs, two tablespoonfuls of butter, one-half cupful of sugar, one teaspoonful of vinegar, one teaspoonful of salt, pepper and mustard, one cupful of sweet cream. Mix sugar, salt, pepper and mustard together dry. Beat the eggs, add vinegar and seasoning and cook. Take from the stove and beat in the butter, let cool and then beat in the sweet cream.

Potato Flour Cake

(A conservative recipe from which can be made any number of delicious desserts.) 6 eggs, 2/3 cups sugar, 2 tablespoons strained honey. 1 tablespoon lemon juice, 1 tablespoon grated lemon rind, ¾ cup potato flour, 1 level teaspoonful baking powder, ¼ level teaspoonful salt.

Beat the egg yolks for three minutes. Add the sugar, honey, lemon juice and grated rind. Beat for two minutes. Mix and sift the potato flour, baking powder and salt. Beat the egg whites very stiff. Add alternately the dry ingredients and the egg whites, mixing in lightly. Pour into a floured angel cake pan. Bake one hour in a slow oven. Use as a base for the following desserts.

1.—Cut into cubes and serve with sweetened whipped cream.

2.—Cut into two-inch cubes, hollow out their centres and fill with preserves, jelly or a creamed filling of any kind. Top with whipped cream.

3.—Serve with ice cream on top of individual dishes.

4.—Cut inhalves. Spread a corn starch filling between. Cover with a sweetened meringue and bake five minutes in a hot oven.

MAKING PORK SAUSAGE

To each three pounds of fresh, lean pork add 1 pound of fat. As the pork usually used for sausaage is the shoulder, neck and lean trimmings, the sausage is quite likely to be too fat unless part of the fat is removed and used for lard. Mix the fat and lean together in chopping. Where a rotary cutter is used it is best to cut the meat twice. After it is cut the first time spread it out thinly and season. One ounce of pure, fine salt, one half ounce of ground black pepper, and one half ounce of pure leaf sage, rubbed fine, to each four pounds of meat will suit the taste of most people. The seasoning should be sprinkled thinly over the cut meat and the meat again run through the cutter to mix the seasoning thoroughly. This method will give a more even mixing of the spices than can be obtained by working it with the hands. For immediate use the sausage may be packed away in stone jars or crocks, to be sliced for frying. Many people stuff it into cas-

WE SERVE YOU

What services do your bankers render?
Do they supply you with sound, practical advice based on up-to-date knowledge of markets, prices and business conditions? Do they help you to take advantage of your opportunities and increase your income?
This Bank is prepared to help farmers in every way possible. 80A

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Victory Bonds at par to yield 5½%
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We WANT your order for STRAWBERRY PLANTS this coming season. Of course you are planting a larger acreage than usual,—everybody's doing it, for strawberry growing at the prices now days is a sure fire money maker. The Canning factories are anxious to buy all the berries they can secure, so we now have no fear of over production. Get our plants and be sure of big crops. Senator Dunlap, Warfield, Beder Wood and Dr. Burrell, six dollars a thousand. Sample, Glen Mary, Premier and Bubach seven dollars a thousand. We allow one dollar a thousand discount from these prices on all orders of four thousand or over of one variety. Send for Catalogue. It's Free.

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Fruit Packages

We Manufacture Strawberry Boxes and Crates for same, 6 qt. Baskets, Apple Boxes, Box Shooks, Apple Graders, Wheelbarrows. Now is the time to lay in a supply of Fruit Packages for the coming season. We have a good stock on hand, order early and ensure prompt shipment. Price on application to

Hantsport Fruit Basket Co,. Ltd.

HANTSPORT, N. S.

ings made from the small intestines of the hog. When this is done the intestines must be turned inside out and care fully cleaned.

Mixed sauage may be made from pork and beef in almost any proportion. When three or four hogs and a beef are killed on a farm for the year's supply of meat a nice supply of ausage can be made from the trimmings. Sausage should not contain too much fat. A good proportion is 2 pounds of lean pork, 1 pound of fat pork, and 1 lb. of lean beef. Chop together fine and season the same as pork sausage. Pack in jars, muslin bags, or casings. This is not so fat as clear pork sausage.

CANADIAN CO-OPERATIVE WOOL GROWERS, LIMITED

(Continued from page 375)

warehouse, Toronto, in the grease and there graded and that the Canadian Co-operative Wool Growers, Limited, advance to such shipper 80% of the then market price of each grade as soon as the wool is weighed in and graded; final settlement to be made when the wool is sold or in the alternative at the end of the Company's year and that Dominion Government supervision at the central warehouse at Toronto be asked for.

Another resolution was to the effect that the Canadian Co-operative Wool Growers, Limited, undertake a publicity campaign by advertisement in public prints and otherewise with a view of bringing the principal aims and objects of the organization to the attention of every breeder of sheep in the Dominion of Canada, thereby soliciting their support both as shareholders and shippers. It was further recommended that competent field men be placed in every Province to assist the local director in pushing the work of the organization.

Other Resolution

Importation of Frozen Mutton.—Moved by Mr. J. W. Renton, seconded by Mr. G. L. Telfer, that,

Whereas at the Annual Meeting of this organization held in February, 1919, a certain resolution was passed in regard to the importation of frozen mutton,

And whereas up to the present time no definite action has been before the Department of Agriculture with a view of having something done at the earliest possible moment.

Moved by Miss E. C. Hind, seconded by Mr. R. Knights, that this matter be laid before the Minister of Agriculture by Mr. Wilson and Mr. Logan. Carried.

Ranges in British Columbia.—Moved by Mr. G. C. Hay, seconded by Mr. R. Knights, that,

Whereas the ranges in British Columbia are showing the effects of over-grazing to a very marked degree,

And whereas the Provincial Government is doing good work in the way of limiting the number of animals on certain ranges and in so far as possible alloting the higher ranges to the sheepmen,

Be it resolved that the Dominion Government be requested to carry on similar work with respect to the ranges in the Railway Belt as the Provincial Government is doing with respect to its range lands and reserve in so far as possible the higher leases for the sheepmen.

The mover and seconder of the above agreed to change the motion to include Alberta. Carried.

Directors and Officers

The following men were elected as Directors of the organization for the year 1920:

Col. Robt. McEwen, G. L. Telfer, W. D. Dryden, Ontario; J. D. Wilson, D. B. Howell, Saskatchewan; W. I. Smale, George Gordon, Manitoba; J. R. McDowell, J. A. McClary, Quebec; Bishop Levi Harker, J. W. Renton, Alberta; S. A. Logan, Nova Scotia; Geo. C. Hay, British Columbia; W. H. McGregor, P. E. Island; A. E. Trites, New Brunswick.

At a subesquent meeting of the Board Col. Robert McEwen was elected President; J. D. Wilson, 1st Vice-President; S. A. Logan 2nd Vice-President. The members of the Executive was increased from five to seven. The members of the Executive elected were: J. A. McClary, Lennoxville; Col. Robt. McEwen, London; G. L. Telfer, Paris; W. A. Dryden, Brooklyn; George Gordon, Oak Lake, Man.; J. W. Renton, Calgary, Alta.; J. D. Wilson, Maple Creek. Sask., and G. E. O'Brien was elected General Manager and Treasurer.

PILES Do not suffer another day with Itching, Bleeding, or Protruding Piles. No surgical operation required. Dr. Chase's Ointment will relieve you at once and as certainly cure you. 60c. a box; all dealers, or Edmanson Bates & Co., Limited, Toronto. Sample box free if you mention this paper and enclose 2c. stamp to pay postage.

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Farmer's Sons and Daughters have great opportunities to-day

They never had better chances to make and to save money. Now is the time to lay the foundation of future prosperity by cultivating the habit of thrift.

There is a Savings Department at every branch of this bank. The staff will be glad to show you how to make the first deposit.

Capital and Reserves - - - $35,000,000
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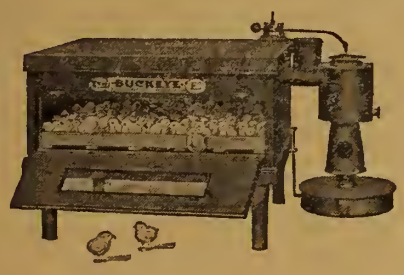
640 Branches



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Announcement of Courses in 1920

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M. CUMMING -	Secretary for Agriculture -	Truro, N. S.
FRASER T. MORROW	Director of Dairying	Charlottetown, P. E. I.

COURSES: Open to any who have had at least one season's experience in a cheese factory or creamery or make special arrangements.

Creamerymen's Course:
March 10th to 23rd inclusive.

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Milk Testing Course:
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Milk Testers for Cow Testing Associations:
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For further information write to your Provincial Dairy Superintendent.
W. A. MacKAY, Supt. in charge,
Truro, N. S.

THE AFTER EFFECTS OF THE "FLU"

Has Left Many Weak Hearts.

This terrible scourge has left in its train weak hearts, shattered nerves, and a general run-down condition of the system.

Thousands of people, throughout Canada, are now needing the timely use of Milburn's Heart and Nerve Pills to counteract the effects of this trouble which a short time ago swept our country.

Mrs. C. C. Palmer, Keppel, Sask., writes:—"I wish to inform you of the great good Milburn's Heart and Nerve Pills did for me. After a bad attack of the "Spanish Influenza," my heart and nerves were left in a very bad condition. I got two boxes of your pills and I must say they are the best I ever used, and I have taken a great many different kinds. I will always keep Heart and Nerve Pills in the house."

Milburn's Heart and Nerve Pills are 50c. a box. For sale by all dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

TRUE NEIGHBORLINESS WHEN SICKNESS COMES

This is no talk on nursing nor even on the subject generally exploited under the well-worn title, "Health Hints." Let us discuss not what to do for the sick on the farm but how to help the well folks who must take care of the sick and often have a harder time of it than the patient does. So much intended help is an actual hindrance. Many neighbors out of real sympathy and interest call up on the telephone. Don't. It takes time for the tired mother to answer. In addition to her regular duties she is both day and night nurse. The telephone bell is at best a necessary evil. I knew one really helpful neighbor who arranged to get the report form the family and then it was understood that the other neighbors should call her and not the sick home. Inquiries, expressions of sympathy, offers of help, all went through her as a sort of clearing house, and the weary wife, waiting at what proved to be her husband's deathbed, was spared much time and expenditure of strength.

Another helpful thing to do is to take a restless, noisy child home with you and care for it ill the sick member of its household can have it back again. This may prove a big program, but think what it means to the mother. But you say, you have no tact in dealing with children. Maybe you are good at the washtub. I had one friend who went to the sick home and said: "I can't nurse and I never cared for children, but I want you to put up the wash and I will come for it regularly till you are well again." The mother protested, but her sensible neighbor and good friend marched off with the wash, and what a relief it was in the home where more washing than ever was required. It is so much easier to rush into a burning building and rescue a child than to take a cold bath on a winter morning. The bathing is prosaic; the rescuing is heroic; but my heroine of the washtub I think worthy of a place in the calendar of saints, and I vote her with both hands a halo. The housewife told me afterward she surely would have broken down if that "Old man of the sea," the weekly wash, had not been taken from her shoulders.

Let the Nurse Do the Nursing

Baking is another thing that can be done just as well away from the sick home. Do that instead of volunteering to come and nurse if you have no special gift of training as a nurse. Professional trained nurses at twenty or twenty-five dollars a week are still very rare in the average farm home. There are two reasons for this: the great expense and the preference of nurses for the city. There are, however, in most country neighborhoods women who are natural nurses and have had a good deal of experience. When one of these may be secured she is a great relief to the mother. And, mothers, if you get a nurse who knows as much or more than you do about the case in hand, then do be wise enough to let her do the nursing. Save yourself against the time when she will have to go home or will get tired out. So many mothers, following the maternal instinct rather than the motherly judgment, linger night and day at the bedside when it is not necessary. They wear themselves out to no purpose and when a crisis comes their vitality and freshness, so much needed to pull the patient through, are all squandered. Your working power is not immeasurable like the water in the ocean. Hoard it against a time of greater need.

In many country communities it is a downright shame the way young mothers are imposed upon. The first Sunday after the new baby arrives a regular procession of relatives, neighbors and friends are on hand to see the newcomer and to congratulate the mother. She is no doubt glad to see you and proud to exhibit her young hopeful, but the baby will keep till the mother is well and strong again. It is certainly kinder to send congratulations than to bring them. I have one wise friend who positively refused to put her babies on exhibition, keeping them for some weeks upstairs where they were wholly undisturbed. She even gave offence to some of the old-time baby inspectors, who voted her stuck-up. Those first few months of undisturbed repose gave her children so good a start that every one of the four was a good baby. Every baby is a good one if let alone and allowed to sleep. Many a young child is voted ill-tempered and cross when really it is nervously worn out.

Cooking something to send in for the sick is often a nice thing to do. It comes from a true neighborly spiriit and from a feeling of sympathy, but often the mark is missed. I believe I might say it is more often missed than hit. The chances are rather against getting what the patient hankers for and the physician will allow. Although the sender will never know it, much of the food thus sent in is eaten by the well members of the household. I recall one case where a young man was making a good recovery from tyhpoid and on Thanksgiving Day he was sent some slices of turkey. It tasted so good, but nevertheless it threw him into a relapse and killed him. We know now that solid food must be kept from such convalescents, but at that time neither the sender nor the young man's family knew it. Sending food to a patient is almost as risky as sending him medicine. I am not discouraging this friendly custom so prevalent in some country communities, but I am most emphatically insisting that it must be safeguarded.

Old cloth is usually most convenient in a sick room and the family supply runs low in cases of protracted illnesses. Of course new cloth could be bought, but that is unnecessary. Send in old sheets and the like. They will be appreciated. Not only the thing itself is appropriate but the spirit behind it all cheers the recipient. The weary one in the sick room, watching, working and waiting, feels that her good friends have not forgotten her, that they are helping her make the lght. The warm glow about her heart strengthens her resolution and steadies her hand. Not only in joy but in sorrow as well we feel that we must share things with others. I knew one good woman who kept a wheel chair that her old mother had once used. It might have gone to the second-hand store, for no one in the family needed it, but she kept it to lend. Nor did people have to "borrow" it. She took gerat delight in taking it to a home where it would be needed. A convalescent in a wheel chair is so much happier and the one doing the nursing is relieved of so much lifting and carrying. Yet a good chair costs considerable, and one is almost never seen in the general equipment of a household unless there be a cripple in the home. I shall hold in my heart's picture gallery the view of that good woman with the happy smile on her face as se drove past with her wheel chair in the little wagon. You probably have no wheel chair, and old cloth may be at a premium most of the time in your house; but there certainly is something you have or there is something you can do. Give it careful thought and something will be suggested. Do not be afraid to do some very simple thing. Life in its great bulk is not made up of spectacular deeds, such as make good copy for sensational novels, but of trifles; the sum of these is no trifle, I can assure you.

Fruit and flowers are always acceptable. The same kind of fruit may be in the orchard or in the garden of the neighbor to whom you are sending it, but she may not have the time to go out and gather it. Anyway, the fact that you wanted to do something is a comfort to her and it pleases the patient to be remembered. It makes a pleasant break in the monotony of the sick room. It is a good plan to send a plant when you can instead of cut flowers that wither so soon. The plants are watched with so much interest as they grow. This is truer in winter than in summer. I have a friend who is very generous with his powerful field glasses. A patient in a comfortable wheel chair looking at the birds in the trees or on top of the barn or watching the men haying in the meadow will entertain himself by the hour. Reading aloud has its limitations. It is hard on the reader and soon wearies a nervous patient. However, it is wel lto send a bundle of illustrated magazines. The pictures are a good diversion, requiring but little mental effort.

Hospitals in the country are about as rare as white blackbirds. The farm wife and mother cannot get competent help in the home to care for it while she herself turns nurse, nor

Paying Toll for Neglect

Needless exposure to damp and cold frequently result in a derangement of the Kidneys and Bladder.

When these important organs fail to do their duty, various evils arise, such as rheumatism, swollen hands and ankles, stiff joints, lumbago, sciatic neuralgia, stone in the bladder or gravel, excruciating pains in the back and sides, constant headaches, dizziness, specks floating before the eyes, uneasiness of mind without reason, and general debility.

These are signs of serious kidney and bladder trouble, which require immediate attention. The most dependable remedy is found in Gin Pills. They often prevent the operations which constant neglect may render necessary. They quickly and safely relieve congested kidneys, passing stone and gravel, healing and soothing inflamed organs and restoring them to normal. Thousands of letters from people who have been relieved are continually coming to us. Their writers often beg us to spread the good news to other sufferers that Gin Pills certainly and surely will bring the help they need. Send for free sample, or go direct to your druggist or dealer, 50c a box. Money refunded if relief not given.

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Build up Your Strength with

OLIVEINE EMULSION

One reason why OLIVEINE EMULSION is so helpful for Coughs, Colds, Weakness and a General Run-down Condition is, because it contains the substances that re-build flesh, enrich the blood, improve digestion and appetite, and give vigor and vitality to the entire system.

If you are not feeling well, see what OLIVEINE EMULSION can do for you—take no substitutes.

All Druggists and General Stores have it.

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Frasier, Thornton & Co. Limited,
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LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.

A MESSAGE TO WOMEN!!

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It is astonishing how quickly Minard's Liniment relieves stiffness and lameness.

Gives Great Relief

Mrs. A. R. Calcott, 26 Park Ave., Guelph, Ont., writes—"My husband has used Minard's Liniment frequently, always with good results. Friends of mine use it for rheumatism and tell me that it gives great relief."

Mrs. Fred Johnston, Box 735, Thorold, Ont.—"I suffered very much with neuralgia in my face last winter, was advised to try Minard's Liniment, and was relieved immediately after first application. I persevered in using it and it has entirely gone. This winter I can go out without tying up my face and give the credit to Minard's Liniment. Have told several people about Minard's, and others are using it."

MINARD'S

King of Pain

LINIMENT

Yarmouth Nova Scotia

FIVE ROSES FLOUR
for BREADS, CAKES, PUDDINGS, PASTRIES

COOKIES, Gems, Snaps, Jams-Jams, Crackers and Wafers—keep the jar well filled for the pantry pirates! And even grown-ups find they fill a vacant place most pleasantly when nothing else will do.

But first make sure of the

Exceptional Keeping Qualities

that the use of FIVE ROSES flour brings to economical home baking.

The lasting freshness and aroma so essential are assured because of the stubborn manner in which FIVE ROSES bake things retain their original freshness. Thus, *without fear of waste,* you can make a lot of these dainty goodies at one baking.

Then, due to the fineness and liveliness of this famous flour, your cookies and wafers are much more melting and digestible.

To these appetizing qualities, FIVE ROSES adds the wonderful nutrition of Manitoba's richest wheat, together with the amazing strength that spell *economy* in baking.

There is a bag of FIVE ROSES flour waiting for *YOU* at your dealer's.

Over 35 Magic Cooky Recipes

Hundreds of suggestions on bread, puddings, rolls, buns, biscuits, fried cakes, pastries and cakes of all kinds. Every one of its 144 pages points the way to thrifty baking. The famous FIVE ROSES Cook Book is already indispensable in over 500,000 homes. It becomes YOURS for 30c (stamps or silver. Address Dept. "O" LAKE OF THE WOODS MILLING CO., LIMITED, Montreal and Winnipeg.

can she get as a rule the city professional nurse, nor has she the hospital habit. In many rural communities there still persists a deep-seated prejudice against hospitals. It would take the sheriff and a posse to get some people into a hospital. Why not a township hospital as well as a township consolidated school? "Oh, that is Utopia," some one exclaims. It may be the township is too small a unit, but two or three townships certainly are not. One hospital at the county seat, mostly monopolized by the town people, will not fill the bill. Farmers know and believe in their neighbore, but they are very shy about going to strange places when ill. A modern hospital well equipped for surgery is very expensive to build and still more expensive to maintain, but there is much sickness in farm homes that could be well cared for in a near-by rural hospital, a branch, if you please, of a larger institution at the county seat.

Why should the visiting nurse be only a city blessing? A rural hospital, as a center for the equipment and as a home for some rural visiting nurses, would meet a crying need and I believe would have the hearty support of the farmers. The Rural Nurse Department of the Red Cross offers one solution of the problem. The Red Cross has built up throughout the country an organization which could be utilized in the development and growth of rural nursing in time of peace. If we farm mothers are to be cooks, laundresses, waitresses, housekeepers, mothers, business managers and so on to the end of the chapter, what time, strength or skill will we have left for that most exacting and exhausting work of nursing? When sickness comes in the farm home we will continue to do our level best, but we should not gon on in the old way forever. As the factor has lifted much drudgery from the farm woman's shoulders so the hospital and rural nurse will relieve her still more in a most important realm.

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's

Caustic Balsam

IT HAS NO EQUAL

For the Human Body

—It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils Corns and Bunions, CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for

Sore Throat
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Sore Lungs
Rheumatism and
all Stiff Joints

REMOVES THE SORENESS—STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER.

Price $1.75 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet B.

The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

BEES, THEIR VALUE IN THE ORCHARD

(Continued from page 379)

for the bees to reach it only on decidedly warm days, and the flowers close in the afternoon, so it does not draw the bees away from fruit bloom to any extent in broken weather. To make a good job of pollinizing the fruit blossoms it is evidently desirable that the hives should be located right in the orchard, and that there should be plenty of bees. For a small orchard, two strong colonies would provide plenty of bees, but to work to a distance of one fourth of a mile on all sides ten might be needed. The habit that bees have of spreading themselves over the country when working is a valuable one for the orchards.

In some districts where the pollination by bees is a pressing problem, it might be well for the Fruitgrowers' Association to consider undertaking the stocking of a few orchards with bees and placing a trained apiarist in charge of them. The Apiarist could have, say, two helpers, who would thus be training for taking charge of other districts. It would be feasible to distribute colonies from a central apiary to a number of orchards not less than two miles distant to be there during the blossom season, and then to bring them back at the end of the season. In this way, the labor of attending to the bee throughout the season in a number of differen places would be avoided.

I have been asked to say whether bees can be procured. My answer is, prepare them with care in the winter and you will soon have plenty, because the Annaolis Valley is a particularly favorable region for the breeding of bees, and the multiplication of swarms. When visiting the Experimental Farm at Kentville on July 31, 1915, I found that a prime warm that had been produced by a prime swarm was preparing to swarm again, indicating a rate of production greater than any met with in all my previous experiences in Canada or England. What is the use of going to the risk and expense of purchasing bees from a distance if they are allowed to die from neglect in winter? Where however, it is impossible to procure bees locally, I recommend getting two-pound packages in June or July, from reliable dealers in Quebec or New England. The former advertise in "The Canadian Horticulturist and Beekepper," published at Peterboro, Ont. and the latter in "Gleanings in Bee Culture," published by the A. O. Root Co., Medina, Ohio. Those who are experienced beekeepers might try purchasing two-pound lots in May from the professional dealers in Alabama. If well packed, I see no reason why, with luck, the majority of the packages should not come through in fairly good condition by parcel post, but considerable losses may be expected and combs free from foul-brood infection hould be given the bees on arrival.

It is evident that bees are of no use in the orchard unless trees of a different variety are planted close to the variety they intend to pollinize. Since bees, when working steadily, do not fly about an orchard much, but visit adjacent flowers, the most complette transferrence of pollen would not be got by having the two varieties in alternate trees or alternate rows. Whether a greater distance apart might still be satisfactory is a question for experiment by the fruit growers. However, it would be useless to have a late flowering variety like Northern Spy as a pollinizer for an early flowering variety such as Gravenstein, Golden Russet or Wealthy. As a general rule the pollinizer should be of a variety that flowers fully as early as or a little earlier than the variety that it is intended to pollinate. Some varieties are better pollinizer and have a stronger affinity for certain varieties than others. These varieies should be selected in planting.

The subject of bees and fruit is not complete without allusion to the spraying of fruit trees in full bloom with insecticides. Arsenical spraying made during the time of full bloom have been found to cause the death of bee, and for the protection of beekeepers, laws have been en-

Here's the Evaporator to Solve the Syrup and Sugar Problem

Thousands of grove owners do not work their groves for very little reason. Lots of them just can't make up their minds. Yet if we were to put a proper outfit in their grove and they saw it work so easily and the money there was in it—for one season—they would fight to prevent us taking the outfit away again, even if the cost were a good deal more. An unworked grove these days is like an untapped reservoir with thirsty people around. A big demand and no supply. Why not put a

GRIMM CHAMPION OUTFIT

in your grove. One of a right size to work your bush to full capacity. Then there will be no waste and every dollar extra means more production. We can fit out any grove from sap spout to Champion Evaporator. Get in touch with us right away.

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Farm Salesmen Wanted

We wish to secure the services of reliable men to act as our local representatives in desirable farming sections in New Brunswick and Nova Scotia.

The capital, business methods and reputation of the largest farm agency in the world, established in 1900, will be behind you and your success assured. Unless you have been successful in other ventures, and enjoy the respect and confidence of your townsmen, do not apply. Experience not necessary, but must own an automobile.

Our business is paying capable men $3,000 to $5,000 yearly. State all particulars in first letter regarding your age, business experience and if you are a property owner. All communications treated as confidential Address

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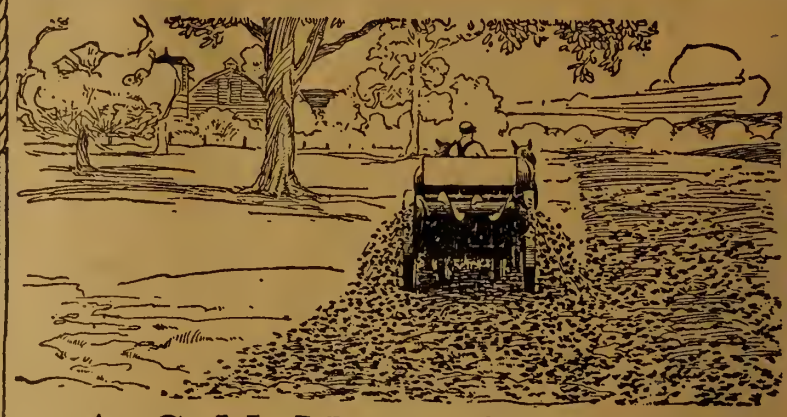

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MADE IN CANADA

DURING the long winter months your cattle are confined to the stable instead of running loose in the pasture. The manure pile grows. By spring you have a gold mine of fertility stored up behind the barn.

How do you handle that valuable crop of fertilizer in order to get the most out of it? Experience has shown this to be very good advice: spread it with an **International McCormick, or Deering Manure Spreader,** and get 100% crop-producing value through even spreading of finely pulverized manure.

The all-steel beaters of **McCormick and Deering Manure Spreaders** are equipped with square, chisel-pointed steel teeth that tear the toughest lumps of manure into small bits. The position of the beater is somewhat the same as that of an overshot water wheel, so that the pressure of the load against it really helps it along, thereby resulting in light draft. A spiral wide-spread screw just behind the beater gives the manure a second beating and then spreads it evenly at whatever density desired, well beyond the wheels on both sides. Both rear wheels of the spreader are drivers. The apron and wide-spread spiral are driven from one side and the beater from the other.

The same intelligent, responsive after-the-sale service goes with these spreaders as with McCormick or Deering mowers, binders or other machines bearing the I H C mark of quality and dependability. Let us mail you a catalog of a spreader that will appeal to your common sense and good judgment. Write to the nearest branch house. And call on the International agent when you are in town — he will be glad to tell you more about these spreaders.

INTERNATIONAL HARVESTER COMPANY
OF CANADA LTD.
HAMILTON CANADA

WESTERN BRANCHES — BRANDON WINNIPEG, MAN., CALGARY EDMONTON LETHBRIDGE, ALTA., ESTEVAN, N. BATTLEFORD, REGINA, SASKATOON YORKTON, SASK.
EASTERN BRANCHES — HAMILTON LONDON, OTTAWA ONT., MONTREAL, QUEBEC, QUE., ST. JOHN, N. B.

NEW WHITE TOMATO

---ALBINO---

This novelty came as a sport, but comes absolutely true from seed now. The fruit is quite large, averaging nearly three-quarters of a pound each. Its color is absolutely white clear through; is most valuable for table use, and as it contains no acid, it will become very popular, for thousands of people do not care to eat tomatoes because of the acid. The flesh is solid and firm, and on this account makes a splendid shipper. No garden will be complete without this valuable addition. Sold in packets only. Per pkt. 30 cts.

FREE—Our handsomely illustrated 116 page catalogue of Vegetable, Farm and Flower Seeds, Plants Bulbs, Poultry Supplies, Garden Implements, etc. for 1920. Send for it.

DUPUY & FERGUSON

38-42 Jacques Cartier Sq., : MONTREAL

acted in several of the provinces forbidding such spraying.

It is, however, seldom found necessary to enforce these laws because there is every reason why the fruit growers should, in their own interest, avoid the spraying of tree in full bloom, and when such spraying is done, it is usually done in ignorance of its harmful effects. Not only are the bees, the fruit growers' best friends, killed, but also the spraying actually injures the reproductive organs of the blossoms and the setting of the fruit. Besides, there is not a pest that demands spraying during the short period that the tree is in bloom. A spraying before the petals open when the buds are showing pink at the tips, and another after the petals have fallen, fairly control everything. The green apple bug, one of the most difficult insect pests to control, is bet dealt with in this way, so also are fruit worms and bud moths. The latter spray controls the tussock moth, and codling moth is best controlled by spraying the calyx cups within ten days after two-thirds of the petals have fallen.

It has already been noted that varietie flowering at the same time should be planted together to insure fertilization. There is another reason why this should be done. It permits a particular spray to be carried out compietely at one time without injury to the blossoms or bees.

THE MARITIME DAIRY SCHOOL

The dairying business is arriving at its own at last. Both production and market value took a big bound forward last year. Two main lines of endeavour point the way to a vastly greater success in the future. 1. The increase of milk production per cow, and, 2. Improvement in the quality of manufactured products. Every owner of a dairy herd must be constantly on the alert along these lines, adopting the best methods and picking up the latest information.

The yearly opportunity to "keep-posted", for Maritime dairymen is now at hand. The Maritime Dairy School will open at the College of Agriculture, Truro, on March 10th. The first fourteen days are arranged especially for creamery men, the last eight for cheese-makers. Concurrently with both there will be instruction given in cow testing and the use of the tester.

Lectures and demonstration work in the judging of dairy cattle, the prevention and treatment of disease, etc., will be open to all Dairy students, in short, the squipment and teaching facilities of the College as a whole are available, in so far as there will be time to take advantage of them. The College Dairy herd, probably the finest in the Maritime Provinces, will give practical opportunity for selection and judging. Results obtained at exhibitions and contests go to prove that the instruction to be had at the Maritime Dairy School is second to none in Canada. A larger attendance than usual is looked for this year. For full information write to Mr. W. A. MacKay, Agricultural College, Truro, N. S.

The pullets should all be laying by this time. Better results will be secured where they are separated from the hens. They should also be supplied with plenty of nests, as pullets are likely to lay on the floor when they first begin laying if nests are not convenient.

DOMINION TIRES
ARE GOOD TIRES

Get There First

Don't wait until you are ready to drive your car before ordering new DOMINION TIRES.

The next time you are in town, go to your dealer and select the new tires you need. Then everything will be ready when you want the car for farm hauling or for pleasure.

DOMINION TIRES are *good* tires for every load and every road; and you have the choice of "Nobby"—"Chain"—"Dominion"—"Grooved" or "Plain" Treads.

Remember to get an extra DOMINION INNER TUBE, that will fit the Dominion Tires—and you'll need TIRE ACCESSORIES, too, to fix the little cuts, bruises and holes in the tires, and thus make them last much longer.

DOMINION TIRE DEALERS also carry Dominion Inner Tubes and the complete line of Dominion Tire Accessories.

CANADIAN CONSOLIDATED RUBBER CO. LIMITED
DOMINION RUBBER SYSTEM
AND ASSOCIATED COMPANIES

232

FARMERS

The Aspinwall Automatic Potato Planter will SAVE your TIME and the EXPENSE of a hired man. It is SIMPLE, DURABLE, EFFICIENT. Can be drawn by TEAM or TRACTOR. Attachments for peas, beans andfertilizer furnished when desired.

Attractive folders and complete catalog mailed on request.

Aspinwall Canadian Co.

Dept F GUELPH, ONT. Limited

WORLD'S OLDEST and LARGEST MAKERS of POTATO MACHINERY, CUTTERS, PLANTERS, SPRAYERS, DIGGERS and SORTERS.

Write for free book containing valuable data on potato growing.

FIELD EXPERIMENTS

(Continued from page 370)

Autumn Versus Spring Plowing

There are so many different soils to plow, and so many kinds of plows to plow them with, that no definite rule can be laid down as the best method for all solis.

We plow to bury vegetation and manure so that they may decay and feed the future plants. We plow to pulverize the soil and fit it to receive the seed. No other implement will do so much in one operation toward the making of an ideal seed bed, as a good plow in skilled hands.

We plow to decrease the water holding capacity of the soil. We plow to destroy weeds, insects and rodents.

Why Should We Plow in the Autumn?

Because this comparatively slow operation can be performed more economically when horse and man power are not at such a premium as they are during the rush of spring seeding. Early autumn plowing enables the heat from the September sun to hasten the decomposition of one season's refuse plant growth so that it may be feed the succeeding one. Late autumn ridging with a plow greatly benefits many soils by exposing the greatest possible surface to the action of freezing and thawing, nature's most wonderful pulverizer, which has made most of the seed beds throughout the ages, and is today our greatest agent in producing the tilth so necessary for large crops. In the autumn a dry soil may be plowed without causing the same injury that would follow plowing a soil in that condition in the spring. It is also possible to plow land so wet in the late autumn that there is a gloss or sheen from the mould-board, knowing that the frost of winter will turn what would make clods at other seasons, into mellow seed beds in the spring.

Soils That Should Be Left and Not Plowed Until Spring

Light soils that blow, and soils on steep hill sides that wash, should not be exposed to the gales and heavy rains of winter and early spring. Some heavy clay soils that puddle during the heavy spirng rains are better and plowed when they have reached the right degree of friability to crumble under the mould-board.

Land That Rarely Needs the Plow to Prepare It

Land that has produced a hoed crop such as potatoes, turnips, mangels or vegetables, usually produces a better crop if the seed bed is formed for the following grain crop without using the plow. Ribbing in late autumn has been the only use of the plow that has increased such crops at Charlottetown.

Experimental Data

A few results from cultural experiments at Charlotteown, that bear directly on this problem, are of interest. The figures secured are from average yields covering four seasons from fields of oats on a comparatively level, sandy loam soil. Sod plowed in August gave 47 bushels and 14 pounds; sod plowed in November (no other autumn work), 42 bushels and 32 pounds; sod plowed in spring, 34 bushels and 9 pounds. Loss from spring plowing compared with August plowing, 13 bushels and 5 pounds; compared with November plowing, 8 bushels and 23 pounds. There were 45 plots in this particular five year rotation, and the spring plowing of same aveaged 6 bushels below the poorest method of breaking sod. Therefore plow your sod in the autumn, and as much of your stubble as you can. Leave your land after a hoed crop without plowing, except to rib it up. In connection with this subject, we have run a series of plots plowed at different depths, with and without a subsoil attachment. Sod and stubble were plowed at the following depths: 3 inches, 5 inches and 7 inches; other plots of sod were plowed these depths and then subsoiled 4 inches in the bottom of each furrow. Subsoiling did not give us any appreciable gain at any depth and was evidently injurious when connected with 7 inch plowing, as these plots showed a loss averaging over 2 tons of turnips per acre. In the stubble land the average return for four years with oat plots were as follows:

Autumn.—3 inches deep, 42 bus., 26 lbs.; 5 inches deep, 44 bus., 30 lbs.; 7 inches deep, 41 bus., 30 lbs.

Spring.—4 inches deep, 39 bus., 3 lbs.; 6 inches deep, 39 bus., 29 lbs.

In this experiment the average yield in favor of autumn plowing of sod was 3 bushels and 19 pounds of oats per acre.

One of the experiments that lends itself best to demonstration purposes included aseries of plots known as "Seed Bed Preparation" starting with one stroke of the spike tooth or smoothing harrow before seeding and gradually increasing the amount of work until the eleventh plot was worked as follows:

Once over with the disc harrow, then once over with the disc harrow again, followed by the smoothing harrow, rolled, seeded with disc seeder and finished with the smoothing harrow.

A photgraph would show these plots just rising up as steps some seasons when condition are unfavorable for grain crops and shows clearly the advantage of good tilth for our crops.

WANTED 100,000 MUSKRATS

We pay the highest market price—A trial shipment will convince you—Send all your raw furs to

EDWARD POLLOCK CO., Ltd.

280 ST. PAUL ST. WEST - MONTREAL

The house that guarantees satisfaction and prompt returns.

Ask for our price list and shipping tags.

FIRE!

Agents wanted in every locality to handle our Threshers, Woodcutters, Engines, Steel Ladders, etc.

Protect your home with a strong, permanent ladder. Write us today.

Highest commissions paid.

WALLACE MACHINE WORKS, Limited

SUSSEX, N. B.

Increase Your Grain Crops without extra land, labor or seed

IT'S purely a question of supplying more—and better—fertilizer. This is not theory. It is FACT. Grain needs nitrogen or ammonia to grow the straw; Phosphoric Acid to hasten ripening and fatten the kernel; Potash to give strength to resist disease and assist in the formation of starch. Harab-Davies Fertilizers possess these plant foods in readily soluble form—the identical plant foods that are supplied to the soil by barn-yard manure, but in larger quantities and in more concentrated form. Experience is the great teacher. There is no substitute. Read, then, of the experience that scores of Farmers in all sections of Canada have had in greatly increasing grain yields with Harab-Davies Fertilizers. "Fertilizer Results by Satisfied Users" is the title of a most interesting booklet along this line. Write for a copy—sent FREE on Request.

MONARCH FERTILIZERS

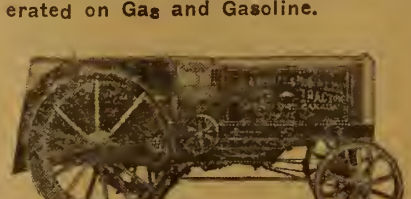
ONTARIO FERTILIZERS LIMITED

Dept. M F West Toronto, Ontario

Brantford "Ideal" Kerosene Engines

An engine for every need. Also operated on Gas and Gasoline.

Maple Leaf Grain Grinders. 6 to 15 in.



Kerosene Light Tractors

WINDMILLS,

Pumps.

Tanks.

Waterboxes.

Steel Saw Frames.

Concrete Mixers.

Agents wanted in unrepresented territory.

GOOLD, SHAPLEY & MUIR CO., Limited

BRANTFORD, CANADA

EARLY RIPENING BEANS

(Experimental Farms Note.)

While beans have long been grown and appreciated in certain parts of Canada for table use both in the green state and in the form of the ripened seed, this crop has not been as extensively cultivated as would be desirable. One of the principal difficulties in the way of the more extended production of ripe beans is the sensitiveness of the plants to frost. Ordinary beans cannot be ripened in any district where the season is very short. There are, however, some sections of Canada where the cultivation of beans for the ripe seed is almost unknown at present and where, nevertheless, this crop would likely prove successful, provided suitable varieties were tried.

With a view to extending the use of ripe beans for human food the Dominion Cerealist is distributing this winter, for the first time, samples of a productive and very early-ripening field bean. As this variety is brown in color and as it does not perhaps give as heavy a yield as some of the later-maturing white sorts, its cultivation is not recommended for districts where the more popular varieties can be grown. Farmers in almost any part of Canada where ordinary beans fail to ripen would do well to apply for a somple of the beans now offered. The variety in question is a selection from a sort obtained years ago from Norway. It is being introduced under the name "Norwegian, Ottawa 710." While the number of samples available is necessarily limited, it will be possible to send a few, at least, to almost every district where they are likely to be of use. Applications from farmers in localities where beans are already a successful crop will not be filled but requests are invited from farmers who have not yet found a variety which ripens sufficiently early.

Although these beans are of a brown color, they are excellent when cooked and there is no reason why they should not give complete satisfaction for table use, even though their color be not fashionable. They are not recommended for use in the green state.—C. E. Saunders, Dominion Cerealist.

OUT-APIARY MANAGEMENT

(Experimental aFrms Note)

The tendency of modern beekeeping is to specialize. One hundred colonies is about the largest number that can be kept with full profit in many places, but an experienced and active man can attend double that number, especially if he has a little help, hence the development of the out-apiary. The place chosen for the out-apiary should be in a good locality for honey plants (clay or limestone soil is best for clover) and it should be not less than two or three miles from the home-yard. Other things to look for in choosing a place for the out-yard are, shelter from wind, especially if the bees are to be wintered outside freedom from floods, safety from bush fires, a good road between the two yards, and no large or diseased apiaries near. An outhouse for storing equipment and extracting the honey is convenient but not always essential because the extracting can often be better done at the home-yard. An auto with trailer, or a light auto truck for transporting hives and supplies, is of great service.

To discourage swarming, extracted-honey should be produced in preference to comb-honey, and plenty of supers, containing empty combs, should be given to the bees in advance of their requirements.

In southern Ontario where swarming can be controlled without much trouble, and the climate is mild enough for wintering bees outside, the professional beekeeper frequently keeps one or more out-apiaries, but in many parts of Canada where the problems of swarming and wintering are more acute, the out-apiary is still in the experimental stage, although, in some of these places, very high yields of honey are to be obtained.

To discover how much honey could be obtained, and how many visits would be needed to prevent swarming in different kinds of locations, a few colonies from the Central Experimental Farm have been placed during the last three summers in different places around Ottawa.

In 1917 two colonies were placed on a sandy plain and two in a swamp, near Kazubaza, Que., about forty miles north of Ottawa. Those on the sandy plain gave 109 pounds of honey per colony, spring count, principally from blueberry, white clover and certain species of goldenrod. Those in the swamp gave 139 pounds from the same sources. Swarming was prevented by the destruction of queen cells which were found in one or more of the colonies every week from May 24 to August 14. The making of these twelve visits and carefully examining every hive at each visit consumed a great deal of time.

In 1918 two colonies were placed near an area of fire weed near Chelsea, Que. They produced an average of 239 pounds of honey each from raspberry, clover and fireweed, and required ten weekly visits for the destruction of queen cells to prevent swarming.

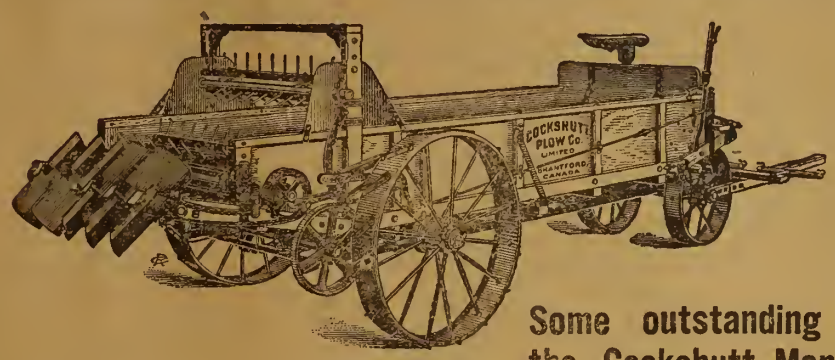
In 1919 two hives were taken to a farmer's garden at Billings Bridge, Ont. To reduce the labor in preventing swarming and to get a maximum yield, two queens separated by a division board had been wintered in each hive. One of the queens and her bees was placed in a separate hive on May 27. In this way a great number of bees were raised in time for the honey flow in this favorable localitq, and early swarming was prevented. Later swarming was prevented and young queens were obtained (two in some of the hives) by three further manipulations: the destruction of queen cells in some of the hives on June 16, the destruction of queen cells and removal of the queens in nuclei on June 24, and, nine days later, the destruction of all the queen cells except two, one on each side of a division board then inserted. Each hive, spring count, produced an average of 331 pounds of honey consisting of 290 pounds of clover honey and 41 pounds of buckwheat honey, and there was an increase in bees of three hives.—F. W. L. Sladen, Apiarist, Dominion Experimental Farms, Ottawa, Ont.

Where are you putting the manure from the stables?

COCKSHUTT

Cockshutt Manure Spreader

Gets the manure on your land as it should be—evenly spread and just when it does most good



You must keep up your soil's fertility, and barnyard manure is one of the best fertilizers you can use—but, what a bug-bear spreading has always been—a tough, tiresome job! We've taken all the hard work out of it with this Spreader.

Some outstanding features of the Cockshutt Manure Spreader

When you consider the increased yields other men are getting by properly manuring their fields you'll be just as quick as we are to say that an efficient spreader is an absolute necessity on every farm and one that will very quickly pay for itself.

Light draft, simplicity of parts and ample margin of strength, are notable in the Cockshutt Manure Spreader. Mark that word "Spreader" it means something vastly different from a mere "unloader." The Cockshutt has three distributing cylinders that pulverize the manure to a fine degree and then *spread it evenly* over a wider area than the machine's own width.

Let us send you our special Manure Spreader Folder.

Box, frame wheels very strong without surplus weight.

Easy loading—top of box just 41" from ground—ample clearance 17" underneath.

No gears to break or freeze up. Chain drive, the strongest known, is used.

Easily worked levers, convenient to driver, control the operation of the machine.

Bottom of box is stationary. Manure is moved by endless chain carriers with heavy steel angles. No aprons, slats or rollers to get foul or broken

Front wheels set in under frame, allowing short turns; hitch is close to ground.

Seat tips forward out of way during loading.

THE FROST & WOOD CO., LIMITED

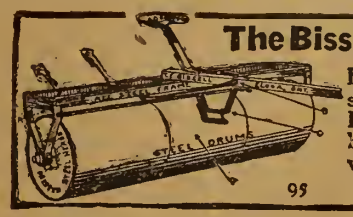
Truro ST. JOHN Charlottetown

APPLE SHIPPERS ASSOCIATION HOLDS MEETING AT KENTVILLE

The Apple Shippers' Association composed of the principal shippers in the Valley, with Mr. W. H. Chase as President, and Mr. Herbert Oyler, Secretary, met at the offices of United Fruit Companies at Kentville, on Monday, Nov. 17th. The special object of the meeting was to make an effort for a a reduction in the ocean freight on apples.

Messrs. W. H. Chase, A. E. McMahon and Herbert Oyler were appointer a committee to deal with the matter of a reduction in freight rates.

When father drove old Dobbin, he set upon his load and frowned on every chauffeur who wanted half the road. When father got an auto, his feelings seemed to switch. He glared at every horse he met unless it took the ditch.



The Bissell Steel Roller has a rigid steel frame—no wood whatever. Large roller bearings and strong 2" axles insure durability and great strength. The Bissell is a 3-drum Roller of good weight, built to stand hard usage and give great service. Write Dept. M for free catalogue.

99 **T. E. BISSELL CO., LTD., Elora, Ont.**

MARITIME FARMER STAND FOR EAST IS ENDORSED

(Continued from page 371)

than they would have from some of the visionary importations who addressed the various meetings.

It is in view of these things that we point out to the farmers of Eastern Canada the strong advisability of organizing in their own interests. The Grain Growers are establishing a paper to inflict upon the farmers of the Maritime Provinces the views of Winnipeg. It is represented to the farmers as being "their paper". It isn't. It is controlled from Winnipeg, and it will say what Winnipeg wants it to say. The director of the paper will be Mr. G. F. Chipman, who is an employee of the Grain Growers' Guide. The Grain Growers' Guide is the mouth-piece of the very men who ask that the farmers in this part of Canada be soaked for their feeds and their flour. The Grain Growers' Guide also professes to be owned by farmers. It is owned by Hon. Mr. Crerar and one or two others. The farmers share is represented by his subscription. In the same way every reader of the Maritime Farmer is a part owner. Mr. Chipman will run the new paper as he is told to run it. He will advocate western ideals, properly coated for eastern consumption and will try and gold-brick to a still greater extent the farmers of Eastern Canada.

The Maritime Farmer would like to see a purely Maritime Province organization, run in the interests of the farmers of the three provinces. It would like to see an organization which will be of the farmers, for the farmers and by the farmers; but we mean Eastern farmers.

We commend to the attention of Eastern Farmers the views of Mr. Pratt, of the Grain Growers Guide, which are published in a panel on this page. What are the ideals which Mr. Pratt of the United Farmers of the West would impose on the farmers of the East?

He used strong language. Until the last dollar goes, he declared, the United Farmers of the west, (not the east mind you), will see that their paper survives. There must be something big at stake to pledge so much. The Grain Growers Guide is in itself a very wealthy corporation. Back of it Is the Grain Growers with a two million surplus. What is it that they would introduce into these provinces which makes it worth while to pledge such large funds? People do not risk fortunes for fun and the history of the western Grain Growers, as shown by their surplus, is not along the line of good fellowship. We ask again what has this organization in view? Is the Maritime Farmer not warranted in its "Beware"?

Get together. But get together in our own interests, (eastern interests), is the warning the Maritime Farmer again issues.

And the Maritime Farmer is not the only doubter. President Wood, of the Alberta United Farmers, roundly denounced their methods at the Convention of this year. He declared that he was told that he must say from the platform nothing but what he might be told to say by the political committee. Mr. Wood was a big enough man to refuse to swallow the dose. He was re-elected President.

On Thursday, February 12th, during the annual United Farmers' convention at Saskatoon, the Secretary, J. B. Musselman, declared point blank, charged the Association with being the catspaw for a clique who were out to further their own political ends, and warned them that their attitude was placing the Association in an absolute state of chaos.

These are charges by the President of the Alberta branch and the Secretary of the Saskatchewan branch. They are not remarks by the Maritime Farmer. If they won't stand for game in the west?, why should the farmers of the Maritime Provinces tie up with a movement which is to their own disadvantage. Let us have all the United Farmers that may be, but let us run our own machinery. It is quite unnecessary, to quote Secretary Musselman, for Maritime Province farmers to be "catspaws for a clique who are out to further their own political ends."

3 GENERATIONS UNDER ONE ROOF

Laid by the grandsire—shelters the son—passed on as a heritage to the grandson

A record that is duplicated time and again by

BRITISH COLUMBIA
RED CEDAR
SHINGLES

No known wood meets the demands of weather exposure as does Red Cedar. No Red Cedar in the world excels in quality the stand in the British Columbia forests. It is from this growth that B. C. Red Cedar Shingles are made.

Longest Life at Lowest Cost

STANDARDIZING CANADIAN BUTTER

The Provincial representatives who were present at the Dominion Educational Butter Scoring Contest in Montreal could not escape certain impressions regarding the progress of dairying in Canada. A big change has taken place in the quality of creamery butter. An article which would have passed ten years ago as being of the finest quality would not be passed at all today by a close critic. The development which has been pushed forward all over the Dominion has accentuated differences in quality and flavor between east and west. This competition brought the men together and gave them an opportunity of making close comparisons between their respective products. As it goes on, a medium will be established through which pro-standard Canadian products can be offered to foreign markets.

While this contest as not conducted with any idea of getting one area against another, and while no prizes are being awarded to the competing creameries, yet it will be interesting to dairymen to note how they compare. The comparison should be encouraging to the Maritime Provinces, which, at present are scoring as high as any district in the Dominion. In the last test, the highest score was reached by a Prince Edward Island Creamery with 98 points. The other provinces stand in the following order:—Quebec, 97.8; Nova Scotia, 97.5; Manitoba, 97.2; Alberta, 97; New Brunswick, 95.6; Saskatchewan, 95.2; British Columbia, 94.4; Ontario, 94.

The competition will be carried on during 1920, and it will be followed with great interest by dairymen in all the Provinces.

"The Safety Route From Pig-hood To Pork-age"

BLATCHFORD'S PIG MEAL

A complete milk-substitute weaning and growing feed.
Helps the little pigs just when help is needed.
A safe and gradual change from the sow to ordinary feed without the use of valuable cows milk.

MAKES THE RUNTS CATCH UP

Blatchford Calf Meal Co. of Canada, Ltd., G21 Pelham Ave., Toronto

If your local dealer cannot supply you write

A. A. ARCHIBALD and CO. - - - - - TRURO, N. S.

or W. H. HATHEWAY and CO. LIMITED - ST. JOHN, N. B.

Royal Purple Stock and Poultry Specifics and Foods

In the manufacture of all our Stock and Poultry Condition Powders and Remedies we eliminate the cheap filler which is used by many manufacturers to make up a large package, and give you pure material which you can adulterate yourself if you wish. Mr. Farmer, how does this appeal to you?

Royal Purple Stock Specific

is a pure unadulterated condition powder, it is not a dope. It can be used throughout the entire feeding season and will not do your animals one iota of harm, works entirely on their digestive organs, causes them to assimulate the foods properly and digest every particle of food value. Fifty-five to sixty per cent. of food value is a fair average of what the animal takes out of its food without this condition powder: it makes their coats sleek and causes them to take on a healthy appearance in a very short time.

What We Claim For It

Cows will give from three to five pounds more milk per day during the winter months. You can fatten pigs a month earlier, have larger and better pigs and save a month's time and feed. You can fatten horses ready for sale in four to six weeks. If you don't believe us try a 60c package on the worst animal you have on your place and be convinced. How many times have you said to yourself, "No matter how much I feed my animals they do not seem to thrive." This, Mr. Farmer, is because your animals are not in a healthy thriving condition. Royal Purple Stock Specific will compel them to put on a thrifty appearance in a short time and yet it will cost you less than 15c. per month per animal to use it. Put up in 60c. packages, $1.75 and $6.00 tins. If you have a lot of stock buy the large tin. It contains sixteen 60c. packages.

PURE BRED STEER under 1 year, entered in Lot No. 3, Toronto Fat Stock Show, Union Stock Yards, Toronto, Ont., Dec. 11-12, 1919, and awarded 1st Prize. Also entered for Royal Purple Calf Meal Special, and awarded 1st Prize. Fed and Exhibited by Mr. Oril Williamson, R. R. No. 1, Jarvis, Ont. Sold for 33c. lb. by Auction. Weight, 1190 lbs.

Royal Purple Laying Meal

During the many years we have been making our high-class Stock and Poultry Specifics, we have had thousands of letters from Poultry raisers all over Canada, wanting to know what to feed their poultry. A hen is just like a factory. If you have lots of material in your factory, you can get out the finished product. The hen requires so much Protein, so much Fat, Ash Lime, etc., to make an egg and supply her bodily needs. Ordinary grains will give her a supply for herself and to make one egg every two to three days. For the accommodation of our customers, we have produced a Laying Meal which contains high-class meat meal, grains, etc., that will give her everything she requires for her bodily needs and produce an egg per day. If you cannot get this material from your dealer in your own town send us $5.00 for a hundred-pound bag and we will ship it to you direct. This product certainly fills a long felt requirement for the poultry man and simplifies the matter of feeding.

MANUFACTURED BY

W. A. Jenkins Mfg. Co., Limited

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Royal Purple Meal Calf

There is probably no mixed feed on the Canadian market that the farmers have been buncoed more on than Calf Meal. You cannot make a substitute for milk with less than 10% Fat or over 20% Protein. Calves are entirely different from grown animals. You must supply them with material as much like milk as possible. In our Royal Purple Calf Meal we have a product on which you can raise calves after they are eight days old just as well as though you used new milk. At the Toronto Fat Stock Show this year there were eight calves shown not over a year old that averaged over one thousand pounds each, that were fed on this meal. If you will write us for our new booklet we will send you the full particulars and photographs of all these calves. Mr. Farmer, when you want calf meal you see that it contains over 10% Fat. Unscrupulous dealers and manufacturers are making meals that do not contain more than 7% fat and a large percentage of protein. Many of these meals are no better than ordinary dairy feeds. Fat costs two and a half to three times as much as protein in any market, but you must have it in calf meal to make a substitute for milk. Our Royal Purple Calf Meal is put up in 25, 50 and 100-lb. bags.

Royal Purple Poultry Specific

If your hens are not laying after the first of January it is because they are not housed properly and are in an unhealthy condition. There is no excuse for hens not laying if they are fed and housed properly. Our Royal Purple Poultry Specific, if used in the mash given them, will make them digest their food properly, make their digestive organs healthy and active and will produce the eggs for you as well in the winter as in the summer. The eggs are formed in batches from ten to fifteen, from the large egg down to the size of a pin head. If the hens are not healthy nature will lie dormant. As soon as our Poultry Specific is used nature becomes active. This is why so many people get eggs in a few days after using our Specific. If you do not get eggs it is your own fault. This Specific is put up in 30c and 60c packages $1.75 and $6 tins.

Royal Purple Chick Food

made from all kiln dried white grains. You can raise 95 to 98% of your young chicks with this food, put up in packages and bags.

We also manufacture the following valuable brands:

Royal Purple Lice Killer in 30c and 60c. tins.
" " Cough Cure in 60c. tins.
" " Sweat Liminent in 60c bottles.
" " Disinfectant in 35c., 65c. and $1.40 tins.
" " Roup Cure in 30c. and 60c. tins.
" " Worm Powder in 30c. and 60c. tins.

Every article we make is guaranteed to do exactly as represented.

For Sale by reliable dealers everywhere. If you cannot get any of the above articles from your dealer write us direct.

FREE Write us and we will send you one of our new books that are now being published, giving you all the common diseases of stock and poultry, how to treat them how to build a hen house, and wilderness of valuable information.

LIME AS A SOIL IMPROVER

Failure to produce good crops may result from a lack of the essential elements of plant food—nitrogen, phosphoric acid, potash, or because of unfavorable weather conditions disease or insects; but even with good culture, and with all requirements for a successful crop apparently met, the crop may be an economic failure because of the lack of limestone in the soil. More failures probably can be attributed to this lack than to any other single soil condition.

It is a well recognized fact that the basis of successful crop production centers around the clover plant. Failure to produce a good stand of clover may mean ultimate failure in farming operations. It is to insure a perfect stand of clover that lime is so important on very many farms.

Limestone wil not take the place of the essential elements furnished in stable manures and commercial fertilizers and it should be used in addition to these. Limestone corrects soil acidity so objectionable to the clover, furnishes a base essential for the development of food combinations suitable for the clover plant, supplies needed lime to the plants, and improevs the physical condition of the soil. That such is the case is amply demonstrated by many tests conducted at the Experimental Station, Kentville, where clover cannot be successfully grown without limestone, and where clover hay yields have been increased nearly 100 per cent. by an application of 2 tons per acre, all other conditions being similar, and subsequent crop yields increased nearly 25 per cent. because of this increased clover growth.

The clover plant benefits the soil for all future crops not only through improved mechanical soil condition resulting form the network of deep feeding roots decaying, but by furnishing nitrogen which has been extracted from the air in the soil by the nitrogen-fixing bacteria living on the roots of the clover plant which will flourish only on acid-free soils; not only will heavy soils be lightened and be made more drought-resistant, but light soils will be made more compact and rendered more retentive of moisture. Further, better aeration and more suitable soil condition for soil bacteria are brought about.

To illustrate the improvement, we may instance one series of plots where ground limestone was applied in 1914 aid 1917 at the rate of 2 tons per acre in the spring of these years and worked into the soil. Fertilizer was applied in 1914 and 1917 in equal amounts to each plot and, in the fall of 1916, 15 tons of good stable manure was applied evenly over both limed and unlimed areas. The area was rotated with potatoes, grain, clover. The soil was a sandy loam in a low state of fertility. The yield per acre was as follows:—

1914, potatoes, 76 bushels, 13 lbs.
1915, oats, 31 bushels, 24 lbs.
1916, hay, 666 lbs.
1917, potatoes, 302 bushels, 25 lbs.
1918, whteat, 23 bushels, 48 lbs.
1919, hay (largely timothy, first crop) 3,136 lbs.

The yield from the limed fertilized area was:

1914, potatoes, 86 bushels, 45 lbs.
1915, oats, 38 busels, 14 pounds.
1916, hay, 1,494, lbs.
1917, potatoes, 329 busels, 18 lbs.
1918, wheat, 30 bushels, 14 lbs.
1919, hay, (largely clover, first crop) 4,926 lbs.

There is a heavy stand of second growth clover on the limed area and a very light growth on the unlimed plots. The increase from liming was 38 bushels, 25 pounds potatoes, 7 bushels, 24 pounds oats, 6 bushels, 26 pounds wheat, and 2,618 pounds clover hay per acre.

From present indications more marked results will be obtained in future crops, as the physical condition of the soil has markedly improved.—W. S. Blair, Supt., Experimental Station, Kentville, N. S.

SEED OATS SITUATION

In those districts where the oat crop was a partial or total failure last season, farmers are becoming somewhat anxious as to the available seed supply of seed oats. There is a general tendency on the part of farmers who have seed oats for sale to withhold them until later in the winter. The movement of seed oats is delayed also because transportation has been needed for coal, feed and livestock.

Possibly 400,000 bushels of seed oats may be required in Ontario and Quebec, and a much larger quantity in Southern Alberta and Saskatchewan. The Canadian Government Seed Purchasing Commission already has substantial supplies in store in the Interior Terminal Elevators, and large quantities of good-quality early-harvested oats are still to come forward. Alberta and Saskatchewon requirements swill be given first consideration from the seed oats produced in these provinces.

The shortage in Ontrio and Quebec may easily be met from the large and excellent oat crop in Prince Edward Island and Eastern Nova Scotia. No. 1 quality Island Banner seed oats are now being delivered as far west as Toronto at a price comparable with Western seed oats of the same grade. The price of No. 1 seed oats delivered in bulk carlots at any poit in Ontario and Quebec should not exceed the current Fort William cash price for No. 2 Canada Western oats by more than 35c. per bushel. Registered and other select stock true to variety may be higher in price.

The Dominion Seed Branch provides a system of grading and inspection, so that shippers in either Western Canada or the aMritime provinces may make delivery of seed inspection certificates with their bills of lading. Purchasers of seed oats in any part of Canada may now buy on the basis of grade No. 1 Seed, No. 2 Seed, etc., and subject to the delivery of seed inspection certificates.—Geo. H. Clark Seed Commissioner.—Otawa, Dec. 31.

RUST AND ROT HAVE FREE PLAY

Never in the history of the world was farm machinery as expensive as at the present time. The upward climb in prices has been in progress for many years, and now they have reached unheard of values. There are many people who claim that the prices charged are uncalled for and suggest ways of reducing their cost, but, on the other hand, the manufacturers and dealers maintain that the prices are not excessive and blame the increased cost of raw materials and the war. Just at present it would apepar that the war makes a splendid shelving ground for all the ills of the country's commercial life.

Nevertheless, whether the prices asked are justifiable or not, they are higher than ever farmers have previously been called upon to pay. Grain binders that could be bought a few years ago for less than a hundred dollars command more than double that amount this year, and so on all the way down the line. An ordinary farm wagon that formerly was not considered a huge investment today entails the expenditure of a lot of money. Then, in addition to the increased prices, there is the fact that farmers must own larger and more detailed machinery than ever before; all of which goes to swell the farmers' implement bill.

While this is the case, it is still a common spectacle to see throughout the country farm implements stored in the fence corner, under a tree, around the farm yard, and in some cases just where they were unhitched from last time in use, perhaps months ago. That should not be, because farming today, even at the high prices received for produce, is not sufficiently remunerative to warrant such carelessness and waste of money. If the life of any implement can be prolonged a few years by good care and proper shelter, it certainly is cheaper to give it that care than to buy a new one at the prices now asked. It does not require much time to store farm implements in the shed, and there are few valid reasons why it should not be done. A wet day is all right for the job and a profitable rainy day undertaking. We would suggest that farmers pay a little more attention to the care of their implements. There are mowers, rakes, hay loaders, etc., in many fields throughout the country that are still standing where they were left weeks ago, and their owners are probably waiting for a favorable opportunity to store them away. Their intentions are good, but the time is passing and implements mean money today if they ever did. Organize a clean-up day soon on the farm, and dollars are saved to the industry.

CHIMNEYS SHOULD BE WELL CONSTRUCTED

Many times when a furnace, heater or range fails to give full satisfaction the trouble lies with the chimney and not with the apparatus, where most people usually look for it, unless they have had previous trouble in such matters. Chimneys are often slighted when houses are built by contract because the work is mostly hidden from sight.

In order that a heater or a range may give good service, there must be a constant and uninterrupted draft from the openings in the apparatus to the top of the chimney, created by the winds sweeping across the chimney top. Now chimneys are very generally constructed with two flues, and the partitions between these flues ought to be built as carefully as any other part of the chimney. As a matter of fact the flue partitions are often constructed most carelessly, perhaps the workmen do not realize the importance of having them properly built. Openings may be left, or bricks may be placed in position so loosely that several fall out after a time. Then the draft is interfered with, for the air is drawn through these openings instead of directly up the flue.

90% No. 1's!
Isn't it worth a little extra time and money to be sure of trees bearing like that on the left?
Trees such as that on the right, left to the mercy of insects and fungous growths, are a luxury none can afford these days.
Ensure a big and profitable yield by careful spraying with reliable and economical J. C. sprays.
ARSENATE OF LEAD
CAL-ARSENATE
POISON BORDO DUST
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SPRAY CHEMICALS

Write to-day for our big
FREE CATALOGUE
showing our full lines of Bicycles for Men and Women, Boys and Girls.

MOTOR CYCLES
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Tires, Coaster Brakes, Wheels, Inner Tubes, Lamps, Bells, Cyclometers, Saddles, Equipment and Parts of Bicycles. You can buy your supplies from us at wholesale prices.

T. W. BOYD & SON,
27 Notre Dame Street West, Montreal.

It's a Fact-You Know
Every Farm Needs Fertilizers

Try as you will, you cannot get bumper crops from your soil if you don't fertilize it. There is no mystery about this. It simply means that, as soil gets worn out, Fertilizers must replace the elements that have been used up.

"Best-by-Test"
FERTILIZERS

Best-by-Test Fertilizers have full analysis strength—guaranteed. Write us for particulars and we will advise the kind of Fertilizer to order. We are exclusive Fertilizer experts and can supply all and every chemical required. Farmers can club together and buy in carload lots. Prices on application.

Write for interesting book on Fertilizers—FREE.
CANADIAN FERTILIZER CO., LIMITED
14 Market Chambers, Chatham, Ont.

The extent of the inerference depends of course upon the conditions, but it may be sufficient to cause serious difficulty in the management of the heater or range that connects with the chimney.

There is often trouble if a fire-place is connected with a flue into which a pipe from a stove or range leads. This may be remedied, however, by having a damper installed in the throat of the fire place. When the latter is not in use the damper should be kept closed, so that the upward current of air will be drawn from the stove or range instead of from the room into which the fire place opens. When there is a fire in the fireplace, less difficulty is experienced, but the wiser plan is to erserve the flue solely for the fireplace.

Fireplaces which smoke are commonplace, even in some houses otherwise very well designed and constructed. Often this defect may be remedied by making the chimney a little higher, or by capping it with a hood, which is generally very effective, if the smoking occurs when the wind is form a certain quarter.

Occasionally lack of fresh air in the room is the cause of smoky fireplaces. This may happen if the fire place is too large for the room, and the remedy for the condition is to construct a small flue from the basement to the fireplace, then supplying an abundance of fresh air thereby creating a good draft upward.

In other instances there are fundamental defects in the construction of the throat of the fireplace. They can only be righted by tearing out some of the bricks. In a case of this kind which recently came to the writer's notice $5 was the cost of changing a fireplace which smoked badly into a good one.

THE DESTRUCTION OF RATS ON THE FARM

(Experimental Farms Note.)

The annual loss on Canadian farm homesteads due to the depredation of rats have never been estimated, but they must amount to tens of thousands of dollars. There are few farmers in Eastern Canada who do not suffer from the ravages of this destructive rodent and unfortunately having invaded the prairie provinces this pest is now rapidly spreading westward.

There is nothing eatable ,animal or vegetable, that the rat will not attack and it will "destroy by pollution ten times as much as it actually eats." On the farm, grain of all kinds, vegetables and friuts, eggs and poultry, constitute the chief objects of its foraging. It is omnivorous, voraceous, destructive and withall very prolific when there is an ample food supply. No one means of destruction is usually successful and recourse must be had to as many of the various agencies of destruction as may be deemed necessary or practicable. We cannot emphasize too strongly the value of persistent effort if the premises are to be rid of rats.

Prevention: This is of the first importance. It is inside the building rather than outside that rats do the most damage; the great object thereofre, must be to prevent their entrance. This is best attained by having all foundations and floors of concrete. From every standpoint concrete so used, for barns, stables, piggery, poultry houses, etc., represents a good investment. Old and dilapidated stone foundations may be made rat proof by an inside coating of concrete, or at times, simply by stopping the holes with a mixture of cement and broken glass.

All basement and cellar windows should be screened with stout metal netting; open windows are of the readiest means by which rats effect an entrance.

Limit their food supply as far as may be practicable by keeping grain, meals, garbage, etc., in rat-proof bins or other receptacles, with close-fitting covers. It is impossible to make much headway in keeping under this pest so long as there is an abundance of unprotected food about the buildings.

The usefulness of the larger owls and hawks in the destruction of rats has not fully been recognized; on the whole these birds if kept in check are beneficial.

A well trained dog may be depended upon to keep the poultry yards fairly free from rats. Probably for this purpose there is nothing superior toa thoroughly trained fox terrier.

Traps: Trapping is one of the most effective means of destroying rats. It fails if food is abundant, especially with old rats, which are very cunning. If the rats are numerous a number of traps should be used at once and used persistently.

There are several modern forms of guillotine trap which are excellent. Cage traps are especially useful in catching young rats, especially if baited and left open for a night or two and partially concealed as by hay or straw. Large catches may frequently be made by "barrel" and 'pit" traps —the baited covers being hinged so as to turn with the weight of a rat. Among excellent baits may be mentioned toasted cheese, bacon, liver, raw meat, grain of various kinds, oatmeat and in winter fresh vegetables.

Poisons: As there is always more or less danger to live stock in the use of poisons, they are the last means to employ. Barium carbonate (precipitated) is the least dangerous; it is comparoatively harmless to domestict stocks in the small doses used for killing rats. It is used as a stiff dough, composed of flour or oatmeat and a little sugar with 15 to 20 per cent. of the carbonate. The addition of a few drops of oil of aniseed or of caraway makes the bait more attractive. Asenic is very popular as a rat poison but experience has shown that it is variable in its effect and aparently not always fatal. The bait can be made as already described under carbonate of barium, or the arsenic may be spread or rubbed on buttered bread. Strychnine is also employed and is very rapid in its action. The best plan is to insert a small crystal in raw meat, the pieces of meat being placed in the runs or burrows.

In buildings or yards in which there are poultry or other live stock, a precautionary measure in the use of poisons is the employment of two wooden boxes, the one considerably larger than the other and each having two or more holes in the sides large enough to admit rats. The poisoned bait is placed on the bottom and near the middle of the smaller box. By this means danger to live stock is avoided while the rats have free access to the poison.—Frank T. Shutt, Dominion Chemist.

Sour soils and sour dispositions are both bad for the farm. Some men think that a little sweetening of the soil with lime would produce such good results that the farmer's disposition might also be sweetened.

Pride in the Way Your Car is Shod

TO be proud of your car you must be proud of its tires. You look with pride upon the graceful design, the fashionable top, the rich upholstering, the glittering finish—and the tires—are you proud of them? If you love your car, you will desire to give it the best tires in the whole Kingdom of Tiredom. For service and for appearance, you will find your desires fulfilled in Gutta Percha Tires—"the Tires that give Satisfaction."

Maltese Cross Tires, Gutta Percha Tires and Gutta Percha Tubes are the NE PLUS ULTRA of owners of high-powered cars.

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Lawndale Stock Farm

Jerseys and Shorthorns (Pure Bred)

Jersey Offerings for the Winter of 1919—20

A few registered mature cows due to fresben tbe coming fall and winter.
Several yearlings, bred and not bred, registered and grades.
Several pure bred and grade calves, male and female.

Shorthorn Offerings for Winter of 1919—20

Two yearling beifers, very thrifty.
Several pure bred calves, male and female, by Imported English dual purpose Sborthorn bull, out of splendid producing dams.
We can supply intending purchasers a cboice list of eitber Jerseys or Shorthorns to select from.
Come along witb your inquiries.
Apply for information to

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

COSSAR STOCK FARM

Lower Gagetown, N. B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

We are presently offering, one imported Clydesdale Stallion "Dunure Crag" sired by the famous breeding horse "Baron of Buchlyvie."

Also

One Canadian bred Clydesdale Stalllon "Baron Cossar", rising 5 years old.
Further particulars on application.

G. C. Cossar, Proprietor. J. Melklejohn, Agent.

Pure Bred Shorthorns For Sale !

Am offering for sale my berd of pure bred registered Shorthorn cattle. These cattle range in age from 7 years to 3 years, or a little less, with one bull calf two weeks old, and are all fine in type and color.

I have also exceptionally good grade cattle of various ages for sale. All will be sold at a reasonable price and offer an unusual opportunity to anyone desiring to start a herd of cboice stock or to renew an old herd.

J. E. HETHERINGTON, - Codys, N. B.

Bonnie View Holsteins For Sale

Three bulls fit for service from heavy producing cows, prices right. Also a few bull calves to offer. I won two firsts and a third on three entries in the Amherst Fair milk test and have others as good or better.

A. E. DICKIE

R. R. NO. 4 - TRURO, N. S.

BLUEBELL VIEW FARM
HOLSTEINS

One Bull 11 months old, of good breeding, and fit for service. Dam gave 10887 lbs. milk 3½ test in 10 months. Weight of sire, a ton. Also one Bull Calf 3 months old, with lots of 20 and 25 lb. records in his backing. Also 3 purebred Dorset Ewes. This stuff is priced to sell, so write at once to

WALTER PAYNE,
LAKE EDWARD, N. B.

Elmwood Stock Farm

We have a few young bulls to offer, sired by Dutchland Colantha Sir Rag Apple, a son of Colantha Johanna Lad. His dam is a granddaughter of Pontiac Korndyke. Thus combining the blood of two of the greatest bulls the world has ever seen.
The dams are daughters of Dutchland Pieterje Count. These calves are a nice straigbt growthy lot.

W. L. ETTER, Shubenacadie, Hants Co., N. S.

FOR SALE!

Extra good Berkshire boars and sows four months old. One boar fit for service and young pigs ready to wean. Will have more youngsters ready to ship April and May. They are all the big lengthy kind. We also offer Jersey bulls and heifers from 3 months to 3 years old.

J. R. SEMPLE & SON, Truro, N. S.

GREAT WHITE LIGHT BURNERS—The lamp burner that doubles the light you get from your oil lamps. We have a few dozen to offer at 18c each, postpaid. They are a big investment for any person using oil lamps. In large size only. —THE MARITIME FARMER, Sussex, N. B.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must he paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

F. W. C. Nase, Nerepis, N B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B.

Ayrshire Cattle

McIntyre Bros., Springbrook Farm, Sussex, N. B.
E. Cbaldecott, Monkham's Farm, West Merigornisb, Pictou Co., N. S.
C. A. Archibald, Truro N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roacb, Sussex.

YORKSHIRE PIGS

E. Chaldecott, Monkbam's Farm, West Merigornisb, Pictou Co., N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
Isaac Cbipman & Son, Cbipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
C.A. Arcbibald, Truro, N. S.
J. James Ross, Pictou, N. S.

Barred Plymouth Rocks.

Craig Bros., Amberst, N. S.

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wisb to huy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on. as we cannot forward replies sent to this office. Copy must be received not later than Friday before tbe date of issue, which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind willhe allowed under this head, thus making a small add as noticeahle as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex N. B.

FOR SALE—Registered Yorkshire Pigs farrowing Feh. 20 and March 15. Price $10.—W. M. STARKEY, Cody, N. B.

FOR SALE—1 pure bred Holstein Bull, 18 months. 1, 12 months and 1, 3 months. W. G. CAMPBELL, Salisbury, N. B.

HATCHING EGGS.—S. C. Red and White Leghorns. Splendid layers. Three dollars per fifteen. MOUNT PLEASANT POULTRY YARDS. 62 Parks Street, St. John, N. B.

SELL your property quickly for cash, no matter where located, particulars free. REAL ESTATE SALESMAN CO., 530 Brownell, Lincoln, Nebr.

FOR SALE—Four Ayrshire Bulls from 10 months to 2 years. Prices right for quick sale. JOHN A. HUGHES, Petitcodiac, N. B.

FOR SALE—Two pure bred Jersey Bulls fit for service. Also Bull Calf. There breeding is the best, price is low. H. J. NORTH, Canning, Kings Co., N. S.

WANT TO HEAR from party having farm for sale; give particulars and lowest price. JOHN J. BLACK, Maritime St., Chippewa Falls, Wis.

WANTED—Cheese maker for Belleisle Cheese factory for season of 1920. Output for 1919, 35 tons. Apply stating salary and qualifications to R. N. PEARSON, Belleisle Creek, Kings Co., N. B.

LADIES WANTED—To do plain and light sewing at home; whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING COMPANY, Dept. A, Montreal.

FOR SALE—Trio Rose Comb R. I. Reds yearling Bird, 2 nd prize Winter Fair, 2 yearling hens price $10.00. White Orpington Yearling Hens, bred from 1st prize Exhibition pen, $3.00 each. MRS. F. H. LOCKE, 8 Commerce Block, Amherst, N. S.

THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and other premises. Price $4.00 per 100 lbs. Apply by mail to "NAILS," care of Office Maritime Farmer, Sussex, N. B.

EGGS for hatching from trap nested bred-to-lay Barred Rocks. $2.50 per 15. Order early. Send for circular. GUS LANGELIER, Supt. Experimental Station, Cap Rouge, Que.

THE SEVENTEENTH ANNUAL Kings County Seed Fair will be held in the Agricultural School, Sussex, on Saturday, March 27th, 1920. Every farmer in the County of Kings is cordially invited to make entries and attend the Fair. Addresses on Agriculture will be the feature of the afternoon session. Copies of the prize list may be procured on application to the Secretary—M. A. McLEOD, Sussex.

SUNNYSIDE STOCK FARM

Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

HIGHLAND LAKE HOLSTEINS

Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.
We have young bulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; anotber whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yonge St. Radial) JEFFERSON, ONT

BELLEVUE STOCK FARM

Shorthorn Cattle and Shropshire Sheep

The early maturing and good doing sort—bred from Show stock in every cross. Offering tbirty ewe lambs and shearling ewes to avoid crowding winter quarters. Also a few ram lambs not booked yet.

C. A. ARCHIBALD, Bellevue, Clifton, N. S.

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for sale calves of both sexes, sired by Dutcbland Pieterje Count, a bull of splendid size and type, whose four nearest dams bave records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Johanna Lad, who has 101 A. R. O. daughters, 4 over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice, come and see these calves or write for further particulars.
We will also book orders for young Yorksbire pigs for next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - CANARD, N. S.

COBEQUID FARM HOLSTEINS

We have a number of fine young r egistered bulls, to offer. They are sired by Prince Colanthas Canary B., a nd out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows have in turn been bred to "Riverdale Lyons Echo Posch" wbose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter each in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a beifer calf or two. Get your orders in quick, they won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

Special Offering

Maple Green Farm Holsteins

On account of the great shortage in the supply of milk in our home town, we have decided (with regret) to dispose of our entire crop of Bull and heifer calves.
If taken inside of the next 30 days will price them away below their value.
The Dams of these calves are now running in the R. O. P., and the last official test conducted by the R. O. P. inspector showed an average test of 4.62% fat for the lot.
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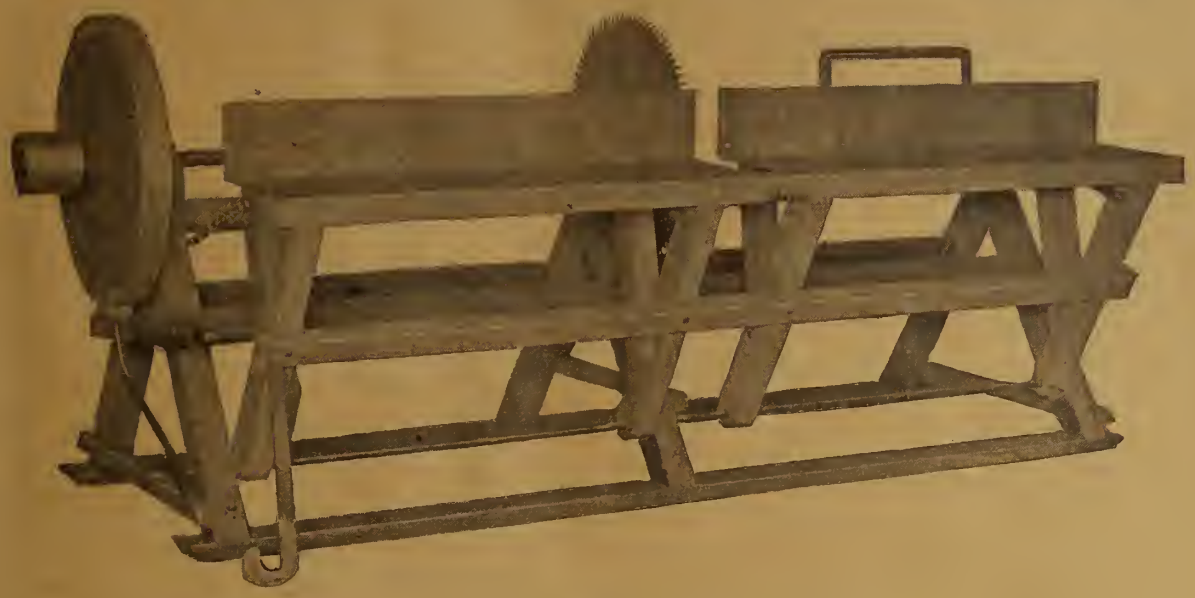

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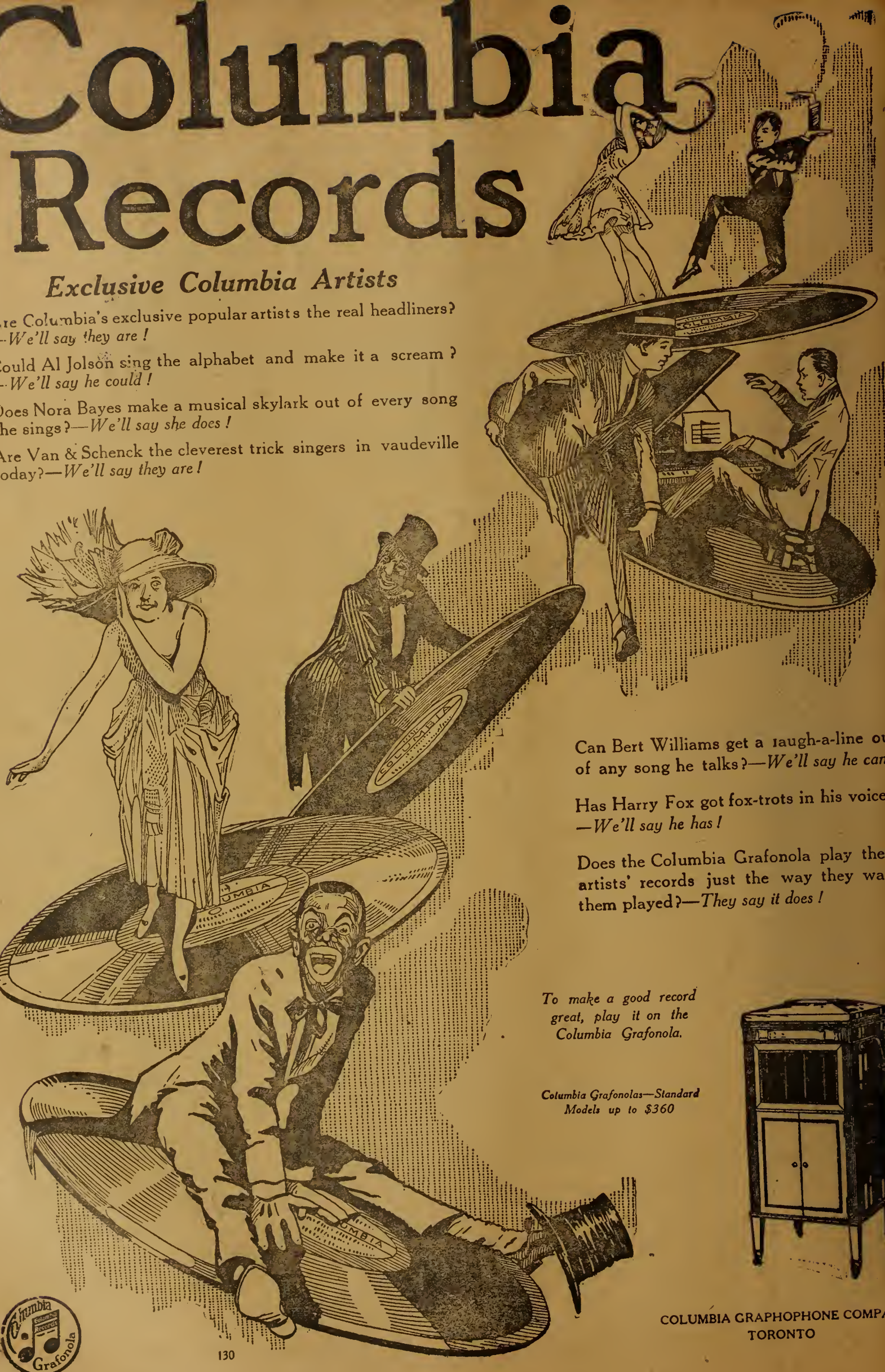

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Published Fortnightly in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., MARCH 16, 1920 No 12.

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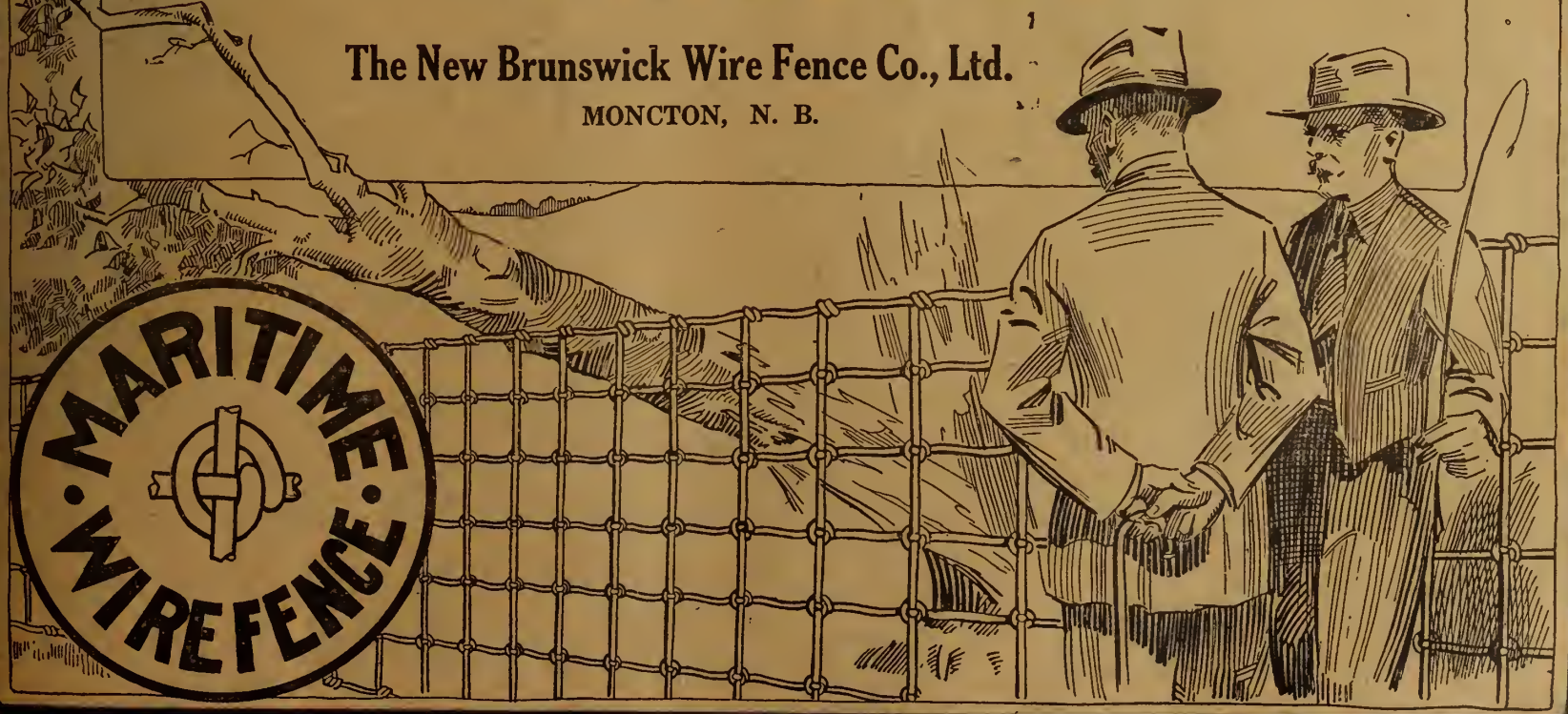

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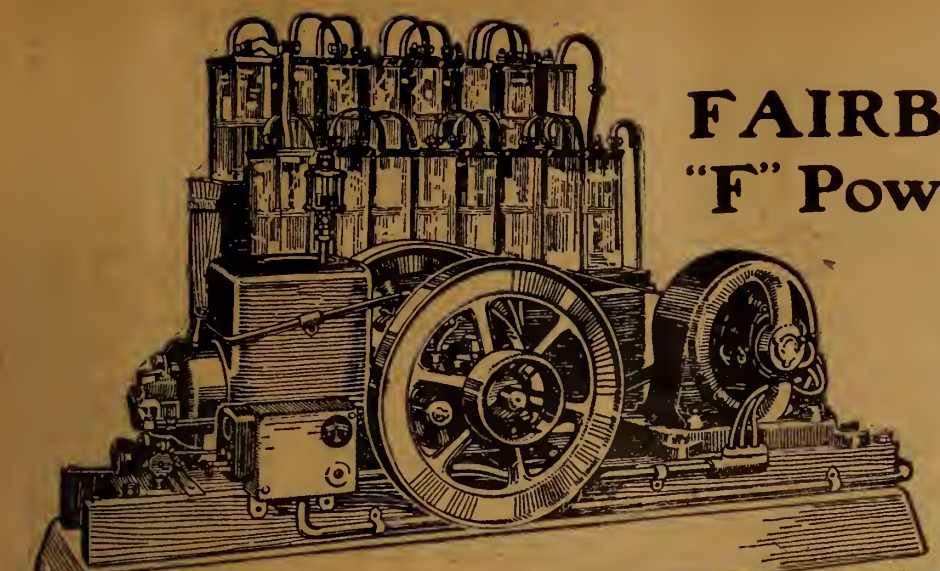

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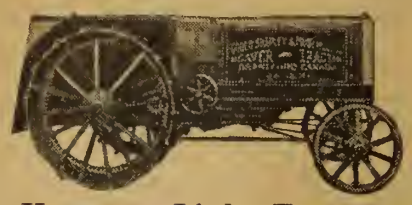

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The Renfrew is chosen by dairymen who have figured costs down to the fine point. They have proven to their entire satisfaction that the Renfrew gets one pound more of butter-fat out of every thousand pounds of milk skimmed. Government Dairy School tests have also demonstrated that the Renfrew gets 99.99 per cent. of butter-fat.

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It requires little attention—and time is money.

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Every part is made of high-grade material, accurately manufactured and carefully fitted. The Renfrew is built to last and give extra years of service. It should last one-third longer than an ordinary separator, which means that it is a 33⅓ per cent. better investment from the standpoint of durability and cost per year of service.

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Volume 25. SUSSEX, NEW BRUNSWICK, MARCH 16, 1920. Number 12.

Peculiar Interpretation of Equal Rights For All

Wheat Growers of West got Fifty Cent Advance For Wheat and Maritime Provinces Paid Dearly. Farmers Pay Big End of Bill

"The New National Policy, as laid down by the Organized Farmers condemns Class Legislation. Their policy advocates "equal rights for all, special privilege for none."

This quotation constituted the first lines of an editorial in a recent issue of the Farmers Sun, of Toronto, the official organ of the United Farmers of Ontario.

AND YET!

If the grain growers of Manitoba, Saskatchewan and Alberta have not had "special privileges" during the past year, what class in Canada has? In the first place the price of wheat was guaranteed at $1.75 per bushel. The United States government guaranteed $2.26 per bushel. That meant that the Canadian price would also soar. Nobody objected particularly to this because it was a war measure.

But how did it work out? Canadian wheat was sold to foreign countries by the Canada Wheat Board, an organization appointed for the express purpose of handling the Canadian wheat crop for the benefit of growers, at $2.15 per bushel. It was sold to Canadian mills, on the other hand at $2.30 per bushel, or fifteen cents per bushel more than the foreign buyer could get it for. As it takes four and a half bushels of spring wheat to make a barrel of flour, it cost the Canadian consumer just 67½ cents per barrel more for his flour than it did the man in Greece, Roumania, Serbia, or whoever bought it.

Have you considered what this little 15 cents per bushel meant to the population of the Maritime Provinces, particularly the farmers of Nova Scotia, New Brunswick and Prince Edward Island?

The Dominion government estimates local consumption of flour at about one barrel per head of population. Therefor the consumption and the increased cost for the Maritime Provinces and to the farmers of the Maritime Provinces was as shown in the following tables:

Flour

Total Consumption in Maritime Provinces per year.

Province	Amt. Consumed	Increase	Total
Nova Scotia	492,338 bbls.	@ 67½ cents	$332,318
New Brunswick	351,899 bbls.	@ 67½ cents	237,525
Prince Edward Island	93,728 bbls.	@ 67½ cents	53,151
		Grand Total	$633,109

Total Consumption for Farmers

Province	Amt. Consumed	Increase	Total
Nova Scotia	306,210 bbls.	@ 67½ cents	$206,691
New Brunswick	252,342 bbls.	@ 67½ cents	170,330
Prince Edward Island	78,758 bbls.	@ 67½ cents	53,151
		Total Increase for Farmers	$430,172

Here is a tidy little sum which the farmers of the Maritime Provinces paid for flour in excess of foreign buyers. And for what reason? We suppose it was to make a little donation to the Grain Growers, or to pay for the cost of administering the scheme. Certainly it must have been for one reason or the other. The second reason we may shelve for the cost is excessive. So in order that there might be "equal rights for all, and special privileges for none," the farmers of the three provinces contributed at the rate of $430,172 per annum.

If the "special privilege" stunt had stopped there it might not have been half so bad. But it didn't. In the course of time hard wheat was in demand in the United States, and pressure for a further increase was so insistent from the supporters of the "New National Policy" that hard wheat was given another boost of fifty cents per bushel to $2.80. And mark you this increase did not apply to the wheat of any other part of Canada but the Provinces of Manitoba, Saskatchewan and Alberta, the home of the slogan, "Equal rights for all, special priyileges for none."

Not a wheat grower in Nova Scotia, New Brunswick and Prince Edward Island got one additional cent for his crop of wheat. The advance was absolutely restricted to the hard wheat belt.

The Maritime Province farmer, however, was not neglected. He got his end of the deal by being called upon to pay $2.25 per barrel more for his flour or a tax in round numbers of $1,400,000 per annum, in order that fifty cents per bushel might be added to the price of wheat grown in a limited area of Canada.

Herewith are given figures showing the yearly increase in cost to the Maritime Provinces for flour based on an increase of fifty cents per bushel on wheat, as well as the cost to towns and country districts;

Province	Amt. Consumed	Increase	Total
Nova Scotia	492,338 bbls.	$2.25	$1,107,760
Farmers share	306,219 bbls.	2.25	668,972
Towns share	186,128 bbls.	2.25	438,788
New Brunswick	351,899 bbls.	2.25	791,750
Farmers share	252,342 bbls.	2.25	567,770
Towns share	99,547 bbls.	2.25	223,980
P. E. Island	93,728 bbls.	2.25	211,368
Farmers share	78,758 bbls.	2.25	177,203
Towns share	14,970 bbls.	2.25	34,165

So that the farmers of the Maritime Provinces pay the piper, when an increase of fifty cents per bushel is made in wheat, the neat little sum of $1,413,945 per annum. This of course does not include the increased price of feeds, which will be dealt with in another issue of this paper.

And mind you, the "Wicked miller" cannot be blamed this time. As it takes four and a half bushels of wheat to make a barrel of flour, the exact increase in cost at fifty cents per bushel was $2.25 per barrel. When the order for the increase was issued flour was selling wholesale, at $11.80 per barrel, St. John. It is now $14.05, St. John, just the amount which was paid to the United Farmers of the West, the men who are so strong on professions of "Equal rights for all, special privilleges for none."

And not content with what they have already accomplished, these same persons are getting ready for another excursion to Ottawa for more treatment of the same kind. Let us again repeat our warning to Maritime Province farmers. This whole deal is one for the benefit of the West. The figures published above furnish the strongest reason in the world why the farmers of the Maritime Provinces should unite, not to support but to oppose this rank injustice. There is no reason why special privileges should be accorded the grain miners. We in the East work harder and longer to produce what we do, and if there is any "special privilege" such as has been outlined here, we want our share of it. We want to be represented at Ottawa when this deal is broached, and we want to down it, or get the same consideration for our butter, cheese, eggs, potatoes, apples and the other products of the farm. Why in the name of all that is reasonable, should the farmers of this part of Canada be taxed for the benefit of a small section of the Dominion? Can you conscientiously believe that you should support men who have that end in view?

Is it any wonder that the Grain Growers' Guide and the Canadian Council of Agriculture can send its agents from Winnipeg, at a cost of thousands of dollars, to still the voice of the Maritime Province farmer, with such huge returns at stake. In one year, on flour alone, the three provinces by the sea pay two and a quarter millions of dollars additional, in order to give a special class of farmers, who work but a small portion of the year, fifty cents per bushel more for their wheat.. And if the Canadian Government is again induced to handle wheat, who can say whether fifty cents will be the limit of the increase in flour prices. Is it any wonder that western farmers are anxious to bind eastern farmers hand and foot to the so called "New National Policy" in the preparation of which not a single eastern farmer was ever consulted.

Already, the Maritime Farmer understands, denial of this plot is being made by the paid agents sent here from Winnipeg. The figures submitted herewith prove beyond question what fixed prices of wheat mean in part to the farmers of the eastern provinces. Denial will not down in the face of this incontrovertible evidence. At meeting after meeting, addressed by the paid organizers of the west, this question has been as lightly touched upon as possible. However, it is a live issue and will not down. The men from Winnipeg are discovering that in the disappointingly small results which their labors are accomplishing.

The Maritime Farmer is for the East. The United Farmer movement should be directed in that way. That is the kind of union we want. A union which can meet and defeat the kind of "Equal Privilege" suggested in this article.

The Maritime Farmer is in no wise opposing organization by the farmers of the East—but it believes there should be no Winnipeg string to that organization. We are selling farm organizations supplies far below the selling price of United Farmer stores —(so-called)—and we are tired of the misleading propaganda issued from Winnipeg. In a word we are out to serve the farmers of the Maritime Provinces—not to gold brick them. Thousands of farmers in these provinces trust the Maritime Farmer on its record of a quarter of a century.

Limestone as a Factor in Present Day Agriculture

An Address by W. S. Blair, Experimental Station, Kentville, at the Recent N.S.F.A.

Considerable has been written within recent years about ground raw lime as a soil builder. The best investigators in soil problems have been directing their attention to the part lime plays in crop production, and some go so far as to say that lime is just as much a fertilizer as phosphate, potash or nitrogen. In fact in some of the States to the south of us the difficulty is not in convincing the farmers of the necessity for its use, but in the inability to furnish the lime to meet the requirements of the farmer. In the State of Illinois for instance the Agricultural Associations a few weeks ago guaranteed the limestone Companies of that State the purchase of one-half million tons for 1920. This was done to enable the various limestone quarries to operate during the entire year.

It would be too much to say that all soils will benefit from the use of lime, it is safe to say, however, that over 50% of our soils will be much more productive if lime is used. It is difficult to determine except by field tests just the benefit one may expect from lime applied to his soil. The idea that lime is valuable only as a corrector of soil acid is not correct for lime enters onto the formation of plant food compounds without which plants cannot do their best. The many functions lime may perform in the soil have been grouped as follows:

1st—Supply needed lime to plants.
2nd—Modification of soil tilth.
3rd—Neutralization of acids or other injurious substances.
4th—Effect upon the availability of minerals.
5th—Increase the efficiency of fertilizers and manures.
6th—Meeting the silicate requirements.

That large amounts of lime are required for some crops is evident from analysis. One ton of clover for instance contains 56 pounds of lime. you all know something of the influence of lime in improving the texture of the soil rendering clay soil less cohesive and wet and more pliable when dry. On light soils the action of lime is to cement slightly the soil grains rendering the soil closer in texture or less open and porous.

Acid soils are unsuitable to many plants and the effect of lime is to neutralize this acid, and as well, make the soil more suitable to soil organisms such as those developing on leguminous plants. The nitrate-forming organisms in the soil multiply rapidly under favorable conditions for their growth, and attack soil humus liberating the contained nitrogen combining this with lime to form lime nitrate; or with soda to form sodium nitrate; or with potash to form potassium nitrate, all of which are readily taken up by crops. Soil organisms are at work collecting nitrogen from the air at the same time, thus increasing the total nitrogen over and above the amount contained in the soil humus. Recent investigations would seem to show that lime nitrate is one of the chief compounds from which agricultural crops derive their supply of nitrogen. The liberation of carbonic acid gas resulting from the union of nitric acid and lime carbonate aid in increasing the dissolving power of the soil moisture, thus liberating other essential food elements such as potash and phosphoric acid.

It is evident that lime furnishes a base essential for the development of food combinations suitable for plants and corrects soil acidity which is so objectionable to certain plants, particularly the clover. That this is the case is amply demonstrated in tests made at the Kentville Station during the past five years. It has been found that no system of management will give satisfactory crops of clover without lime. The plants remain dwarfed and sickly while persisting in the soil do not materially add to the crop yields. The Station soil naturally is poor and deficient in humus as is the case on most newly broken lands where evergreens were growing. The fact that blackberries, red top, sorel and similar plants which like an acid soil persisted on these lands led us to believe that the soils were deficient in lime. Tests were conducted in 1914 during the winter with spinach in the green house and it was found that without lime spinach could not be successfully grown on this soil indicating clearly the great need of lime. Accordingly experiments of which I will give a summary were outlined.

It is impossible to use many figures and make the address comprehensive, we have therefore brought together the various crops produced on a basis of valuation allowing 80 cents per bushel for potatoes, 90 cents per bushel for oats, $12.00 per ton for hay, $6.00 per ton for straw and $2.00 per bushel for wheat. These prices I think you will consider fair.

The first test we wish to direct your attention to was that started in 1914 on a poor sandy loam cleared in 1911 and 1912. This was fertilized with 400 pounds of 4-8-10 fertilizer in the spring of 1913, and seeded to Longfellow corn which yielded 4 tons, 100 pounds per acre. This you see was a very poor yield. In the spring of 1914 four series of plots were laid out and comercial fertilizers were applied to each in equal amounts, except on one section of each series no fertilizer was given. Two of these series were limed at the rate of 2 tons per acre and two were left without lime. These plots were not fertilized or limed again until 1917. Potatoes, oats and hay were harvested in 1914, 1915 and 1916. In 1917 it was considered wise to fertilize the whole area with 15 tons of stable mnaure per acre which was evenly applied and plowed under and the land was again limed at the rate of 2 tons per acre and fertilized as before not more than 550 pounds per acre of commercial fertilizer having been used on any of the plots. That is in 6 years there has been used on the best fertilized plots 1100 pounds of commercial fertilizer, 15 tons of stable manure and 4 tons of limestone per acre. Similar plots had manure with and without fertilizer and with and without lime.

Below is given a summary of the crop yields per acre from the rotation covering the first three years 1914, 1915 and 1916 and from a similar rotation for the following three years 1917, 1918 and 1919.

VALUE OF CROP FERTILIZED AND MANURED

1914, 1915 and 1916.

Limed and Fertilized, 3 years	$118.55	
Not Limed but Fertilized 3 years	98.14	
	Gain	$20.41

1917, 1918 and 1919

Manured, limed and fertilized 3 years	$360.62	
Manured, not limed but fertilized, 3 years	312.03	
	Gain	48.59
Gain in 6 years from the use of lime		69.00
Cost of lime and application		16.80
Profit per acre above cost of lime		$52.20

VALUE OF CROP NOT FERTILIZED BUT MANURED IN 1917

1914, 1915 and 1916.

Limed and not Fertilized 3 years	$ 94.15	
Not Limed and not fertilized 3 years	80.16	
Gain from lime first 3 years		13.99

1917, 1918 and 1919

Limed, manured not fertilized 3 years	$339.72	
Not Limed, manured and fertilized, 3 years	260.58	
Gain from lime in last 3 years		$79.14
Gain in 6 years from use of lime		93.13
Cost of lime and application of same		16.80
Profit per acre above cost of lime		$76.33

VALUE OF CROP PER ACRE FOR 6 YEARS

Limed, manured and fertilized	$479.17	
Not Limed, manured and fertilized	410.17	
Gain from lime		$69.00
Limed, manured and not fertilized	$433.87	
Not Limed, manured and not fertilized	340.74	
Gain frim lime		93.13
Limed, manured and fertilized	$479.17	
Limed, manured and not fertilized	433.87	
Gain from fertilizer		45.30
Cost of fertilizer		27.90
Profit per acre above cost of fertilizer		$17.40

It will be noticed from the table that for the first three years the lime added was worth $10.20 per ton from increased yield where the fertilizre was used and during the second three years $24.29 per ton from increased yield where fertilizer and manure were used. It will also be seen that the lime added to the unfertilized area was worth $6.99 per ton from increased yield during the first three years, and on the unfertilized area, manured in 1917, it was worth $39.57 per ton from increased yield during the last three years. For the whole 6 year period the fertilized and manured areas returned an increase from lime equal to $17.25 per ton for each ton used, and the area not fertilized but manured in 1917 returned an increase from lime equal to $19.08 for each ton used.

It will also be noticed that the same area after the application of 15 tons manure per acre in 1917 produced $242.07 more value in crop where fertilized and limed, and that the area fertilized but not limed produced $213.89 more value in crop. It will also be seen that the area limed but not fertilized produced after being manured in 1917 $245.57 more value in crop, and the not limed and not fertilized $180.42 more value in crop due we may assume directly to the aplication of 15 tons manure per acre, making the manure worth $12.03 per ton from increased crop yields. This increase can be largely accounted for because of the soil being practically devoid of humus previous to the application of manure the soil bacteria not having a favorable medium for development and moisture and temperature conditions being more unfavorable for the growing crop.

It is the intention to continue this area without any more stable manure, continuing a three year rotation with clover every third year, and we think the limed area at least will not lack in humus because of the strong growth of roots in the soil. It seems clear, however, that it is advisable to make an application of manure to poor soils similar to this in order to get a proper start, after which stable manures may not be so necessary.

An examination of the limed areas shows a heavy thick growth of clover with deep penetrating roots, whereas the unlimed have an inferior growth of clover and much timothy with much less root development in the clover plants. This difference is striking even to the casual observer, and this difference is due entirely to the use of 4 tons of limestone in 6 years, the other conditions being similar in every respect.

In conection with our orchard tests with fertilizers we have been keeping a record of the yields of the intermediate crops and one of the striking tests in the production of clover was on a plot limed in 1914 with 4 tons of limestone. This was seeded to alfalfa but failed to make satisfactory growth and killed out the next winter. The following crop was potatoes fertilized at the rate of 800 pounds of 4-8 fertilizer per acre. The next season this was seeded to clover with oats. There was a decidedly striking crop of clover on the limed area and timothy only on the unlimed although each had ben otherwise treated alike.

The yield from the limed area was at the rate of 1050 pounds per acre and from the unlimed 1590 pounds per acre, an increase of 540 pounds in favor of the lime. These yields were low in both cases because of low fertility but when one considers the product from the two areas as to actual feeding value that from the limed area is very much greater than on the unlimed because of being clover and the other almost entirely tim-

othy. Clover according to analysis contains 10.7 per cent. of protein and timothy 5.7 per cent. That is, in one ton of clover hay we have 214 pounds of protein and in a ton of timothy hay 114 pounds. On this basis there would be 59.85 pounds of protein in the hay produced from the area not receiving lime and 170.13 on the area receiving lime. The aditional amount of protein because of lime being 120.28 pounds. This would be equal to the protein content of over 400 pounds of oil cake meal. The fair way after all of getting at the value of materials used to increase crop production is through the feed produced, and in feeding other than clover hay one must of necessity use more of the concentrated feeds to make up for the protein he otherwise would be supplying in the clover if the requirements of the stock is to be fully met.

Limed Not Limed

Scene on the Dominion Experimental Station, Kentville, N. S., where Prof. Blair conducted one of the experiments referred to in the accompa nying article.

The use of slag has done very much toward an increased clover yield and while not minimizing the fact that phosphorous supplied in this fertilizer is very important yet it seems that the lime content of the slag has very greatly aided in the clover production. In its finely ground state the lime in it has no doubt been very rapidly made available and furnished the plant with this needed element. That this is the case is amply demonstrated in a series of tests conducted on an 8 acre area. The yield of clover hay on these areas show that one-half ton of slag gave as good yields within 564 pounds as the limestone at the rate of 2 tons per acre. The slag and lime combined gave 619 pounds more than the slag alone and 55 pounds more than lime alone. The slag plots produced 1516 pounds more than the plot receiving neither slag nor lime but otherwise similarly fertilized. The lime plot produced 2080 pounds more than the plot not limed nor slaged, and the lime and slag area produced 2135 pounds more than the are not limed and slaged.

It would seem therefore that slag has played an important part in our present day agriculture and without a doubt has been a good investment for the farmer and while not depreciating the value of this fertilizer which may serve a dual purpose we cannot help but read from these tests that the lime content of slag has played an important part in the results obtained from its use.

A point I wish particularly to emphasize is one probably well kown to you all, but well worth repeating, that clover is at the basis of cheap stock production. In this you are all vitally interested. The first car-load of limestone we used was put on a ten acre field and this was used in an orchard which had not previously been cropped and the land was as uniform as it is possible to get an area of this size. Stripes in this field or ridges between the trees were left without lime and on the unlimed areas the crop of hay was 2800 pounds and on the limed 5520 pounds. Let us calculate this in values as compared with concentrated feeds. Had the field not been limed we would have obtained from the 10 acres 28,000 pounds or 14 tons of hay. We however obtained 55,200 pounds or 27 tons, 1,200 pounds or nearly twice as much. As already stated our land in its natural state will not grow clover without lime and the crop on the unlimed area was largely timothy with some clover. According to analysis mixed hay contains approximately 7.4% of protein, and red clover12.3% of protein. There would therefore have been 2,070 pounds of protein from the 10 acres of mixed hay and from the straight clover where lime was used 6,789 pounds of protein, a difference of 4,717 pounds, or to make the question still more convincing we would have had to buy 7½ tons of oil meal, 32% protein, or 120 bags, 6 tons cotton seed meal, 40% protein to obtain the equivalent in protein if no lime had been used. The hay from the 10 acres limed on the valuation of oil meal at $90.00 per ton would be worth 6$75.00 more for feed than that from the unlimed area. The 20 tons of limestone used cost $80.00 for the 10 acres including hauling and application. The limestone returned a gain equal to $33.75 for each ton used, or $29.75 profit above purchase price and cost of application.

Yet the story is not all told—for with the same fertilization the potato yield on the area limed on which clover grew abundantly was 49 bushels more per acre the following year than on the area not limed.

We have abundant instances of the benefits from lime and it seems unnecessary to follow the matter further with experimental data.

W ecome now to the matter of appli-cation. It seems pretty well established that two tons per acre for the first application is advisable and that one ton per acre every three or four years after will supply the necessary lime and prevent acid soil conditions. It also seems desirable that the application be made when seeding to grain. The usual practice is to apply this during the fall, winter or early spring before working, and to disc the lime in. When preparing for seeding the best means of distribution is a fertilizer distributor of which the Hoosier made by the International Harvester Company is one of the best.

Forme of Lime.—Lime is placed on the market in three forms, namely, the oxide, the hydrate and the carbonate.

These different forms are often given a variety of names. The oxide is known as quick lime, burnt lime, stone lime, caustic lime, lump lime, unslaked lime and building lime. The hydrated lime also is called slaked lime. The carbonate is a form of ground limestone and marl and also occurs in air slaked lime.

The term "agricultural lime" may be applied to any of the above forms and refers to lime sold for agricultural purposes but unfortunately not necessarily to a product esepcially well adapted for application to the soil.

When high grade limestone is burned in a kiln, 10 pounds of the dry stone gives off approximately 44 pounds of carbon dioxide gas, leaving about 56 pounds of lime oxide or quick lime. When 56 pounds of quick lime is moistened it takes up 18 pounds of water and forms 74 pounds of slaked lime or hydrated lime. It is evident then that 56 pounds of quick lime, 74 pounds of hydrated lime and 100 pounds limestone or lime carbonate have the same power to satisfy the needs of the soil. Experiments conducted over a period of years at different Experimental Stations would indicate that the raw ground limestone is the best form for agricultural purposes. Caustic lime tends to destroy the humus through chemical action, resulting in a destruction of organic matter and a loss of nitrogen in the form of ammonia gas which goes off into the air.

There does not appear to be a unity of opinion amongst soil investigators as to the necessity of having limestone ground fine. The finer it is ground the more evenly can it be mixed with the soil and possibly more quickly will soil acidity be destroyed. There are definite experiments which go to show that the fineness of the material is not a mater of much consideration and that any grade passing through a quarter inch screen is as satisfactory as a finer material. For aditional information on this point I would refer you to the work done by the Illinois Experimental Station.

Reasons Why the Farmers Should Pay

The Maritime Farmer is publishing two letters in support of the application of the western grain growers for further government assistance in maintaining artificial prices for wheat. The first will no doubt be received with delight by the dairymen of these provinces, whose product is being marketed at a loss, every week in the year.

The second is a gem. If the grain growers did not ask for a fixed price on wheat, who did? Who is Hon. T. [illegible]ear? Is he or is he not a representative of the grain growers? Well that gentleman not only asked for a fixed price on wheat but he got it from the government from which he was a member, as a war measure. The war is now over. There is no need of any further fixing but the grain growers are preparing to ask the Government to again market their wheat.

And let the Maritime Farmer again say it is opposed to this policy. It is not only opposed to it but it insists that if wheat is to be given special treatment, then Mr. Fairweather's neighbors should receive the same treatment in selilng their produce and Mr. Manzer's neighbors should have their potatoes protected in the same way. A "National Policy" which is only national in its application to the farmers of Manitoba, Saskatchewan and Alberta is altogether too narrow in its scope to suit either the Maritime Farmer or thousands of farmers in this section of Canada.

The letters are as follows:

Hampton, Feb. 9th, 1920.

Editor Maritime Farmer:

Dear Sir,—I have been a constant reader of the "Maritime Farmer" since its introduction and fully appreciate its good qualities and do not feel that any other farm paper so fully meets the needs of the farmers of the Maritime Provinces.

In your issue of February 3rd you published an article under the heading "A Narrow National Policy," and invited criticism thereon. Now when you consider that the average yield of wheat which has fallen from an average "ten year average" of ninteen bushels per acre yield previous to 1917 to about sixteen in 1917, farther down to eleven or twelve in 1918 and about nine or ten in 1919,a decrease of about one hundred per cent., this is for spring wheat (which is our main dependence) to gether with the increased demand from overseas, it does not seem out of the way to guarantee a price that will encourage them to do their utmost to produce to the limit. If they do not will flour or feed be any cheaper? It seems to me the contrary would be the result.

In regard to asking a guarantee of price for our produce, I think we are doing very well with eggs at 80 cents, butter 70c., potatoes $6.00, apples $3.00 to $6.00, and anyway that would only hurt the people of the "Maritimes" as the west buys nothing in the "agricultural line" from us but apples, for which they pay us very well, and moreover, if the west lets up on grain growing somewhat and turn their attention more to stock raising and flood our markets with beef, pork and butter, etc., as they easily could do, where would we be at?

I have been in the west myself and helped (some years ago) to harvest 30,000 bus. of wheat and 15,000 oats, on one farm. Wheat yielded an average of 30 bushels and oats about 80. They do not get such returns now. They do not have the varied resources we enjoy and their climate is very uncertain.

I might add that I am a Liberal in politics and do not approve of a good deal of the legislation of the "so-called" Union Government, but am not disposed to criticise the efforts to help the western farmers over what is undoubtedly a hard situation.

Yours trule,
ARNOLD H. FAIRWEATHER.

Aroostock Jct., N. B.
Feb. 23, 1920

The Maritime Farmer,
Sussex, N. B.

Dear Sirs:—

The Wheat Board sell the western wheat on the open market, where the prices varies according to supply and demand, just the same as individual grain dealers would do. And they cannot get a higher price than buyers offer.

Such being the case, how is anyone taxed for the benefit of the Western farmer? All the Wheat Board can do is to stabilize the Canadian market, thus avoiding the ups and downs from which the dealer is much more likely to profit than the farmer.

Yours truly,
J. J. MENZER.

Report of The Nova Scotia Supt. of Dairying

Prepared by G. A. MacKay at the N. S. Dairymen's Assn.

I have the honor to submit herewith my eighth Annual Report in connection with the Dairy business in Nova Scotia. As in former years the efforts of this Division were largely directed along the lines of Co-operative Dairy work and as the natural tendency in Nova Scotia for the last number of years was creamery work, consequently the work was largely directed towards this phase of the work.

At this time the following statistics might be of interest:

OUTPUT OF NOVA SCOTIA CREAMERIES, FIFTEEN YEARS 1905 TO 1919

Year	No. of creameries in operation	Pounds of butter made	Value of butter made
1905	10	290,714	$ 63,957.30
1906	11	287,846	66,204.58
1907	7	164,184	40,896.00
1908	7	163,147	40,886.00
1909	6	183,248	45,812.00
1910	10	256,420	76,669.20
1911	10	320,763	83,398.38
1912	11	470,603	130,076.17
1913	14	709,012	194,802.46
1914	17	913,273	257,600.00
1915	20	1,224,483	366,011.24
1916	21	1,612,627	475,814.61
1917	22	1,760,871	645,253.30
1918	21	1,762,264	872,328.27
1919	22	2,093,804	1,172,410.90

While these figures do not show any great development and to a certain extent is only a changing of methods of manufacturing, still some progress has been made and this more particularly in certain sections where some real develophent has taken place as the following table will show:

STATEMENT SCOTSBURN CREAMERY, PICTOU CO., N. S.

Year	No. patrons	Lbs. Butter	Net value fat per lb. to patrons	Value of Butter made
1905	26	11,142	21.42	$ 2,153.20
[illegible]	32	13,307	21.73	2,066.71
[illegible]	35	10,054	22.31	1,943.03
[illegible]	38	16,122	24,22	2,400.51
1909	81	34,325	24.19	6,801.18
1910	204	107,715	24.40	22,146.04
1911	380	170,847	25.85	36,181.99
1912	423	181,614	30.14	44,788.08
1913	450	229,574	27.97	55,305.06
1914	502	277,672	28.07	65,678.48
1915	538	293,552	30.00	76,520.54
1916	592	327,715	34.25	97,077.06
1917	558	380,259	44.00	134,884.47
1918	632	388,621	52.00	164,488.17
1919	700	446,171	63.00	243,235.18

In this section there are some very striking evidences of what can be done in Dairying by following advanced methods. For instance the "leading" patron in n1919 sent to this creamery about $300 worth of cream from an average of about 15 cows, and on a farm that ten years ago did not produce over $300 worth of milk.

In my last report I itemized what I considered were some of the reasons why dairying was not making more progress. While at the present time not a great deal has been done to overcome these obstacles, still there are aparent movements in the right direction and more interest is manifest in the dairy cow. Chief of these is a greater demand for pure bred dairy sires of the right type and ones with some Record of Performance behind them, a renewed interest in Cow Testing Work. In Colchester County a Milk Producers' Association has recently been orangized and many evidences are at hand from different parts of the Province pointing to more intelligent efforts to better and more economical methods in Milk Production.

Creameries

One new creamery was started during the year by Biden's Ltd., in Amherst, this being the outcome of the agitation two years ago to start a co-operative creamery. This creamery was registered as No. 25 and as the statistics will show has made a successful start, especially considering that the creamery is a subsidiary to the Ice Cream business.

The Model Creamery at Musquodoboit owned by Mr. H. A. Beck, also made substantial progress and is now among our most flourishing cseamerdate application has not been made to reopen it.

ies. It was registered during the year as No. 26.

Fairview Creamery at Berwick was closed July 31st for repairs and to

Other creameries were operated on about the same basis as last year.

The Inspection and Instruction work was again caried on by Mr. R. B. MacLennan and as his atached report will show, he had a busy year.

Exhibitions

number of the creameries again competed successfully at the larger Canadian Exhibitions, especially at the Canadian National at Toronto. Brookfield Creamery captured first prize and Pictou Co. Dairy Company Antigonish Dairy Compan, Scotsburn Creamery and LaHave Creamery Co. Bridgewater, were also among the usccessful competitors.

Four of the creameries participated in the 'Dominion Educational Butter Scoring Contest," the features of which are already well known to the general public, and probably the outstanding lesson proven as far as Nova Scotia conditions are concerned was that the butter that was made from well pasteurized cream had good keeping qualities and was safe to store for winter use, while the butter made from unpasteurized or poorly pasteurized cream only kept for two or thre months and was unsafe for storing for winter use.

At the invitation of the Dominion Dairy Commissioner I had the privelege of scoring all the butter in this competition in Montreal towards the end of October, and can therefore verify the statement made above. It was gratifying however to find that the samples from Nova Scotia stood up well with the samples form any other Province and on the total score for "workmanship" Scotsburn Creamery scored the highest in the Dominion.

I had the privilege of acting as judge of the Dairy Exhibits at the N. B. Provincial Exhibition at Fredericton and the Prince Edward Island Provincial Exhibition at Charlottetown during the month of September. Also at a number of the Provincial Exhibition and of the Dairy Exhibit in connection with the N. B. Dariymen United at Sussex during the month of December.

The Dairy Division conducted a Demonstration Creamery at the Maritime Winter Fair in Amherst in December. This served a two-fold purpose of making a means of manufacturing the milk for the Exhibitors in the Milking Competition and of demonstrating to the public the value of a creamery and to a certain extent the value of milk products as wholesome food.

The booth was visited by many of the visitors and exhibitors at the Fair.

Booths were also conducted by some of the creameries at the County Fall Exhibitions. These conducted on educational lines are to be commended and no doubt would help to popularize Dairy methods.

Grants

Grants were recommended to two creameries during the year under the Act for the Encouragement of Dairying.

Dairymen's Association

The Annual Convention was held on the 9th and 10th of January. In 1918 a separate report was published and it was the intentio to publish the 1919 report in separate form. For various reasons this was not done, but it is expected that the 1919 and 1920 Reports will be published together after the next Convention which will be held at the College of Agriculture on January 2nd and 23rd.

Meetings and Organization

I ersonally attended forty-one meetings during the year in different parts of the Province, and in connection with the different parts of the work. The principal of these were Annual Metings during February and March; April, May and June in connection with many of the creameries, in explaining to the patrons many of the difficulties that arise in the work.

During July and August some meetings were held in Hants County. First in the district covered by "The Gores," The Hawdon and surrounding districts, in an effort to establish a local coo-erative creamery, and later on the Bay Shore between Burlington and Walton in an effort to establish a creamery there. In both these sections there is undoubtedly the ossibilities for successful local creameries but up to the present time neither company has completed organization.

I attended a number of Farmers' Picnics and a meeting of the Pictou County United Farmers in August. This meeting was relative to the future of this Comany. I urged on them the importance of standing together in this Co-operative enterprise and that the success or failure of this Company wuold have a distinct bearing on the future agriculture of Pictou County.

Other meetings were held at different times in different places in the interest of many parts of the work. During the months January to April inclusive, my time was largely taken up as usual in connection with the instruction work at the Agricultural College and Dairy School.

Dairy School

The Third Annual Session of the Maritime Dairy School was held at the College of Agriculture on practically the same basis as previous years. The courses running as follows:

March 12th to 25th — Creamery men's Course. Enroleld attendance, 22. Instructor, R. B. McLennan.

March 26th to Aril 3rd.—Cheesemaker's Course. Enrolled attendance 9. Instructor, H. W. Coleman.

March 26th to April 3rd—Milk Testers' Course. Enrolled attendance, 10. Instructor, H. R. Brown.

The total attendance was 41.

Ben Gallant was instructor in Milk Testing in the Cheese and Butter Course. Instruction was also given by Professors Harlow, Trueman and Smith, of the College staff, in their respective subjects.

A similar course is being arranged this year to date from March 10th to April 3rd.

In my last two reports I stated that the need of larger and more commodious quarters for the instruction of Dairying in the Maritime Provinces. The need has become more imperative during the year and to date nothing definite has been done, although some action has been taken. At the Annual Conventions of the P. E. I. Dairymen's Association, the Nova Scotia Dairymen's Association and Dairymen United of New Brunswick (this later was endorsed by the Farmers' Association of New Brunswick) unanimous resolutions were passed and committees appointed to bring before the proper officials the need of a larger Dairy School. This committee held two meetings during the year and while nothing definite has yet been done, progress can be reported, and in the interests of Maritime Dairying it is hoped that some definite work will be undertaken before another year.

Government Creameries

This Division stil operates the Baddeck and Margaree Creameries and this year shows some definite progress in both places. The business at Baddeck increased from 37,309 lbs., worth $17,738.16 in 1918, to 59,443 lbs. worth $32,973.74 in 1919, and at Margaree from 31,334 lbs. worth $14,225.56 in 1918 to 52,977 lbs. worth $28,604.55 in 1919. Both creameries operated during the winter of 19181-919 but at quite a deficit. Margaree is closed for thre months this winter but Baddeck is kept operating all winter. The managers reports are attached to this report.

The accounting of both these was again done in my office by Miss Sanders, the steongrapher and Accountant of this Division. A separate financial report is published annually of both these creameries, a copy of which may be had by applying at this office.

Cereal Mills

The Cereal Mill owned at Baddeck by the Department is still being operated under my direction and daily reports coming to my office and the annual audit made the 1st of August.

The Inverness Mill has been rented for a term of two years to A. J. Campbell, of Inverness. Both these mills are giving general good satisfaction to the public, but from a financial standpoint are not proving successful as business concerns. To make them profitable, some other branch of business such as flour, feed, etc., would have to be carried on in conjunction with the milling.

National Dairy Council

This is a union that got under way during the year of all the influential dairy bodies in the Dominion of Canada with headquarters at Ottawa and already has done some valuable work for Dairying and has bright prospects for the future if the Dairymen stand behind it. The Council receives no Government support but depends on the dairy business entirely for its sup-

port. The Representatives on the Council from Nova Scotia are D. W. Murray, Scotsburn and Harold Falconer, Stellarton.

The statistical reports of the Cheese Ftcories and Creameries will be found at the end of this report. Unfortunately Cheese Factories have nearly disappeared in this Province, only one being left, but it is doing a ogod gusiness, making this year 47,-360 lbs. of cheese of a value of $13,-055.73. Creameries show an increase over 1918 of 452 patrons. An increase of 331,439¾ lbs. of butter. And increased value of the business of the year reaching $360,552.90.

General

Babcock Testers were loaned during the year to eight new Cow Testing Associations that were organized during the year by H. R. Brown, of the Dominion Dairy Division. These testers to be returned at any time the Association should go out of existence.

Testers were also supplied to any of the Rural Travelling Teachers that applied for them for demonstration purposes in the public schools.

The Chemical eDpartment of the Agricultural College again supplied the creameries through our Division with the necessary chemicals for use in the "Acidimeter" and Salt tests. This has been done without any charge to the creameries and has been very valuable to them and the appreciation of this Division is due Prof. Harlow and his assistants for the time they have spent and the interest they have taken in this work.

During the last number of years a great amount of my time has been taken up with what might be classed as detail work in connection with the Cape Breton Creameries and Cereal Mills. Consequently very little new organization, investigation or propaganda work could be undertaken, and now with the changing of conditions there is more apparent need for more work of this kind and I trust through the coming year to make some suggestions and necessary changes that new work in these lines may be undertaken.

Mr. R. B. McLennan, who has been Inspector and Instructor for two years, severs his connection with the Division about April 1st to devote his full time to his creamery business, that he is moving from Brookfield to Truro. Mr. McLennan did valuable work for the creameries in Nova Scotia during the two years he was working among them. His successor has not yet been appointed.

It is gratifying to note that the Cow Testing Associations conducted by the Dairy Division at Ottawa and under the direct supervision of Mr. H. R. Brown, have made splendid progress during the year and on all hands results are obtainable to prove the statement referred to in my report yearly, that this is the only safe, sure and satisfying way to successful and economical milk production.

Again I wish to express my appreciation to all who in one way and another have done something to advance and popularize the Dairy business in Nova Scotia during 1919 and I trust their efforts will be richly rewarded.

W. A. MacKay, Esq.
Dairy Supt., Truro, N. S.
Sir:—

I beg to submit my second annual report in connection with the Margaree Creamery, being the fourth annual report of the Creamery.

This year's report covers the season fom January 1st to December 16th, the creamery having been operated all last winter.

I am pleased to report a very substantial increase in the output of butter over last year, about 22,000 lbs.

This increase is quite gratifying, and although the season, generally, was very favorable for the production of dairy products, it shows that the people here are taking a more active part in dairying. I feel confiident that the Margaree Creamery has a bright future, but would urge patrons not to feel that they have obtained their objective, but to put forth their best efforts to produce more and still more and thus build up for themselves an industry of which they can be justly proud.

The operating of the creamery last winter was largely to demonstrate to the people what the possibilities of winter dairying were and I am confident that it has induced them to make better efforts along these lines.

The quantity of cream received during the winter season, however, was too small to make it a paying business from the Creamery's standpoint and it was considered hardly fair to the business to run it again this winter at a loss, so it was decided to close the business for about three months. This was also sanctioned by a meeting of the Board of Trustees held on Nov. 28th.

Last spring I was induced to make some inquiries in the Cheticamp district, with a view of extending our cream route there. After some enquiries I arranged for a series of five metings in that district. At these meetings I was very ably assisted by Rev. P. LeBlanc, Rev. A. H. Cormier, C. T. AuCoin and J. F. LeBlanc.

We had an average attendance of about 50 at these metings and we received sufficient encouragement to warant the extension of our cream route to accommodate that district.

To my mind the results obtained were quite satisfactory for the first year, and I feel confiident that next year will show greater results.

The meetings held by yourself in that district in November were very instructive and pleasing to the people and I am sure will be a great help towards getting the people more interested.

The outlook of the creamery for the next year is, I think, very favorable. I look forward to a much bigger out-put than this year, and if unfavorable conditions do not hamper production I feel that I am not mistaken. I would again urge the patrons to look with a kindly eye to the old cow and get her in condition to earn cow and get her in condition to earn more dollars for them than she did last year.

Feed her well during the winter months and she will be in a position to do a bigger business on the old stand next spring.

It might not be out of place here to remind the patrons that next spring is the time to plan for a plot of roots and green feed for fall and winter feeding. This is the only way by which they can supplement the failing pastures.

In bringing this report to a close I wish to thank yourself and other members of the Department for very valuable advice and assistance given me.

I wish to thank all those who in any way helped along our business.

All of which is respectfully submitted.

(Sgd.) H. H. MacDonald,
Margaree Forks, Dec, 21st, 1919.

Baddeck, N. S. Dec. 23, 1919
W. A. MacKay, Esq.
Dairy Supt., Truro, N. S.
Sir:—

I herewith submit the sixth annual Manager's Report of the Baddeck Creamery.

For the second year the Creamery will operate all winter, though the interest taken by the patrons in winter dairying has so far been disappointing.

The past year has been the most successful in the history of the creamery, 59,443 pounds of butter being made, against 37,309 pounds in 1918. This was due to an increase in the number of patrons, an effort on the part of the aptrons for greater production and the excellent pastures and after-grass of the past season.

The outlook for the coming year is exceptionally good. Some twenty farmers, who have not previously sent cream, have already promised to send next year and we expect greater production from our present patrons.

(Continued on page 434)

BETTER LOOK OUT FOR OURSELVES

THE FORTUNE TELLER—"You are going to get it in the neck." (With apologies to the Grain Growers' Guide).

THE MARITIME FARMER

And Co-operative Dairyman
Registered Trade Mark
Fortnightly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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The Maritime Farmer, instead of giving you one receipt in the year for a paid subscription, sends you 24, or one every two weeks. You will find it on the GREEN COLORED LABEL on which your address appears. The date printed thereon is that on which your subscription terminates. If on payment of your subscription the date is not changed within two weeks, please notify us. No other receipt will be sent.

DATES OF ISSUE.

March	—16—30
April	13—27
May	11—25
June	8—22
July	6—20
August	3—17—31
September	14—28
October	12—26
November	9—23
December	7—21

MARCH 16, 1920

FARMERS WANT UNION—BUT

Nobody questions the need of organization among farmers. The Maritime Farmers has done much to encourage the farmers to get together and work for their own interests. But the Maritime Farmer not only questions the wisdom of Maritime Province farmers uniting with the Grain Growers, but believes tbat the whole movement will work out to the disadvantage of the farmers of eastern Canada. There is nothing in common between the two groups. The eastern farmer has never been asked what he thought of the New National Policy and its many offshoots, all of which are in favor of the westerners. He is simply being asked to swallow the dose, and swallow it all. So far as this paper is concerned it for the east all of the time, and it is not worrying about the pretended woes of the man who mines wheat. The Maritime Farmer will stand behind the United Farmers of Nova Scotia, New Brunswick and Prince Edward Island to the limit; but to again quote Secretary J. B. Musselman, of the Saskatchewan branch of the United Farmers, "the association is a catspaw for a clique, who are out to further their own political ends." Incidentally they are out to soak eastern farmers for their flour and feed supplies. That is the sort of Union that this paper opposes. The farmers of British Columbia have refused to follow Winipeg blindly. That is what we want to do in the Maritime Provinces. Let us run our own show. We have the brains and we have the men capable of doing it.

WEST AGAIN AGAINST EAST

At the recent meeting of the Nova Scotia Farmers Association, a resolution was passed demanding in behalf of that province a share in western school lands, the idea being to use the fund for improving rural education in the province. The suggestion is a good one. It is fair, too. But it comes at a time when the several premiers of the western provinces are asking the Dominion government not to pay a cent to the eastern provinces. The west is asking for its natural resources, presently controlled by the Dominion government and they also wish to retain the special subsidies which Canada has been paying in lieu of control of these western resources.

So you see it is to be a fight between the east and west. There is no question but that the east has a just claim to remuneration for anything handed over to the west. The Maritime Farmer supports that. But have you thought what the attitude of the west will be? Today the Canadian Council of Agriculture has agents working throughout the Maritime Provinces trying to tie up Maritime farmers to that organization, with only one object in view—getting everything that the WEST THINKS IT WANTS. AND ITS WANTS ARE MANY. In order to better impose these and other views on eastern Canada the Grain Growers Guide, of Winnipeg, endeavored to buy the Maritime Farmer. Not being able to do that it has established its own organ, which is owned and controlled in Winnipeg. How much support do the farmers of Nova Scotia imagine they will get for their claims for a share in the western school lands from the Grain Growers Guide of Winnipeg? The Maritime Farmer will cheerfully support all organized farm movements intended to benefit the eastern farmer, but we again express the opinion that eastern farmers should control their own organizations. There never was a better illustration of the importance of maintaining our eastern viewpoint than the passing of this resolution by the Nova Scotia farmers. The ink is hardly dry on the paper before western farmers are pressing against the contention of the Nova Scotians. It's just another case that justifies the action of the Maritime Farmer in refusing to sell out to Winnipeg. There is little in common between the farmers of the west and the east.

CAN'T FOOL FARMERS OF DEBEC

The farmers of Debec refuse to be fooled by the propaganda of the western United Farmers (heretofore the Grain Growers). At a recent meeting of the leading farmers of that section the whole movement, on which interested persons in Winnipeg are spending thousands of dollars in an effort to rope in Maritime Province Farmers, was roundly condemned . Those "spellbinders" who are travelling about the country districts in this province promising to make the sun shine at night, were referred to by the farmers of Debec as "Demagogues and political adventurers." It looks as if the paid emissaries from Winnipeg are not making as much headway as they anticipated. The farmers of Debec, like the Maritime Farmer, think that we can run our own affairs without too much advice from the grain belt. Men who taxed this part of Canada, a short time ago, by an additional levy of $2,250,000 per annum on flour by a gentle raise of 50 cents per bushel on the prices of wheat, are just what Debec farmers believe them to be, "political adventurers." The Maritime Farmer does not presume to tell any farmer how he should vote. But the Maritime Farmer does not hesitate to join with hard headed men of Debec in expressing its opinion that the United Farmer movement as at present directed in these provinces, from Winnipeg, is intended to benefit the Grain Growers and work everlasting injury to the farmers of the Maritime Provinces. Figures in another part of this paper amply demonstrate that.

MEETING SPRING HALF WAY—DOING ODD JOBS ON THE FARM

Odds and ends of repair work on implements is one of the big items in a spring preparation campaign. Every season and every season's work, brings its share of wear and tear on farm machinery and now and then some little part goes out of 'kilter." A broken bolt, a break that has been replaced by a first aid fence wire bandage, a split tongue in the mower or reaper that carries two wooden splints securely nailed on and made still more secure by a few tightly wound strands of wire—relics of a near-accident in the harvest field last summer; a couple of teeth missing from the horse rake; one of the wheels of the spring tooth cultivator badly warped and twisted, etc. These are samples of a few of the defects a season's usage is liable to inflict on the tillage and harvesting equipment. A stitch in time invariably saves nine, and this instance is no exception to the general rule. According to all principles of good business, prompt repairs means a saving of dollars and cents for a neglected small repair can be counted on to result in a bigger and more costly break later on. Furthermore if the serious breakdown should occur in the midst of a busy season, when every minute of daylight is precious, the total cost of the accident may reach rather formidable proportions. As an effective means of side-stepping the possibility of serious delays later on there is nothing like a late winter or early spring implement overhauling bee.

But preparations for spring do not by any means begin and end with the housecleaning stunt in the implement shed, for there are other items of almost parallel importance. How about the big manure pile which adorns the barnyard? Sooner or later it has to be moved out to the land to supply plant food for next year's crop. Why delay the chore or moving it out to where it belongs? The manure spreader, of course cannot be conveniently operated in knee-deep snow, but on a good many farms the old reliable "Armstrong" make of spreader is still in use, and this "machine" seems to work better, if anything, when the snow si on the ground, for the reason that the sleigh is in many ways handier for hauling purposes than the wagon. Some have contended that spreading manure in the spring is a wasteful process in that under such a plan a portion of the fertilizing constituents are washed away in the spring thaws. No doubt there is some truth in this argument in so far as it concerns manure spread on steep slopes or in gullies where temporary spring freshets are likely to flow. But by sidestepping these areas—they will not amount to any great acreage on the average farm—and postponing their treatment until later in the spring, the farmer who gets the manure yard cleaned up in the late winnter certainly will not lose much in terms of plant food, and should the spring work come on with a headlong rush, as it frequently does, he may be leagues ahead in the point of valuable time saved through having this heavy chore off his hands.

We could, without difficulty, go on and mention several other matters which could very well be included in spring preparations, but after bringing the matter to notice by the suggestion of two or three of the more important ones we leave it to the farmer himself to complete his own programme.

HOME GROWN CROPS

An Address by Prof. J. M. Trueman, N.S.A.C., at the Recent N. S. Farmers Association

Before discussing some of the crops that may be grown on Nova Scotia farms, I would like to call your attention to the need for increased supplies of roughage. To illustrate what I have in mind, we will discuss for a few minutes the cows that are kept in the Province and the way they are fed. The report on the crops of Nova Scotia for 1919, published jointly by the Secretary for Agriculture and the Secretary of Industries and Immigration, gives our cow population as 159,985, or practically 160,000. The amount of milk given by these cows is not so easy to determine. It will probably not average more than 4000 lbs. per cow. The cows that supply the creameries of Nova Scotia, some 25,000 in number, have not given 4000 lbs. on the average, but probably the cows supplying the cities with fresh milk have done better. In one creamery where the average production per cow was less than 3000 lbs., one herd produced an average of 8000 lbs.

It will be seen from the figures that the production of Nova Scotia cows is not large. We do not need to leave our own Province to find illustrations showing that production might be greatly increased. This increase may be brought about by better feeding of the cows now available and without waiting for the slower method of improvement by breeding. I do not mean by that to discount in any way the importance of improved stock, or the importance of weeding out the poor producers. What I want to impress upon is the fact that much better returns could be obtained even from the cows now at hand, by improved methods of feeding. To illustrate this point, I would call your attention to the case of one man supplying cream to the Scotsburn creamery. This man believes thoroughly in the idea of liberal feeding. He buys cows of the type he wants wherever he can find them. He undoubtedly knows how to select fairly good cows, although he cannot buy the best in the country, as the Scotsburn farmers have become too sharp to sell them. The interesting point about this man's cows is that they generally give double the amount of milk to him that they were giving to the man from whom he bought them. With 15 of these very ordinary cows last year, he took $3100.00 in money for cream from the Scotsburn creamery. Beside this he had the skim milk for calves and pigs, and the large amount of fertilizer from these well fed cows to enable him to raise bigger crops and feed still more cows the next year.

It is interesting to note in an article written by Principal Cumming in 1912, that he estimates the yield of Nova Scotia cows at somewhere near 3000 lbs. of milk per year. The figures given a few minutes ago increased that average to 4000 lbs. Principal Cumming states that it would not be out of the way to expect each cow to give double 3000 lbs. per year, or 6000 lbs., and that even then the cow would not be considered a very profitable animal. We have today 160,000 cows in Nova Scotia, producing 640,000,000 lbs. of milk. This amount could easily be produced by two-thirds the present number, or by say 110,000 cows. In that case, we are feeding 50,000 cows more than are needed to produce our present milk supply. The food required to maintain that many cows is not less than one and one-half tons of good hay for the 7 winter or barn feeding months. This would only keep them alive, neither gaining or losing weight. That amount would be required to keep the cow machine going without returning anything to the owner. One and one half tons for 50000 cows means 75000 tons, worth today at $20.00 per ton, $1,500,000.00. I think we can put that amount down as a clear saving as the feed given these cows over and above a maintenance allowance, and all the pasture they would eat if given to the remaining 110,000 would give enough to make up the extra supply of milk we expect them to give.

What then is the remedy? Shall we kill off 50,000 cows and feed the remaining 110,000 a full ration? Evidently there is another way of dealing with the problem, and that is to raise more feed and have an abundance for the total 160,000. Is it possible to raise a sufficient amount on our Nova Scotia farms? Ask the people of Denmark to answer that question, or even ask the best farmers of Nova Scotia.

In an article written in 1913 by J. B. Spencer, Secretary and Editor at that time, of the Canadian Swine Commission, he gave some figures comparing the live stock population of Nova Scotia with that of Denmark. Denmark has 32 cows per hundred acres, while Nova Scotia only had 8. Denmark had 50 swine per 100 acres, while Nova Scotia had 4. If Denmark can feed 32 cows per 100 acres, surely we should have no difficulty in feeding 8, or in increasing our numbers to twice eight. These figures may not be exactly correct at the present time, but they are nearly enough correct for purposes of comparison.

You may perhaps wish to call my attention to the fact that Denmark imports great quantities of grain or mill feeds. That is true, but she can only afford to do so because she raises large quantities of roughage. We sometimes hear it said that Nova Scotia farmers cannot make money with cows because they buy so much expensive mill feed. Their failure is not due to buying millfeed, but to the fact that they are short of roughage, or home grown feeds and are trying to make up for this lack by using extra amounts of expensive grain. At this point we are reminded forcibly of the fact that the farmer's wealth, if he ever has any, comes ultimately from the soil. Whether he is successful or not in the general run of cases will depend on whether he gets much or little out of the fields which he tills. Large, abundant, enormous crops of hay, oats, turnips, silage and pasture mean prosperity. Given these the farmer can then afford to add to them reasonable quantities of concentrated feeds. Larger numbers of live stock can be fed liberally with roughage and the addition of moderate quantities of cotton seed meal, oil meal, gluten, middlings and bran will increase the richness of the droppings and subsequeı tly the fertility of the soil.

I dwell upon this phase of the subject because I am convinced that the time has come when we can help ourselves to the greatest extent by so fertilizing and cultivating the soil as to secure much greater yields than have been common in the past. If you suggest that I have been dealing in generalities, remember that what is true of the Province of Nova Scotia as a whole, is true for every farm that is feeding cattle. Furthermore, when you consider that what I have said about cows is true in a measure for all cattle, of which there are 247,000 in addition to the cows, you can see that the losses from poor feeding are enormous. The only thing that has kept the farmer from bankruptcy under this system has been the cheap gains made.

After this lengthy introduction, I am ready to spend a few minutes discussing the feeds we may raise. Our most valuable farm crop is hay—685,915 acres gives us almost 1,300,000 tons of hay this year, worth at $20.00 per ton, $26,000,000. I need not spend any time urging you to pay more attention to the hay crop.

The oat plant does well in this Province, and deserves to be grown in larger acreage and on richer land. An increase of 10 bushels per acre would mean 1,500,000 bushels on the 150,000 acres now grown. Both the oat grain and the oat straw are valuable products which fit into our method of farming to perfection. Oats for the horses, cattle and sheep especially, and straw for bedding for all classes of live stock makes this plant worth growing in the most approved method. It is a common belief that oats are exceptionally hard on the land but this is not true, a 2 ton crop of hay taking more out of the land than a 40 bushel crop of oats.

Large crops of turnips will pay well for the work of raising them. The Scotchman and Englishman who raises the finest cattle in the world, feed heavily with roots, often as much as 150 lbs. per animal per day. The Nova Scotia climate and soil are both well suited to this crop and it should be grown more extensively than at present.

One of the interesting feed questions at the present time concerns the value of silage. In countries adapted to corn growing, silage has proved of great value in cheapening the cost of production. Parts of Nova Scotia are suited to growing corn and where this is the case, it is a good plan to use it liberally. In the Northern and Eastern parts of the Province however, corn does not do well and oats, peas and vetches may be used instead. At Truro for four years, corn averaged 9.75 tons per acre and O.P.V. 9.62. The O.P.V. contained considerable more protein than the corn and also much more dry matter. The cost of raising the O.P.V. was much less than the corn, as there was no cultivating or hoeing to be done. In order to get a heavy yield of this crop, which is the only kind of yield that pays, well fertilized soil is necessary.

ere n mo,m alǫU vlt aots eh shrdluu

Another item of great interest is good pasture. We in Nova Scotia have not paid much attention to the improvement of our pasture. At the Agricultural College, we have for the past six years been fertilizing a permanent pasture and keeping account of the number of cattle it carried and the gains made. The fertilizers used have been wood ashes and basic slag. The last four years the slag only has been used and at the rate of 400 to 500 lbs. per acre. Some 10 to 12 acres have been covered each year so that it takes about five years to get over the whole pasture of 50 acres.

The results have been most satisfactory. The following table shows the number of animals pastured, the cost, and the gain made. The animals were mostly yearlings and two year olds in good condition for growth:

	Interest	Fert-ilizer	Pasture New Seeding	Fence	Total	Number Animals	Gain	Cost per lb.
1917	$102.00	$51.00			$153.00	37	3130	5c
1918	102.00		$152.13		259.13	37	4795	5.4
1919	102.00	17.00		48.00	167.00	34	5200	3.

The low cost of 3c per lb. for gain shows the great economy of getting as much gain as possible from pasture. Cost of gain in the barn will run to 20c a lb. at the present time.

Every man who sells a pure bred animal either to improve a grade herd or to start a beginner in breeding, should deliver a lecture to the buyer on the necessity for good feeding. It is perhaps so much our custom to encourage people to think that the good blood we are selling them is all they need, and that becouse an animal is pure bred it will necessarily be a great producer even in the hands of a poor to average feeder. Continually and everlastingly the fact should be kept before the buyer that of good pure feeding. I believe the best advertising for any association would be to claim that their breed could eat more feed than any other. If we could get farmers to racing with each other to see how much they could get their cows to eat, we would come pretty near solving the problem of the improvement of the cattle of this country. Some one may suggest that it would be easy to waste feed in this way. Such waste would not last long. The cow that failed to make a show down at the pail would soon go to the butcher.

I have suggested a smaller number of cows. How will that agree with our desire to increase the use of pure breds? To my way of thinking it is the only way of accomplishing our purpose. Whenever it becomes known that pure breds or highly bred grades are the cows that will respond to generous feeding, and generous feeding has become the custom, the demand will far outrun the supply.

Two things that have kept the scrub bull in existence are the numbers of pure breds that have been sold and the failure to feed properly either the pure breds in the small herds of beginners or well bred grades. This is a day when business efficiency is expected of every man. The farmer has sometimes been accused of getting high prices and of being a profiteer. I have kept farm accounts for many years and in many cases the farmer has not even yet in these days of high prices received an adequate reward for his labor and investment. Nevertheless we have no right to charge people any more than is necessary on account of inefficient methods, and along with our demands for just prices for our goods should go an honest effort to reduce the cost of production.

Increased numbers of well bred, well fed dairy cattle is one of the best ways to improve economic conditions of both producer and consumer.

EGG EATING HABIT

A subscriber informs us that one of his neighbors told him that the egg-eating habit had developed to such an extent among his hens that he had almsot despaired of being able to cure them. As a last resort he tried a method that gave wonderfully satisfactory results.

He took an egg and partly removed the contents by making a small hole in both ends of the shell and blowing out the white, sealed one hole with a little paste, and broke the yolk still remaining in the shell. He then filled this with ammonia, shaking the egg thoroughly to get the two well mixed. After sealing the remaining hole he took the "egg' to the henhouse, and laying it down on the litter, cracked the shell in sight of the hens and openly invited them to share in the feast.

They eagerly accepted the invitation, and after one mouthful they were equally eager to relinquish their place around the egg to some other hen.

Evidently the taste lingered, for when these hens were invited the next day to a banquet in exactly the same manner, but with an egg that was still warm from the nest and perfectly good, they refused the invitation and never again have any of them showed signs of wanting to eat another egg.

Gleanings of Agricultural Progress in New Brunswick

CO-OPERATIVE SALE OF WOOL

Co-operative sale of wool when compared with other co-operative enterprises is practically a new undertaking. However, it has met with marked success whenever given a trial and has saved the wool growers thousands of dollars.

Benefits Derived

1.—The wool is sold direct to the manufacturer thus the wool receives the market price, eliminating the dealers' profits.

2.—Wool growers are not at the mercy of the local buyers; outside competition forces them to pay a higher price.

3.—Co-operative marketing means the elimination of several middlemen.

4.—Organized selling considerably reduces the overhead expenses which have to be borne by the producer.

5.—Because the price depends on the quality marketing wool co-opertively results in better wool being produced and consequently better cared for sheep.

6.—The rate of so much per pound irrespective of quality is disliked. The wool grower with clean dry wool receives a premium for his trouble.

7.—Co-operative marketing of wool leads to co-operation in other lines.

History In New Brunswick

The first real attempt to market the New Brunswick wool clip in a co-operative manner was made by the New Brunswick Department of Agriculture in the spring of 1918. Wool was shipped to two grading stations which were established, one at Moncton and one at Fredericton. During 1919 this work was conducted with only one grading station, i. e., Fredericton and this plan proved very satisfactory. The fact that the amount of wool graded each year shows a substantial increase and that the number of satisfied patrons continues to grow speaks well for the success of this work. The growth of the co-operative wool marketing in the Province is indicated by the following table showing amounts of the various grades handled in each of the two years in which this plan has been followed.

Grade	Amt. handle in 1918	Amt. handle in 1919	Net price to Farmer 1918	Net price to Farmer 1919
Clothing ..	50		.81¾	
Fine Medium Combing ..	1778		.82½	
Med. Combing	18602	28550	.81¾	.67
Med. Clothing	39		.79	
Low Medium combing..	9502	28127	.75½	.62
Low combing		1092		.49
Coarse	691	334	.69½	.42
Cotts		230		.26
Rejects ...	4035	27	.42	.29
Grey and Black ...	3675	842	.50	.39
Locks and Pieces ..	150		.40	
Tags	152	638	.10	.08
Total ...	31735	55840	.771c	.627c

Average price in 1918, .771c.
Average price in 1919, .627c.
No. of shippers in 1918, 317.
No. of shippers in 1919, 547.

Plan for Marketing this Year's Wool Crop

Realizing that the co-operative marketing of wool has been one of the greatest factors tending to improve the sheep industry of the province, the Department of Agriculture is again assiting the wool growers in the marketing of the 1920 wool crop. The work will be conducted as in 1919 with one central grading station at Fredericton. The greater the amount of wool handled the less will be the expense per pound. If you have never marketed your wool in this manner previously, now is the time. Follow the methods of New Brunswick's most successful sheep men, market your wool clip in the most up to date manner. The wool is sold direct to the woolen manufacturers of Canada and the United States. The business in connection with the grading and selling is done by the Canadian Coo-perative Wool Growers, Ltd., of which A. E. Trites, of Salisbury, is the director for New Brunswick. About 90% of the market value of the wool will be paid when the wool is received, the balance after wool is sold.

For further information write to the Live Stock Division, Department of Agriculture, Fredericton, or to the Agricultural representatives of the Department, Mr. J. H. King, Moncton, Jas. Bremner, Chatham and J. H. Hoyt, Woodstock, or Mr. A. E. Trites, Salisbury, N. B.

FARM HELP

A number of young men from 18 to 45 years of age are expected overseas during the spring months. Most of these young men have never farmed, but are willing to work in order to gain experience. There will also be a number of families all of whom have some capital. The inexperienced ones will want work on farms for one or more years. Any person wishing help of this nature, especially persons who have houses for those with families may apply to the undersigned.

F. E. SHARP,
Supt. of Immigration.
Box, 643, St. John, N. B.

SHORT COURSE AT MONCTON

The N. B. Department of Agriculture conducted a two weeks' Short Course at Moncton, commencing Feb. 16th and ending February 28th. The Course was held on the second floor of the Farmers' Co-operative Creamery Company's building, 578 Main St., and was under the direction of Agricultural Representative for Westmorland, Albert and Kent Counties. He was assisted by members of the Provincial staff at Fredericton. Valuable assistance was also rendered by the two representatives of the Ottawa Live Stock Branch located at Moncton.

This was the first course of this kind ever held in this section of the Province. As a consequence, considerable missionary work was necessary to have some of the boys sufficiently interested to attend. In all twenty-nine boys and young men ranging from fifteen to thirty years of age, were enrolled. It should be stated, however, that a number of these were only in attendance for part of the time, yet it was very pleasing to note that as the Course continued, the attendance became larger. Several farmers came in at different times when opportunities were afforded them and listened to the lectures.

The Course comprised studies of Live Stock Breeding and Feeidng, A Study of Feeds, Milk Testing, Poultry Production and Marketing of Poultry Products, Soil Cultivation, the Principal Farm Crops grown in New Brunswick, Crop Rotation, Apple Culture, Production of Small Fruits, Fertilizers and Farm Book-keeping. These studies took the form of lecture work supplemented with practical work in Live Stock Judging, Seed Grain Judging, Milk Testing, etc.

At the close of the Course, the formation of a Young Farmers' Club comprising the boys attending, was suggested by the Agricultural Representative who explained the object of the Club. The sugestion met with the unanimous approval of the boys and the organization became a reality with Mr. R. C. Mann, Butternut Ridge, Kings County, as President; Placide Robichaud, Lower Goguen, Kent Co., Vice-President, and John Bateman, Shediac, Westmorland Co., Secretary. The Department of Agriculture purposes interesting the members of the Club in conducting experiments, competitions, debates, agricultural picnics, etc.

A very successful Short Course held at the Office of the Agricultural Representative at Chatham came to a close on Friday afternoon, February 27th. The attendance averaged up well, and on one or two occasions upwards of thirty listened to the lectures. On Seed Fair Day, seventy farmers were present.

Chatham is a very suitable place for such a Course, owing to the fact that some of the very best Farmers and Livestock Breeders in the province live within the radius of two miles of the town. With this convenience, considerable time was spent on Live Stock. Lectures were also given by the various members of the Department, on the following subjects:

The Care, Handling and Testing of Milk.
The Growing of Small Bush Fruits.
The Farmers Apple Orchard.
Bee Keeping.
The Care and Handling of Pigs.
Soil Cultivation.
The Value of the Pure Bred Sire.
New Discoveries and Nutrition.
Lime and its Effect on Soils.
Breeding and Feeding of Poultry.
Co-operative Marketing of Lambs, Poultry and Eggs.

The lectures on Co-operative Marketing were given by the Maritime Representatives of the Live Stock Branch.

Prizes were offered for the best essay on the afternoon spent at R. A. Snowball's Hen House. The following are the prize winners:

1.—John Beattie, Nash's Creek.
2.—Roy Perley, Middle Island.
3.—Elvin McKenzie, Ferry Road.
4.—Clarence Wearle, Centre Napan.
5.—Stanley Bremner, Middle Island.
6.—Colin Shae, Ferry Road.

The Black River Agricultural Society kindly donated a sum of money to be used as prizes in Seed Grain Judging. he winers are as follows:

1.—A. M. McDougall, Hexham.
2.—John neBattie, Nash's Creek.
3.—Colin Shae, Ferry Road.
4.—Roy Perley, Middle Island.

A Junior Farmers' Club was organized with the following officers:

A. M. McDougall, Hexham, President.

Russel Murray, Bartibogue Bridge, Vice-President.

Clarence Searle, Centre Napan, Secretary-Treasurer.

Directors.—Claude Kingston, Chatham; John Beattie, Nash's Creek, and Stanley Bremner, Middle Island.

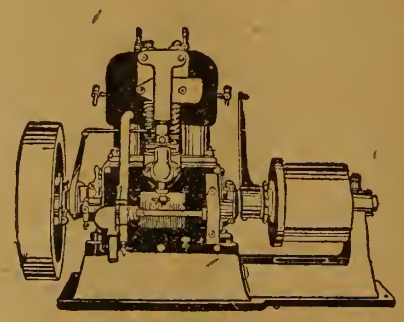
In about two or three months time, a Live Stock Judging Team will be formed to compete for a Silver Cup with the team from Moncton.

At the conclusion of the Course, the boys expressed themselves as well pleased, and a vote of thanks was passed to all who had helped to make the Course a success, and at the same time promised to boost Short Course Work with all their might, so that the one next year will be even a greater success.

There are two kinds of pure bred sires—good ones and better ones. A good pure-bred pays good dividends, but the better kind pays compound interest. The better the blood the better it will carry on down through the generations.

Farm science holds much for all of us—if we have eyes that see.

More Power Per Pound With Cushman (Light Weight) Engines



The weight of an engine does not determine the power it will give.

Cushman Light Weight Engines weigh only one-fourth as much per horsepower as ordinary farm engines—but they are guaranteed to deliver the full rated horsepower.

So well constructed, balanced and governed, they run more steadily and quietly than farm engines 4 or 5 times as heavy. It is the most practical engine for farm use—it can be easily moved from one job to the other—and attached to farm implements for work in the field. Every running part protected. No compression lost. Equipment includes Throttling Governor Carburetor, Friction Clutch Pulley and Water Circulating Pump.

If you want a good engine that is dependable, durable and accessible for all farm work, get the Cushman. Free booklet on engines sent on request.

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4 H. P.....Weight 196 lbs.
8 H. P.....Weight 320 lbs.
15 H. P.....Weight 780 lbs.
22 H. P.....Weight 1200 lbs.

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Distributors for Maritime Provinces

Notes From the Nova Scotia Agricultural College

DAIRY COMPANIES IN ANTIGONISH COUNTY. ANNUAL MEETINGS

The four days March 2, 3, 4 and 5th were important days for the Dairy business in Antigonish County, being the days set apart by the four co-operative creamery companies for the holding of their annual meetings. They were held successively on those four days, so that outside authorities on Dairy matters could be secured and could attend them all in the one week.

The first was the annual meeting of the South River Creamery Company, at Loch Katrine, on Tuesday. The financial report here showed a turnover if $29,798.81 and a neat surplus on hand over the year's expenditures. Messrs. D. H. McPherson, Glen Alpine, G. F. McDonald, Middleton, and M. Cleary, Lochaber, were the three directors elected for a term of three years. Some progress was shown here for a number of years along the line of Herd Improvement, but practically none during the past year. It is expected, hiwever, that the milk producers will make a more determined effort during the coming year.

Wednesday, the Milburn Creamery Co. Ltd.. held their meeting in their new hall over the Creamery at Malignant Cove. Here a large number of the patrons and shareholders gathered together to discuss their years work.

The Sec'y.-Treas.' report showed a turnover of $22,521.24, and a substantial credit balance on the years work. The following were the three directors elected fo rthree years: John A. McDonald, McCara's Brook; Hugh Smith, Pleasant Valley and Ronald Smith, Big Marsh. This company showed a substantial increase in business over 1918, but practically no increase in the average production per cow. Much better things are expected as the patrons grasp slowly but surely the principles that go to make successful herd imporvement.

Thursday, The Intercolonial Creamery Co. Ltd., South River Station, held their meeting in the Pomquet Hall. The attendance here was small; due probably that it was a specially fine day for outdoor work, but it was regretted that many more did not attend, to show their continued interest in this business. The Sec'y.-Mgr's. report here showed a turnover of $54,-551.48 and the business in the best financial condition it has yet been. The three directors appointed were Joseph Boudreau, Pomquet; Simon Periault, Fraser's Grant, and D. W. Chisholm, Heatherton. A number of herds in this district were tested regularly during the year for milk and butter-fat production, and showed good returns as compared with the average herd that was receiving no special attention.

Friday, the Antigonish Dairy Co. held their annual meeting in the Agricultural Demonstration Building, Antigonish. The Sec'y.-Mgr's. report showed a turnover of $59,682.70 and the business in good financial condition. The directors appointed for three years were J. C. Chisholm, Edward Haley, F. R. Irish and Allen Beaton. Here, there was more evidence of the work that can be done through systematic and intelligent handling of the Dairy herd and the application of modern methods in herd improvement. One patron that had an average herd five years ago gave the figures of his herd average for 1919, which, with a fair sized herd, showed an average of about 8000 lbs. milk, 320 lbs. fat, value $192.00 per cow. When these figures are compared with the average earnings of all the four creameries, about $33.00 per cow, it shows something of the possibilities in Dairying.

At the last two meetings, Dr. Hugh McPherson, the Ciunty Representative of the Dept. of Agriculture, addressed the shareholders in the interests of cow testing associations, stating that he hoped to organize local Cow Testing Associations in every section in the County during the year, and emphasized the necessity of greater production per cow to make the business profitable.

At all the meetings Messrs. H. R. Brown, Provincial Dairy Promoter for the Dept. of Agriculture, Ottawa, and W. A. McKay, Provincial Dairy Superintendent, were present. Mr. Brown dwelt on increased production as the means to decrease cost of production; the influene of feed and breed upon increased production, and the part that Cow Testing Associations take in improving conditions of both. He also expressed his appreciation of Dr. McPherson in pushing the work forward in Antigonish County.

Mr. McKay took part in the general discussion throughout the meetings. He impressed on the shareholders that this is a critical time in the history of dairying, and that it is of the utmost importance that every one do his part in the development of the work. The shareholders, the patrons, the directors, all assume large responsibilities, which it is their duty to fulfil. The manager is the pivot on which the business centres, and his shoulders must carry a large share in the responsibility for the success or failure of the business. Mr. McKay also outlined the part the Dairymen's Association and the National Dairy Council are taking to assure the milk producer right and just returns for his labour.

All four companies enter upon the year with optimism and the determination that the work now so well begun shall continue until Antigonish County shall be among the foremost dairy Counties in Eastern Canada, a position for which by nature it is so richly endowed.

SEEING THE LIGHT

Lower Brighton, Mar. 5,1920
The Maritime Farmer,
Sussex, N. B.

Dear Sir:

The March 2nd issue of your paper cetrainly speaks some plain truths as to the manner in which N. B. farmers are being hoodwinked by the Western Grain Growers. I would like to put a copy of that issue in the hands of every farmer in N. B. It would prove an eye-opener to hundreds of farmers who believe every word the Westerners say.

I am enclosing a list of name of farmers in my immediate vicinity whom I would like to have mailed the March 2nd copy. Enclosed find Postal Note to pay for mailing same.

Keep up the good work and tell Maritime Province farmers just the kind of a gold brick they are being offered.

Yours truly,
(Sgd.) D. F. TEDLIE.

DAIRYMEN, THINK THIS OVER

In 1919 we had 4,775 patrons sending cream to the creameries of Nova Scotia. A closely figured estimate gives these five cows each, or a total of 23,875 cows, which averaged 91 lbs. of butter fat in the year, valued at $54.60 per cow. In one creamery the average was down to $29.84 per cow.

The best herd reporting, which sent cream to the creamery, was one of 15 cows. It produced butter fat to the value of $3,126.46, or, $208.43 per cow. The best cow at the College of Agriculture, Truro, produced 579 lbs. butter fat, which, at the average price paid by the creameries, 60c per lb., foots up $347.40 for butter fat alone.

Think it over! The average cow among the patrons of one creamery producing $29.84, the average cow among all patrons of creameries in Nova Scotia producing $54.60, and the best cow of which records are at hand producing $347.40, nearly twelve times the first average. Making all reasonable allowance for family use, etc., there is surely vast room for herd improvement, and for advance along every line of Dairy method, indicated by these figures.

Here is a motto for 1920,—
EVERY CREAMERY PATRON A KEEPER OF DAIRY RECORDS.

NOVA SCOTIA HEARD FROM

Allow me to congratulate you upon the stand you are taking in the interests of the Maritime farmers. I could not help but feel that we had some agitators at the Kentville meetings instead of promotors for co-operative efforts in the interests of the farmers in these Eastern provinces. I believe that Prince Edward Island is organizing more sanely in the interests of the farming community.

IMPROVED POULTRY FOR NOVA SCOTIA

The Poultry Department of the Agricultural College, Truro, has completed arrangements to secure several thousand day old chicks for Nova Scotia farmers and poultrymen. These chickens are to be shipped direct from a New England poultry farm to each person ordering in Nova Scotia. There is no duty on these importations, but Express charges must be added to the prices quoted. The lightest packages consistent with safety are used, and the following will be a guide as to cost of Expressage. Twenty-five chickens in box will weigh 4 lbs.; 50 will weigh 9 lbs.; 100 will weigh 17 lbs. Any Express agent can tell from this what the charges will be on a given order.

The breeds from which selection may be made, and the cost per chicken, are as follows:—Rhode Island Reds, 32c each, S. C. White Leghorns, 31c each, Barred Plymouth Rocks, 32c each, White Plymouth Rocks, 32c each, White Wyandottes, 32c each. The chickens will be shipped direct from the hatchery to the persons ordering them. Shipments will be made between March 15'th and May 31st. Post Office address and nearest Express office must be given with each order. The safe arrival of the chickens is guaranteed by this firm or the money will be refunded by them. Chickens should be examined before leaving the Express office. If they do not arrive in good condition a receipt should be taken from the Express agent stating the number dead in the box. When the receipt is returned to the firm, they will return the money or replace the dead chickens. This must be done promptly on the arrival of the shipment at the Express office.

This is a splendid opportunity to obtain some first class poultry and thus get into profitable production. Chickens obtained from this firm have been tried out in Nova Scotia during the past three years and have proven to be very satisfactory both in growth and in egg production. The firm states that this year's lot are of extra vigorous stock. Many parties who raise poultry on a small scale would do well to club with a neighbour or two in securing a shipment. No order smaller than twenty-five can be accepted, and special arrangements will be necessary on all orders over two hundred.

Cash must accompany all orders for these chickens, and must be in the hands of the Manager of the Poultry Department, Agricultural College, Truro, before April 15th. No order can be accepted after that date. Be sure that Express charges are added to cash accompanying order, and address Mr. J. P. Landry, Agricultural College, Truro, N. S.

"FOR HOME AND COUNTRY."

The Women's Institutes of the Annapolis Valley are taking a keen interest in the development of plans to care for the feeble minded. A vigorous Institute in a Cumberland County town is supplying hot lunches for the school children who come too far to lunch at home at noon. Others are working for School libraries, carrying on courses in Home nursing, providing clothing for the Infants Home at Halifax, and in various other activities giving evidence of their good christian citizenship. The Institute at Bible Hill recently enjoyed an exhibit of Motion Pictures, illustrating gardening and vegetable canning processes. Miss McDougall is now laying plans for a course in Home Economics for 'teen age girls to be given early in the summer, after the schools close.

Are you aware our Canadian Dollar is only worth about Eighty Cents in the United States?

When you buy Acid Phosphate manufactured in the United States you are helping to depreciate still further the value of Canadian Money. The remedy is to

BUY SYDNEY BASIC SLAG

manufactured in Canada. This advice applies at present to all United States products.

THE CROSS FERTILIZER COMPANY, Ltd., Sydney, N. S.

Address all enquiries to our General Sales Agents as follows:

For NEW BRUNSWICK
C. T. Logan,
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For NOVA SCOTIA and P. E. I.
R. A. Beckwith,
3 Belmont St., Amherst, N. S.

IMMEDIATE SHIPMENT OF BASIC SLAG CAN BE GUARANTEED

DAIRYING.

WATERING COWS IN WINTER

There are two remarkable things about dairy cows. One is the enormous amount of water that a heavy milking cow will consume in a day, and the other the small quantity of drink that some cows can exist on, especially if they are dry or nearly so. That may seem a strange statement but it is not contradictory, as any farmer who has made a careful study of feeding dairy cattle will testify. Whole milk consists of about 86.4 per cent. water, and several United States dairy authorities claim that the average dairy cow requires almost four pounds of water for every pound of milk produced. What does that amount to per cow per day? According to the above figures a heavy milk cow on test would require 300 pounds of water per day and the average cow somewhat over 100 pounds. Part of that amount, of course, would be supplied in feed consumed, but the major portion would have to be accounted for from the farm well.

On the other hand cows that are not milking are able to exist on a very small allowance of water, in fact, it has been proven many times, that their requirements are just about one-fourth that of a milking animal of equal size and weight. That figures out about twenty-five pounds daily, according to the consumption of the average cow. That is not a very large amount, yet it is very necessary for the proper digestion and assimilation of food, but cows being creatures of habit they easily become accustomed to existing on less, if for any reason they have not free or proper access to the maximum supply.

What then is the proper method of watering dairy cows in winter? Should they be turned out daily to drink from a trough in the yard, or would it be better to have the water in the stable, and if so, what is the proper system? For cows that are dry and do not require a great quantity of water, turning them out daily does not seem to injure them any, and the method may have some advantages. It enables them to obtain exercise and fresh air, and considering the small quantity of water consumed daily by a non-milking animal, watering once a day should be sufficiest. However it is an entirely different proposition with milking cows, and no breeder can afford to take such chances as are incurred by turning out heavy milking cows on a cold winter's day. The fresh cow is liable to chills, and the arguments that are used in the cause of outdoor watering of dry cows, do not hold good in the case of their milking sisters. Take for example a cow on test, producing say 80 pounds of milk per day. As already pointed out, she will require some 300 pounds of water daily, but how is she going to consume that amount at one time, as she must do, if turned outside for water? Why, it is a physical impossibility, to say nothing of the effect of drinking so much ice cold water at one time. The results would be disastrous in spite of the greatest care. Then there is the matter of exercise, but that is easily accounted for in the energy required to produce a yield of 80 pounds of milk daily. It is not necessary that such a cow be chased around the straw stack a few times each day in order to keep her in perfect health, although we believe from practical experience that a certain amount of movisg about is beneficial, but that can usually be obtained by turning them into a box stall, or some protected shed. At any rate it is not necessary to turn such heavy milking cows out every day, regardless of the weather, in order that they may retain the equilibrium of their limbs.

Granted, therefore, that dairy cows should be watered inside the buildings, what is the best method of supplying it to them. Should the continuous trough or manger be used, or individual water bowls installed for every pair of animals? The former methods have some advantages, it is true, especially the continuous trough, but the practice of running the water in a continuous manger does not appeal to us as a satisfactory or a wise policy for any farmer to follow. It is always sloppy, inconvenient, does not permit the chill to escape from the water before the cows start to drink it, because it cannot be left in the manger except at certain hours, and, furthermore, it is a direct carrier of tuberculosis. In regard to the latter, the continuous trough is also a disease carrier, but it enables the herdsmen to keep a supply of water in front of the animals at all times, thereby eliminating to a great extent the icy chill so common on water drawn from a well or storage tank during the winter months. The individual water bowls overcome most of the above difficulties. They prevent the spread of tuberculosis through the drinking water and since they work automatically there is always a supply of water exposed to the warm stable air, consequently the chill is removed to a very large extent. They are more expensive to install, but they save a tremendous amount of labor and once installed require but little attention unless the stable is so cold that they are liable to freeze up. They supply water to the animals at all times, a very important item in the care of dairy cattle, and in a herd where winter dairying is carried on there appears to be no economic argument against the use of individual water bowls.

Healthy Live-Stock Pay Big Profits
Cows give more and richer milk, Horses work better, and Hogs fatten more quickly when
Pratts Animal Regulator
is added to the daily ration.
For nearly 50 years, Pratts has been recognized as the one reliable stock tonic and conditioner that always brings good results and never injures the stock.
Pratts does not force development at the expense of the animal's health. It acts gently and surely on the digestive organs, tones up the entire system, keeps the blood cool, the bowels free and the general health at top notch all the time.
At your dealer's in popular priced pkgs., also in money-saving 25-lb. pails and 100-lb. bags.
Money Back if Not Satisfied.
PRATTS Disinfectant keeps the stable free from lice. Kills germs and prevents disease by keeping the quarters sanitary. In 1 gal., ½ gal., and 1 qt. cans at your dealer's.
PRATTS Healing Ointment heals naturally and quickly, without leaving dangerous scabs.
Sold in boxes at your dealer's.
Write to-day for FREE book on Care of Cattle, Horses, Sheep and Hogs.
Pratt Food Co. of Canada, Ltd.
328H Carlaw Ave., Toronto.
AR-22
Pratts

Hogs sold off Canadian farms in 1919 exceeded $80,000,000 in value. More than 40 per cent went direct from the farm to the packing plants.

Singlehanded neither the farmer nor the packer can expect to enter the vast field for exports; only by the united efforts if both can it be done.

The Minister of Agriculture, Hon. Dr. S. F. Tolmie, in an effort to encourage the raising of more livestock, points out that the export of Canadian meats must help to pay the nation's war bill.

Canada exported to Great Britain in 1918 only about 2¼ per cent of the total importation of beef there. During the past six months there has been practically no export of beef—a fact touching production and marketing that should receive the joint attention of farmer and packer.

A cent up or down in the wholesale price of hides makes a difference of 14 cents a hundredweight for the beef. In old-fashioned butchering hides were often partly spoiled. In modern packing eight or ten experts take off each hide. This specialization gives a better grade leather and enables the farmer to get a better price for livestock than the local butcher can pay.

As long as we make good butter the dairy industry in Maritime Canada has a splendid future. The production of poor butter means that the people will turn to substitutes.

When honest men look back over the past they can conveniently see where they could have done some things better, grumbled less in doing them, or judged with more charity those with whom they were associated.

THRIFTY, LUSTY CALVES

TO raise calves that are profitable, that make good beef or become a valuable addition to your dairy herd without the use of milk is possible through the use of

INTERNATIONAL GROFAST CALF MEAL

Grofast makes a pleasing and nutritious gruel, eagerly eaten by calves, making them grow sleek, thrifty and lusty. When compared with new milk the cost is infinitely less—yet the results are equally as good.

Grofast Calf Meal is endorsed by thousands of successful breeders throughout Canada as the finest substitute for new milk. Try it yourself—you will be more than pleased with the results.

Sold in 25, 50 and 100 lb. bags. For guaranteed results demand Grofast and refuse substitutes.

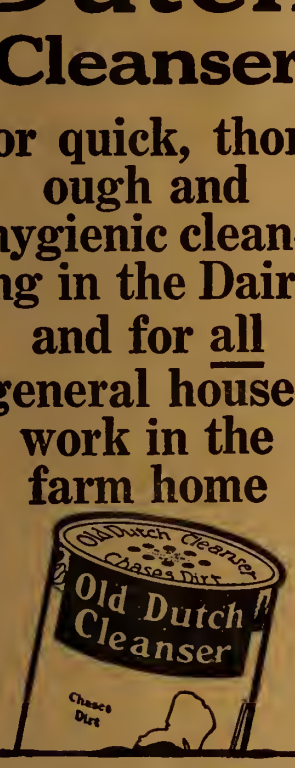
Dealers everywhere sell GROFAST. Or write us.

INTERNATIONAL STOCK FOOD CO., Limited
TORONTO CANADA

Use

Old Dutch Cleanser

for quick, thorough and hygienic cleaning in the Dairy and for all general housework in the farm home



secy. Brook Hill Farm, Wis., are a few of the thousands who give testimony to the value of clipping. These men represent three of the largest, best operated and most successful dairies in America, and their recommendation re clipping, coming unsolicited, should be sufficient to dispel any fear or doubt that may still linger in the minds of any dairymen.

The advantage of clipping cows is not confined solely to the possibility of producing better milk, but it also aids in keeping the cows clean. In fact, it lessens that end of the work by about seventy-five per cent., a fact readily admitted by anyone who has had any experience in caring for clipped and unclipped cows.

There is no use arguing the point that unclipped cows cannot be kept clean—they can, but the cow that will require five or ten minutes' vigorous brushing to make her look anything like clean, can be done equally as well in two or three minutes if her head, neck, and hindquarters are clipped. The hair being short the small particles of manure that are almost certain to become attached to the cow's thighs, even in the cleanest stable, do not obtain a firm hold, and it is but a moment's work to brush her clean again. It is the same with the dust that accumulates so fast. A moment's brushing will clean a clipped cow, whilst it requires several minutes to go over an unclipped one.

However, in order to keep cows cleas it is not necessary that the whole body should be clipped. That requires considerable time and if the cows are properly tied in their stalls it is not necessary. By that is meant having them tied in such a manner that they are enabled to turn their heads around and lick themselves, and any contrivance used for tying cattle that does not permit of such action is not a fit equipment to use on any beast—it is unhuman. If the thighs, udder, rump, head and neck of a cow are clipped the work of keeping her clean is very little more than if her whole body had been gone over. Of course the animals do not look as attractive as when they are clipped all over, but a good man with the clippers can make a real nice job after he gets on to the way of doing it. A little patience, a steady hand and a good power clipper are all that is required.

As soon as the herd is stabled for the winter the udders and hindquarters of the animals should be clipped. It may be necessary to make about two trips over before the work is completed. First the rear parts (those more susceptible to dirt) are done and later the heads, necks and a little trimming along the back completing the job. The whole performance is repeated again about March, with possibly an occasional trimming up of the thighs, flanks and udder between times. At any rate the work does not take long and the ease with which it is possible to keep that herd clean is sufficient to pay for many more clippings than they receive. The young heifers and bulls that are running loose in the box stalls should be trimmed up from time to time, as it improves their appearance, thereby making it easier to sell them.

In short clipping the dairy herd is an advantage but it must be done before the animals become dirty. There is nothing that will ruin a clipper faster than trying to clip around where even a little manure has become caked or a mat of dust has become bedded in the hair. If the work is not done early in the winter it requires a lot of cleaning before it can be attempted later on. In fact, washing the dirtier parts with warm water may have to be resorted to if the work is to be done satisfactorily, but nevertheless we are firmly convinced that clipping is a paying proposition both from the standpoint of labor and sanitation.

CLIPPING DAIRY CATTLE

There are few men in the dairy business who are better known than David Gibson, herdsman for the famous Strathglass herd of Ayrshires at Port Chester, New York. Dave is Scotch, possesses a fund of humor, knows a good cow and hails from Kirkcudbright, Scotland. He is a past master in the art of caring for dairy cattle, and there are few men on this side of the "herring pond" who keep their charges in better condition. The milk from Strathglass is sold as certified and ranks as about the best produced in the State of New York. Dave was recently asked how he managed to keep the cows so clean and the bacterial count in the milk so low, and his reply was a most interesting one: "Clip your coos, mon, it is impossible to produce certified milk if you don't; it should be made compulsory."

In that regard Dave is not alone, but has an able seconder in most every stable where clean milk is being produced and any particular efforts are put forward to keep the animal clean. Geo. Murphy, Supt. Sunny Beach Farm, Conn.; E. P. Brown, Supt. Louden Hill, Farm, Pa., and H. T. Green,

De Laval Service covers the continent

This map shows how completely the service of the De Laval organization reaches every community

Every separator user realizes the importance of having his separator in use every day. Delays waiting for parts, with a separator out of use, mean great inconvenience and loss of product.

Every dot on the map represents ten De Laval agents, and every De Laval agent is individually trained to assist his customers in setting up and operating their machines, to furnish and put in place repair parts, and to ensure prompt service and satisfaction to De Laval users.

Not only is the De Laval Cream Separator superior in all points of separator efficiency, but every user of a De Laval is assured of prompt and competent service for all the years to come.

It is therefore not surprising that there are more De Laval Separators in use than all other makes combined. Now is a good time to begin saving time and product by securing a De Laval.

The nearest De Laval agent will be glad to demonstrate a De Laval. If you do not know his name, write to nearest De Laval office.

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2100 lbs. of whole Milk at $3.10 per 100 lbs. — $65.10

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200 lbs. of whole Milk at $3.10 per 100 lbs. $6.20
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LIVE STOCK.

THE LIVE STOCK MEETING

By Hon. W. M. Lea, Charlottetown

During the first week of February practically all of the pure bred live stock associations of Canada met at Toronto to hold their annual meetings. Hundreds of prominent stock men from every province of the Dominion met daily in consultation over the various problems that were of interest to their particular breeds. Brother breeders from the far east and west rubbed shoulders, told stories, exchanged experiences, and became acquainted with conditions in each other's land; a good spirit of fellowship maintained throughout the entire series of meetings, encouraging increases in membership and in registration and transfer of ownership of animals of nearly every breed was reported, showing the deep interest being taken in the breeding of improved live stock. Demand for high class animals was never so great, showing that breeders, feeders and producers of all classes of animal products are fully alive to the importance and economy of using only breeding animals that have been bred and raised for special purposes. These are the men who are doing big things for Canada. The value of the improved blood sent out into every part of the Dominion by these men each year is almost inestimable; these are the men who are largely responsible for the increasing yearly average of production of our dairy cows, of the increasing quality of our wool and mutton, of our improved bacon hogs and all other animals of our farm. Progressive programs were adopted for 1920, one of which was the voting by the Holstein and Shorthorn Associations of one third as much money as was offered by any provincial exhibition to their breed; that is, special prizes, equalling one dollar, for every two of the fair board for these breeds. Those men evidently believe that provincial agricultural shows are worth while; they are men who fully understand the benefit of breeders meeting in yearly competition and the encouragement given by such competition for the further improvement of stock owned by such men. This, they are fully aware, is the best possible means of keeping the breeders keyed right up to the limit in seeking still better sires. And when they as a body vote to yearly expend the greatest part of their surplus for such purposes, it should convince the few sceptics that there must be something of great value in connection with a provincial or interprovincial exhibition. Pure bred and high grade stock are selling today as never before. Every intelligent farmer is either raising them or endeavoring to get into line. No scrub sire should be tolerated longer. If improved animals are more profitable, why not raise them, and if a pure bred sire is half the herd or flock, why not by the purchase of one have them half pure at least.

THE PROPER CARE OF ANIMALS

Animals properly cared for will give much better returns on your investment than neglected ones. And no one thing in their proper care shows better results in thrift and returns than the regular use of Herbageum and at a cost of only five-sixths of a cent a day for each horse, cow or pig. It enables one to use a greater amount of roughage thus saving expensive feeds, and without loss in returns.

It keeps animals free from vermin so that lice killers and sheep dips are unnecessary. It is the best thing known for calves and a 4-lb. package will make one ton of skim or separated milk equal to new whole milk for calves. The bone, flesh, muscle and nerve qualities are in the skim milk and the Herbageum ensures its assimilation. Do not waste money on Calf Meals simply add to 400-lbs. of ground oats or any good meal or mixture of meals, 4-lbs. of Herbageum and 1-lb. of fine salt. Mix well, stir about two cupfuls in a gallon of scalding water and feed warm.

If you cannot buy Herbageum where you deal, the Beaver Mfg. Co., Ltd., of Galt, Ont., will send to any Post Office in Canada, a 4-lb. package by registered parcel post for $1.40, or will deliver freight prepaid at your station 50-lbs. for $12.00 or 100-lbs. for $23.00. In all cases Cash with order.—Advt.

DOES THE FALL LITTER PAY?

There is much discussion as to possible profits to be obtained from the fall litter particularly when farrowed late.

A sow farrows on April 1st., nurses a litter six weeks, is bred a few days after and farrows a second litter in early October. Where facilities are present for earlier farrowing of the first litter the second may be benefitted by August or September birth. During the summer, of course, the sow must have extra care, preferably on a pasture of clover and, later, rape, with plenty of shade, a wallow, occasional applications of oil to kill lice, and a light meal ration of strength, quantity and frequency of feeding dependent upon her pasture opportunities. If she does not get this good care after having nursed her first litter faithfully, her second litter will likely be a disappointment,—few in number, small, weak, and unthrifty. Further, if she is much pulled down, when bred after weaning her first litter, her second litter will be unprofitable, in any case, no matter what her summer care.

So that much of the disputed success or profit from the second litter depends on the proper attention to the above preliminaries,—breeding the sow only when she has recuperated, even at the expense of a litter later in farrowing, and giving her special attention during the summer.

For the fall farrowed pig needs every aid and no handicaps. The man who can unfailingly carry through the winter a fair percentage of September and October pigs is a true and tested hog breeder. For, give such pigs fairly warm quarters; they get runty, pot-bellied and hump-backed; develop rheumatism, cripple and pass out after having been a nuisance to themselves and their feeder. Give them a colder pen; they act as above, only more so; they pile in a steaming heap, or burrow into the damp straw. There is no more God-forsaken creature than a poor-doing fall pig in January.

Apparently, the radical method of outdoor housing as used for breeding stock may be adopted for the fall farrowed pig, in a modified sense. Where a sow can be given the use of a dry, open shed in a corner of which is made a low straw-covered sleeping berth, well bedded inside, and where she can wander about a barnyard with her charges until they are weaned, the pigs become hardened or used to the gradually increasing cold. Provided their sleeping pen is dry—little crippling will ensue. If they have been supplied during the later stages of the nursing epriod with a "creep" containing a small self-feeder and a trough of skim milk, little check will be evidenced at weaning. They may be carried on through the winter on the self-feeder with a warm sloppy drink daily and a supply of earth, ashes and charcoal. From evidence available at Ottawa during the past two years, this system of management will result in less mortality than any other. The dry quarters, exercise in the barnyard and the self-feeder as a constant source of nourishment are apparently responsible.

BEWARE of a meal ration with too much fibre!

Ground oats, 2 parts, or one part each of barley and oats; shorts, 2 parts; ground corn, 1 part; oil meal, 10%, constitutes a good ration for the growing pig. Elevator screenings, if of high quality, may be added at four months of age and the corn increased considerably as the pigs near the finish. Milk in some form is the best feed of all. Failing this, tankage may be supplied in a box or small self-feeder. Clover or alfalfa hay in a small rack will be greatly relished and is a cheap winter supplement, too frequently forgotten. Ashes, charcoal, sods, earth, etc., are very necessary. Such hogs should be ready for market in April or May, when there is usually a good demand.

In brief, the fall litter is all too frequently a losing proposition. By exercising care in the breeding of the

INTERNATIONAL STOCK FOOD TONIC

How has Winter Affected Your Stock?

Winters are hard on stock, and the most trying time is when Spring approaches. After dreary months of inactivity, animals, like humans, need a good tonic to give them new life and vigor while awaiting the freedom of Spring. Successful stock breeders depend on International Stock Food Tonic as Nature's substitute. It is the ideal Spring corrective, and is economical; providing

3 FEEDS FOR 1 CENT

It is endorsed as invaluable by breeders all over Canada, and the following testimonial is typical of hundreds received.

Calumet Island, Que.

Dear Sirs:
I have been using your International Stock Food Tonic on my horses, cattle and hogs all winter; it is certainly a great blood purifier and tonic. My stock are in as good condition as they would be in the summer months. I would not want to be without International Stock Food Tonic again. (Signed) W. J. DEROCIUR.

Sold by all dealers. In convenient packages 30c, 60c, $1.20 and $1.75 tins, also in 25 lb. pails at $3.75

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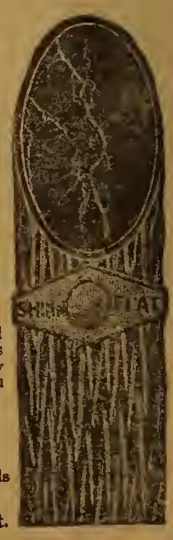
Are scientifically the nearest approach to absolute protection that has ever been devised. Their form gives them 36% greater electrical carrying capacity than old style round cable of the same weight and number of strands—putting them in a class by themselves and making them much easier to sell. There is no competition for Shinn-Flat.

Lightning Can't Strike if Shinn Gets There First



We want good dealers who are interested in a specialty line that sells readily and affords a good margin of profit. Every property owner is a prospect. Ask us how we help you get started.

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Successful Men Always Saved

They were thrifty. They were shrewd enough to see that the habit of saving meant the strengthening of character. With the money saved they were able to take advantage of opportunities as they arose.

Resolve today to open a Savings Account in this Bank.

Paid-up Capital $ 9,700,000
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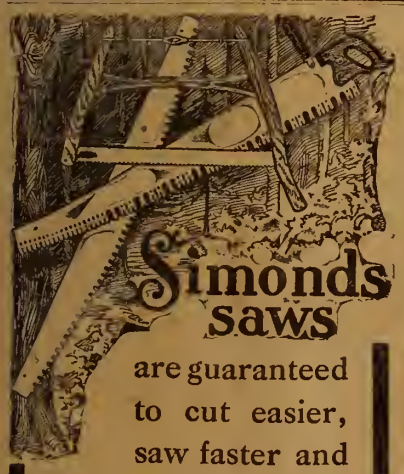
33A

sow and in her summer care,—by housing her and her litter as suggested in the late fall and winter,—the fall litter may be made a profitable "side line" without interfering with the sow's chances for her main effort,—the spring litter.—G. B. Rothwell, Acting Dominion Animal Husbandman.

DETERMINING AGE IN SHEEP

The number of years of usefulness of a ewe will naturally depend somewhat on the care she receives, together with the natural constitutional vigor possesses by the animal. As a rule, a ewe at five years is beginning to show age as indicated by the loss of teeth or as is commonly known, broken mouth. Once a sheep has lost the greater part of her teeth she might better be sent to the butcher as she is not able to make the proper use of her food. Keeping in mind that the ewe is at the best only useful for a comparatively few years, it is important to be able to determine their age accurately. Further, as a basis for culling it is desirable to have this information. The appearance of the teeth is a pretty reliable indication of the age of the sheep. The lamb shortly after birth is in possession of a full set of milk or temporary incisor teeth, four pair. These differ from the permanent teeth, in that the milk teeth are much smaller, narrower and whiter than those that follow. When the lamb is from 12 to 14 months old the middle pair of milk teeth are replaced by the permanent teeth, at two years to 28 months the second pair—one on either side of the first pair—appear. The third pair appear at from three years to 38 months and the appearance of the fourth and last pair is when the sheep is approximately four years old. The date of the appearance of the different pairs of teeth as mentioned may vary somewhat, depending upon the development of the lamb. In other words, a lamb that has been pushed along say for show purposes will sometimes have their first set of teeth before they are a year old, on the other hand, a poorly developed lamb may not get its first pair until 18 months old. There are also cases on record where a yearling has shown a two-year-old mouth. However, the ages established on the method outlined, although not absolute, are approximately correct.



are guaranteed to cut easier, saw faster and stay sharp longer than any other brand of saw at any price. S-56-1

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DUAL PURPOSE COW WILL BE BOOSTED

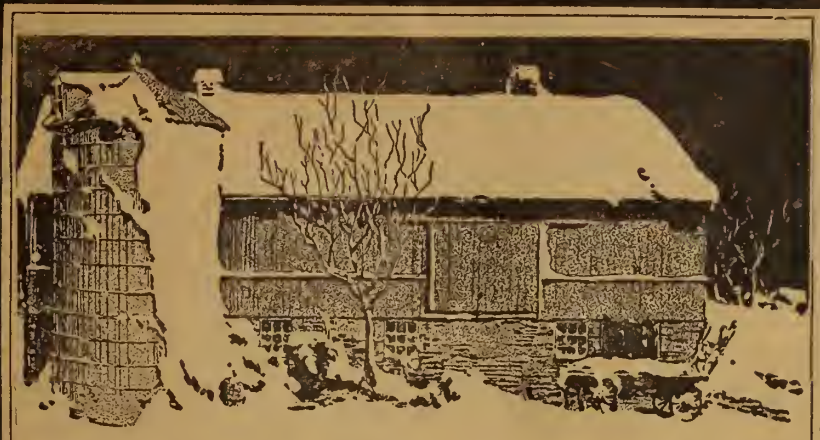
The Dual Purpose Shorthorn Club lately formed for the purpose of promoting the interests of this strain of cattle in Canada, held its first annual meeting in the Carls-Rite Hotel, Toronto, on February 2. The first day of the Annual Breeders' Convention, Mr. G. Smith, Meadowvale, Ont., occupied the chair, and explained the objects of the club, which had been formed to encourage the breeding of Shorthorn cattle with milking qualities for the dual purpose of supplying beef and milk, to hold exhibitions and sales of live stock and to provide prizes and premiums for competition amongst breeders, to establish a register or record of milk production and to grant certificates or records thereof.

A board of directors was appointed with Mr. G. L. Smith as president and Mr. I. B. Whale, London, Ont., secretary. The club will later be affiliated with the Dominion Shorthorn Breeders' Association.

In addressing the meeting, Prof. Barton, Macdonald College, said it was high time that the dual purpose cow was placed on the map, and that there was no possibility of doubt in regard to her utility. He warned breeders of the dual purpose Shorthorn not to fall down on the extreme dairy type in their choice of animals for breeding. As a pure dairy cow they were not naturally fitted.

In discussing the standard of many of the bulls noted among Dual Purpose Shorthorns, he said there were far too many plain headed animals and a plain head gave an indication of other plain features. There was a co-relation of character that was found in other breeds as well, that had the plain headed fault. The three things to judge the animal by were character, substance and type.

Prof. G. E. Day, Guelph, Ont., advocated keeping the Dual Purpose Shorthorn as near the typical beef Shorthorn as possible, and gave instances of Scotch topped cows, in Canada that had records of 10,000 and 12,000 lbs. of milk. He advised breeders of the Dual Shorthorn to get away from long legs, long heads, and long necks, as they usually accompanied, short-ribs and weak constitution.



Now is the time you need an IDEAL GREEN FEED SILO

It provides succulent feed during the cold winter days, which enables the cows to give 25% more milk than if they were fed on a dry feed ration. And a silage ration is considerably cheaper than a dry ration.

At the present high prices of milk and butter-fat, no dairy farmer can afford to go through another season without a silo. Soon the rush of spring work will be on and the question of getting a silo may again be sidetracked.

Plan for your silo now

An Ideal Green Feed Silo will make better silage than any other silo, and will last longer. Thousands of Canadian cow owners have proved this to their own satisfaction.

Write to nearest office for catalogue, which describes the Ideal Green Feed Silo and gives valuable information about silage.

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LIVE STOCK NOTES

The Dominion Live Stock Branch announces a new policy to be known as the "Sire Purchase Policy" which will become effective in the different provinces as announced later.

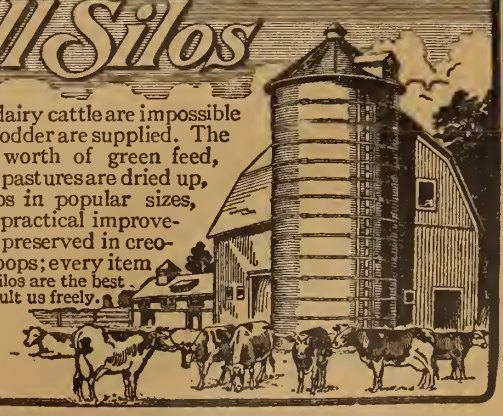
Under the term of this policy bulls, boars, and rams will be purchased on order by competent employees of the Branch, and will be sold to applicants at the original cost price plus the freight. A deposit of $50.00 with the order will be required in the case of bulls, and of $10.00 in the cost of boars or rams. An applicant will be required to remit the balance of the purchase price either direct or through his bank before delivery is made.

In the event of a considerable number of applications being received from any one territory, exchange stables will be provided by the Branch for the assembly of the sires with a view to executing orders more promptly, and for the purpose of giving applicants an opportunity of making their own selection out of the number on hand.

Roundly 2,332,400 hogs were slaughtered at Government-inspected packing-houses last year. The increase of 72,000 on the previous year came wholly from Ontario and Quebec. Numbers from the West dropped.

Bissell Silos

Maximum results with beef or dairy cattle are impossible unless regular rations of green fodder are supplied. The Silo saves hundreds of dollars' worth of green feed, which can be fed when summer pastures are dried up, and in winter. We make Silos in popular sizes, air-tight, substantial, with all practical improvements. Pine or spruce staves preserved in creosote oil, two-step doors; steel hoops; every item and arrangement is correct. Bissell Silos are the best for the money. Let us prove it. Consult us freely. Literature and prices on request.



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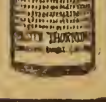
You can get two preparations—endorsed by the leading horsemen of the Dominion—which will save and preserve the lives of your sick, ailing, lame horses and cattle.

Dr. J. Woodbury's Horse Liniment and Condition Powders

They are specifics for Cough, Distemper, Colic, Glanders, Spavins, Pink Eye, Splints, Curb, Enlargements, Cracked Hoof, Founders, Kidney Troubles, Fever, Cuts, Sores, and will remove bunches of any kind.



Every Horseman and Farmer should keep these standard preparations in the stable.

Sold by all Druggists and General Stores.

Prepared by
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COOKSHIRE, Que. 101

THE HORSE

CARE OF HORSES' FEET

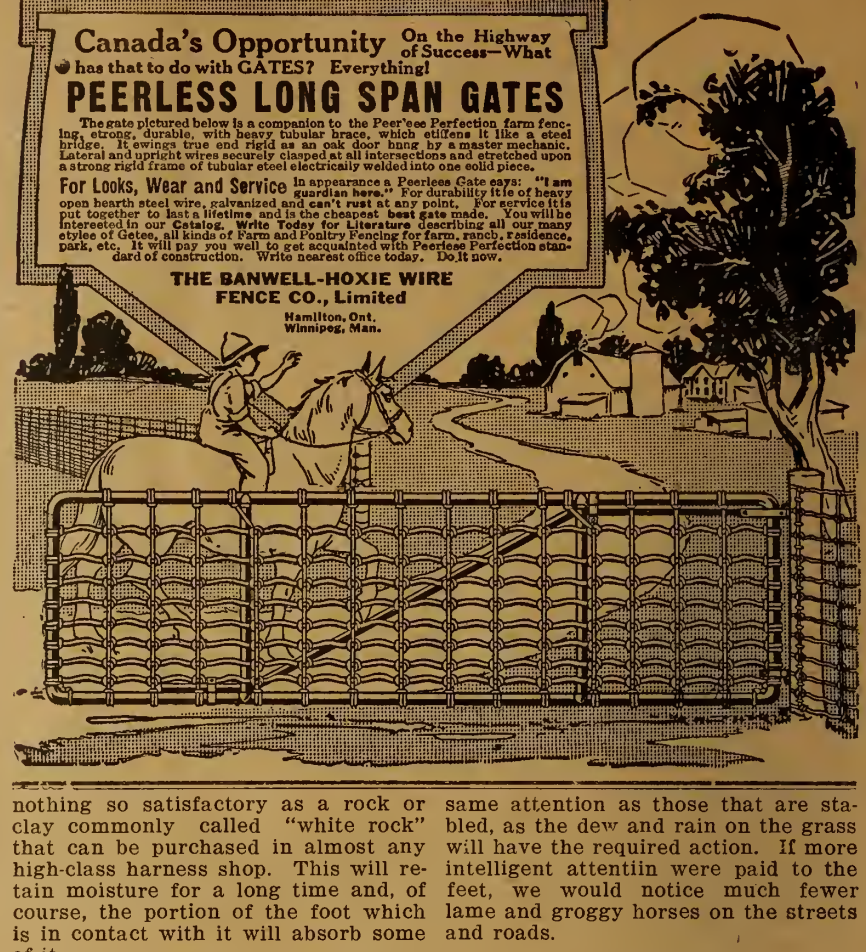
Every horseman recognizes the importance of good feet in a horse. There is a great deal of force in the old adage "No feet, no horse." While some horses have congenitally weak feet, and require very careful usage to prevent disease, many go wrong in their feet as the result of careless or ignorant treatmnt. The foot of a horse is a complex organ, and subject to many diseases, the causes and symptoms of which we cannot discuss in one article, hence will discuss only the means of preventing disease.

The main object to be observed is the keeping of the feet in as natural a shape and condition as possible. There is, under normal conditions, a constant [illegible] of all the horny or [illegible] on-vascular parts of the foot, as the horny wall, horny sole and horny frog, and we can readily understand that if there be not an equally constant waste, the organs will assume an abnormal size, and as a consequence become ill-shaped. Of course, during youth, while the animal is growing, the growth of the feet, like that of other organs, exceeds the waste, hence they increase in size. In the state of nature the natural wear and tear on the unshod foot equals the ordinary growth, hence keeps it in proper shape and of proper size, but, owing to the artificial manner in which horses are of necessity reared in cold climates, their feet require more attention than they frequently receive. Interference is seldom necessary, until the first winter, as during the summer months when the colts are at large the natural wear will suffice, but when the weather becomes cold and they are kept in the stable the greater part of the time, often in stalls that are not regularly cleaned out, (which state favors the growth of horn) the wear becomes infinitesimal, and unless attention be given, the feet become abnormally large, deep in the heels, long in the toes, and abnormal in shape to such an extent as to render it impossible for the animal to stand or move naturally. This condition abnormally increases the tension on some of the tendons and other ligaments and correspondingly decreases that of others. If this is allowed to continue the ultimate value and usefulness of the animal will be affected. In order to prevent this the feet should be pared or rasped down to the normal size and shape every few weeks during the period of stabling. The heels should be kept well pared down, the wall rasped off on the bearing surface all the way around, and the toes not allowed to become too long. It is not often necessary or advisable to pare either the frog or the bars. In order to avoid thrush or other diseases from an accumulation of filth, the sole and the cleft of the frog should be cleaned out daily by the use of a foot-hook. In the spring we often notice colts with long toes, deep heels, and with the lower margin of the wall turning inwards. In such cases the owner probably thinks it wise to have the feet trimmed before turning them out to grass. When a foot is lifted and the sole cleaned out, preparatory to trimming, it will be noticed that the frog is narrow and shallow and often there is a foul-smelling discharge from its cleft. This is due to neglect of regular attention, and, as the frog should be large and strong, and so deep that it presses upon the ground when the foot is planted in order to support its proper share of the animal's weight and tend to prevent contraction of the heels, it can readily be seen that anything that tends to a decrease in size, ir prevention of development of this important part of the foot is a serious matter. The feet should have regular attention until the time arrives when shoes are required, after which the shoeing-smith will cut and rasp away at each shoeing a sufficient amount of horn to keep the foot of proper shape and size. The intelligent horseshoer is careful to not cut the bars down nor pare any off the frog or sole, except portions that become partially detached. Horse owners should see that there is not too much rasping and cutting down in the shoeing-forge.

The shoes should be removed and reset, or new ones put on, at longest every six weeks, in many cases every four weeks. During cold or damp weather no particular attention is required other than having the shoes removed regularly and cleaning out the feet daily, but in dry, hot weather, horses that are kept in the stable should have artificial moisture supplied to their feet. During the seasons when the roads and fields are hot and dry, and the stable floors in a like condition, unless sime means be taken to supply moisture to the feet they also become dry and hot, and this predisposes to disease.

Moisture can be supplied by the use of a soaking tub or soaking,boots, standing in wet clay, or packing the sole with any substance that has the tendency to absorb and retain water. For the purpose there is probably nothing so satisfactory as a rock or clay commonly called "white rock" that can be purchased in almost any high-class harness shop. This will retain moisture for a long time and, of course, the portion of the foot which is in contact with it will absorb some of it.

There are a great many "hoof ointments" advertised and highly recommended, and while some of them may be of some value (at least in improving the appearance of the feet) there is nothing quite as valuable as water for supplying the necessary moisture. Horses that are on pasture a few hours or longer daily, do not require the same attention as those that are stabled, as the dew and rain on the grass will have the required action. If more intelligent attentiin were paid to the feet, we would notice much fewer lame and groggy horses on the streets and roads.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THE BANWELL-HOXIE WIRE FENCE CO., Limited
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EMBOLISM

J. S. H.,—"Colt 3 years old was affected with worms. I worked him all summer, but he kept rather poor and lifeless, although fed well, I treated him with worm powders, but without effect. When I finished cutting my grain, he had a very sore shoulder. I

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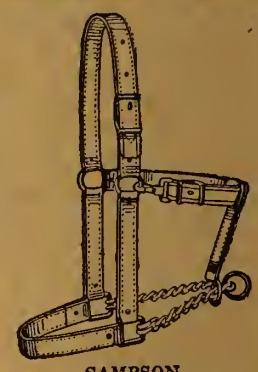

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put him in pasture, feeding him a gallon of oats night and morning, and put him in at night. When sheaves got dried out, I changed him to a sheaf of new oats instead of a gallon of old oats, also left him out at night instead of in the barn. Two days after he would not eat his sheaf, and would stand for an hour or more in one spot with head down and ears drooped; would drink plenty of water, but seemed to urinate very often; urine was a clear yellow color. I put him in at night giving him oatmeal gruel and three tablespoonfuls of Watkins liniment twice a day as a drench. On the third day he seemed pained as if he had a mild colic, gradually getting worse, and very stupid sometimes, trying to climb the walls. On the fourth day I was compelled to put him into the pasture lest he might kill himself against the manger. He continued lying down and getting up, then walking from one place to another in a feeble manner for about two hours when he could not rise but died in agony.

Answer—While it is not always possible to form a correct opinion as to the cause of death without an examination, it would appear from the symptoms described that death in the case of this colt resulted from what is known as embolism, or the blocking up of a blood vessel as the result of certain palisade worms, which find their way into the blood vessels, particularly those of the bowels. Worms of this kind, when present, are frequently the cause of death.

URENIC POISONING IN FOAL

W. B.—"Pure-bred Clydesdale mare has lost her foal for two years in succession. Symptoms were the same in both cases. Foal is extra large, but normal in all other ways. Gets on his feet in about thirty minutes after birth, strong, active and well nourished; in fact, fat. Is not inclined to suck the first day, but by the end of the first day is taking some. Bowels clean out nicely. Second day becomes dull, does not urinate, not inclined to get up. By the end of the second day is stiff fore and hind, and the heart is beating too fast. Fights in his sleep with the fore feet. Takes some nourishment with assistance. Third day, inflammation showing the eyes and the colt dies. Mare is in medium flesh, running on pasture. Gave her bran for three weeks before foaling. Is it possible for a large foal like this to injure himself in breaking the navel cord? No attendant with mare at foaling; usually let them break the cord."

Answer—The symptoms given point to "urenic poisoning," due to absorption of certain deleterious substances contained in urine. The causes of this condition are numerous, the most likely among them to cause the trouble being infection through the umbilicus. The resulting inflammation would thicken the musos membrane lining the urethra and so occule the tube, or the occlusion may be congenial. In the latter case, unless relief can be obtained by operation, nothing can be done. In the former the treatment is principally preventive. The stump, although short, should be disinfected with a strong carbolic acid solution, or, tincture of iodine, then tied tightly with a piece of cord which has been boiled and soaked in carbolic solution; then the stump is again disinfected. It should be disinfected every day until it drops off. The surroundings must be sanitary. All soiled bedding, etc., should be burnea, and the stall thoroughly disinfected with lime wash and strong creolin solution. It may be that this mare is a carrier of the germs of navel ill, and consequently infects her foals. As a precaution she should be isolated from other pregnant mares and foals. So also should her foal be isolated, if she is bred again.

MARE THAT HAS GOT HIDE BOUND

(1) I have a six-year-old mare that is hide-bound; she is losing flesh, but has a good appetite, and is not apparently sick. I feed her on good hay and she gets a gallon of oats per day, with enough work to give her exercise. What is the matter with her?

(2) Is cribbing injurious to a horse and can it be remedied? W. C.

Reply: (1). The symptoms you describe as seen with your mare point to a condition that is caused by intestinal worms. They are of two varieties, one living in the intestines proper, and the other in the rectum. The former are not unlike the common earth worm in size; the latter is much smaller and resembles in size and color a piece of white thread an inch long. Give your mare a purge and watch the feces for worms. A good purgative is made of aloes eight drachms, one tablespoonful gentian, and half a pound of molasses, mixed in a pint or so of hot water and allowed to cool before giving her the drench. Should any parasites of either kind be found, give her oil of turpentine, two ounces; oil of male fern, one drachm; linseed oil, half a pint. Give her this on an empty stomach. Add a daily bran mash to your oat ration after the treatment above advised has done its work.

(2). Cribbing is incurable, but it can be partially controlled by wearing a tight strap on the neck. This will encourage the animal to start and eat when coming in from being unhitched. Cribbing horses are liable to continue the habit and neglect to eat. An animal that cribs should not be bred, as it is hereditary.

SWEENEY—TUBERCULOSIS

R. J. R.—"(1) Eight-year-old mare was badly sweeneyed about six months ago in both shoulders. Blistered her, but the shoulders have not filled iut. Has not been worked all summer, but need her now for fall work.

Answer—(1) Do not blister again. You should have put her to work immediately after the blistering, then the muscles would have filled out more or less. The irritation set up by the blister causes a large amount of blood to be sest to the part, then the exercise induces the atrophied muscle to take up the surplus blood and reparative material brought there by the blistering, and so repair takes place. Have a properly fitted collar made for her and put her at light work.

J. K.—Four-year-old horse was put to work last spring. He keeps in good condition and eats well, but he is given to swelling in the hind legs. Will you please inform me what is the cause of the swelling, and give the treatment to cure and prevent same."

Answer—This horse is affected with what is commonly known as "stocked legs." Some horses are predisposed to this condition and readily become affected, unless carefully fed and regularly exercised. It may be caused, in some cases, by feeding too much grain, resulting is attacks of lymphangitis, or from faulty action of the kidneys and bowels, preventing removal of waste products from the system. It also sometimes results from neglected cases of scratches or cracked heels. The best means of prevention and treatment is to feed moderately and exercise regularly. The bowels and kidneys should be regulated by feeding bran mashes at least once a week, asd by giving a tablespoonful of saltpetre in the feed or water, or a handful of Glauber salts may be added to the bran mash.

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POULTRY.

GIVE THE HEN A FAIR CHANCE

Give the hen a chance if you want her to lay large, rich eggs in the cold and dreary days of winter. It's a mighty poor hen that will not lay in the summer, the natural laying time, but it is a might good one that will lay many eggs during the cold winter, except under the most favorable conditions. This does not mean pullets as particularly as it does old hens, though it still applies to a certain extent. But an early pullet of a good breed and from a good laying strain will lay through the winter in spite of difficulties. The old hen who has just pasesd through the molting season will not do it, and can not reasonably be expected to. But if she has any kind of breeding, she can be made to lay with proper attention to her physical requirements.

Fresh air and plenty of it is absolutely essential to the good health of human beings, and this is equally true of the faithful biddie. Fresh air does not mean cold air; it means pure air fresh from out-of-doors. No hen that is hived up in a close house is given half a chance to show what she can do. I have travelled over much of the country during the past autumn months, and one of my interests being in poultry, I have paid particular attention to the poultry houses, and going over the country roads in an automobile one sees most, or at least many of them. In my opinion, not one in ten of the hundreds of houses I have seen was properly built. Not one in ten would admit a sufficient amount of fresh air at any season of the year.

Fresh air does not mean a draft—far from it. A draft is as dangerous as a tightly closed house. Either will lead to disease, discomfort, nonproductivity and death. Very few of the houses I saw had enough windows. Some were properly built, but most of them had windows that were too few in number and too high up, or too small, and many of them combined all these features. Some faced the north, which a poultry house should never do. Some faced the west, which, while not quite as bad, is still bad enough. Every henhouse should face the south or east, preferably the south, so that it may have the early morning sun to set the hens early to work and give them the comfort they enjoy while scratching for their breakfast.

The north and west sides of the poultry house should be tightly closed so that air in drafts can not blow through, and it is just as well if there are not even closed windows except on the south or east sides, or both, but there must be plenty of them there, and as many of them should be open even in the coldest days in winter, except during severe storms, as much as can be without drafts. If it is absolutely necessary to close all windows at any time to prevent drafts or to stop the snow from blowing in, close them with white muslin, which should be kept free from dust, so that the air may still circulate through them. Anyway, have a lot of air and no drafts. Then there must also be plenty of sunlight, and the windows must be so low down at the bottom that the sun can reach ever corner and keep the entire pen dry, that is, free from moisture. Moisture is fatal to health, moisture is bound to exist in tgihtly closed houses, collecting from the breath of the birds if in no other way, and to get eggs in any great number in winter, moisture must be kept oht.

Fresh air is the first important factor in health, but other things are necessary. The pens must be kept clean, cleaned often and thoroughly; the water in pans (and there must always be plenty of it) must at all times be clean and fresh; so must the food, and decayed meat and vegetables are especially dangerous to birds of any kind, and should never be thrown into a pen, much less allowed to remain there for the hens to devour. Cleanliness is next to Goliness with hens as well as humans.

The litter as well as the roost board must be kept clean, and should be changed often and kept deep as well clean. There can be no profit without labor, and this is as true in the poltry yard as anywhere else. The attendant must work himself to keep everything in proper order, and he must make the hens work as well. This is most easily accomplished by scattering the grain in deep litter so that they can not find it without scratching for it. If they are kept busy most of the day, the results will usually be quite satisfactory, other conditions being favorable. There are various feeding devices for the purpose of keeping the hens constantly at work, but the deep litter is far better than any of these devices. Bury the food in the litter and they will rig for it in the natural way, and they will get all they want of it an dsing while the are at work, if given half a chance.

The four chief elements necessary to success, then, are plenty of air, cleanliness, food and water, and work. This combination will spell success with any breed of poultry that ever grew, the birds having a reasonable amount of health and vitality to start with.

NEST BOXES FOR PRACTICAL HENS

Unless sections of nests are properly built it is better to use shallow packing boxes about one foot square. The boxes are removable, the litter is not easily scratched out of them and they are easily aired and sprayed on all sides. However, the best nests are built in sections that are removable and they are darkened. The birds enter on a track at the rear. This satisfies their instinct for hiding eggs and there will be less danger of the eggs being lost in the litter of the house or hidden in deep grass on the range.

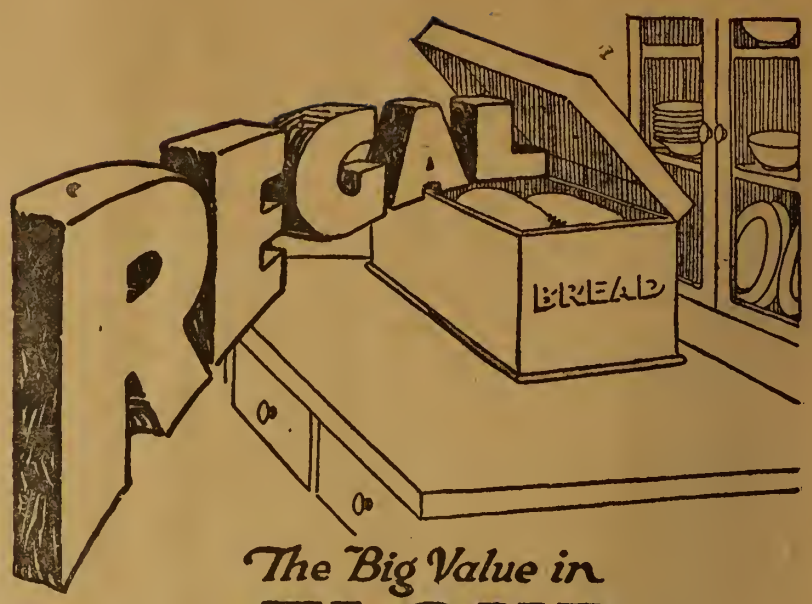
Nests 12 by 14 inches are suitable for the larger breeds and dimensions 10 by 12 inches will do for Mediterraneans. If the nests are too large, more than one hen may crowd on at the same time and this may result in picking and fighting and broken eggs. If the nests are too small the birds will not use them but hide their eggs on the range or make nests for themselves in the poultry house under the dropping boards. When eggs are laid on the litter they may be lost by having straw scratched over them while the birds are working for scratch grain.

The location of the nests depend on the likes of the owner. Some nests are placed under the dropping board but we dislike this method as it complicates the work of keeping the roosts and boards free from mites and lice. If the windows are high it is possible to build a section of nests under them. However, if the sun strikes the top of these nests in the summer, they will be warm and the birds will not like them. It is probably best to make the nests in sections on the side wall where they will be protected from the hot sun.

The best litter we have used for the nest is twisted hay. It must be packed well in the corners and then a firm cushion placed in the middle so that it will not work out and permit the eggs to strike the bare boards and crack or break open. Eggs that are broken in nests cause poultrymen serious losses. They are not marketable even when slightly cracked and if they break it may lead to the egg eating habit which is difficult to locate and cure.

Plenty of clean litter in the nests keeps the eggs clean. Eggs keep the best in storage when they do not have to be washed as the washing removes the fine film which is nature's protection to the egg. When tobacco stems can be obtained they make fine nesting material as they keep away mites and lice. When the straw or hay litter is used it pays to first paint the nests with lice paint to seal the cracks and crevices and keep pests from breeding there and driving the hens to seek laying places elsewhere.

At certain seasons when the hens are laying heavily the usual number of nests may be insufficient. Then a few kegs or orange crates placed in the house will give the hens a little surplus room and often a large number of eggs will be laid in the extra nests. Usually about four or five hens to a nest is practical. A hundred hen poultry house should have 20 to 25 nests. Then, if that is not enough room in the spring, a few extras can be placed in the house until the heaviest part of the laying season is over.—R. F. K.



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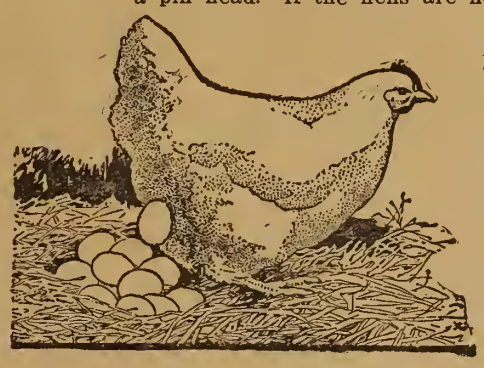
If your hens are not laying after the first of January it is because they are not housed properly and are in an unhealthy condition. There is no excuse for hens not laying if they are fed and housed properly. Our Royal Purple Poultry Specific, if used in the mash given them, will make them digest their food properly, make their digestive organs healthy and active and will produce the eggs for you as well in the winter as in the summer. The eggs are formed in batches from ten to fifteen, from the large egg down to the size of a pin head. If the hens are not healthy nature will lie dormant. As soon as our Poultry Specific is used nature becomes active. This is why so many people get eggs in a few days after using our Specific. If you do not get eggs it is your own fault. This Specific is put up in 30c and 60c packages, $1.75 and $6 tins.



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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Shbjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N. B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

"Whatever the weather may be," says he,
"Whatever the weather may be,
It's the songs ye sing, and the smiles ye wear
That's a-making the sun shine everywhere!"
—James Whitcomb Riley.

THE LITTLE TIN QUEEN

As Cordelia dealt the cards her glance swept the crowded parlor and dining room of Mrs. Gleason's home. Mrs. Gleason was the general storekeeper's wife. There were four tables of players, and they filled the small rooms to overflowing. The one upon which she laid the cards had very evident marks of usually doing duty as a wash stand. The pack of playing cards was old, bent and not overclean—the queen she just picked up had a queer washed look.

"And you were born and brought up in the city, Mrs. Parks?" asked little Miss Wren, the village dressmaker, arranging her hand neatly.

"Yes, of course," answered Cordelia Parks in a slightly patronizing voice. "This is my first experience in the country."

"I guess you do find it different in many ways?" queried Miss Wren with respectful timidness.

Mrs. Parks laughed rather loftily. "My dear Miss Wren, things are very, very different in the city. Just for an instance, the card parties I attended were very large affairs, often twenty or more tables, in private homes, of course. And each card table," with special emphasis, "was covered with linen and had an embroidered number on it. A new, brand new, pack of cards for each table. And the prizes!" The three women at her table leaned forward with admiring eyes, open-mouthed, drinking in each bragging word.

'Oh, Mrs. Parks!" chirped Mrs. Briggs, the doctor's wife, from the next table. "We just can't wait over here till you come to our table. Mandy wants to hear all about those city society affairs, those dinners in particular, where the men folks wear swallow tails and—"

"Full dress," corrected Cordelia, with a blase air. "Oh, dinner parties! Gracious, when I think of them, and a dance afterward or a theatre party! You can imagine," addressing Mrs. Piper, who had twelve children and had never ben farther than the next little town, "how I miss them!"

Over in the dining room at the end table the neice of the hostess asked in a whisper, "Who is she?" indicating the speaker in the next room. "She certainly wasn't here two years ago when I visited you, Aunt Sarah."

"Why, the mill was just being built, don't you remember, Em? Mrs. Parks is the manager's wife—from the city, a society lady. She's used to a thing or two, Emma Cobbs!"

"Golly!" exploded Emma in giant admiration. "Wish I'd get to her table."

"We made her president of our Ladies Aid, and we've started a woman's club. Of course, we couldn't have done it withouh Mrs. Parks. I tell you, we appreciate having somebody like that living here in Glenwood."

"And, Emma," whispered the doctor's third oldest daughter, "you should se her house! Wait till the club meets there; you'll open your eyes. It's grand!"

Cordelia walked slowly home—to the newest, biggest house in the village.

"Well, have a good time," asked the genial voice of Dale Parks as he stooped to kiss his little wife.

Mrs. Parks Frowned slightly—by this time he should know. "Dale, how can I? You know I never liked it here; you know it, too! I've been here two years, and I don't like it any better than the first day. These countrified affairs; How can you expect me, a city bred girl, to amuse myself?"

"But, dear, in time perhaps—"

"Dale, be reasonable and logical. Think how I've been brought up, what I've had in the city. I'm starving here for real people to talk to, for real pleasures. The theatres, the concerts, the parties! Oh, Dale, the parties—" And quivering lips could form no other words.

Dale gathered the silk bundle of sobs in his arms and comforted as only a husband can. "You're homesick, I believe. And you're going to the city for a visit! Yes, you are!" And closed the protesting lips with a resolute kiss.

A few days later Cordelia got out of the Pullman and went straight to Aunt Vivian's waiting limousine. Oh, the joy of riding through the city streets in a luxurious, perfumed car, with Aunt Vivian, so exquisitely dressed, at her side!

"Tonight Mrs. Wells gives a dinner dance, Cordelia, I've telephoned her about you, and it's all right for you to come along, dear."

"Who is Mrs. Wells?" I can't remember."

"Oh, I suppose she came in our set after you married. She's very smart and her affairs are always delightful. A bit exclusive, you know."

That evening Cordelia slipped into her lacy evening dress, one of her, trousseau. She had never worn it; how could she in Glenwood? Aunt Vivian viewed her critically.

"Am I all right?" Cordelia asked.

"Oh, it will do. But tomorrow I'll buy you a new dinner frock."

Cordelia looked down in dismay. What did Aunt Vivian mean? The idea disturbed her. She kept thinking of it the whole way to Wells'.

A half hour later she found herself in a gold and white drawing room with a crowd of people who with only one or two exceptions were entirely strange to her. As she compared dresses she realized that her gown was not of the most modern cut. It made her very uncomfortable.

The dinner was long. Her neighbor, a gentleman who seemed to have sme financial interest in a popular show, began to discuss it with her, but when she confessed she had not even seen it he unconsciously turned to his other partner. The other neighbor, outside of a few perfunctory remarks, focused his attention upon a lovely woman across the table, who seemed to be a sort of queen of the evening. At the first opportunity after dinner Cordelia asked her aunt who this very popular lady was.

"The senator's wife," with importance; "she used to live in Washington, you know. We've made her president of our Current Events Club and we all feel very honored to have her in our set. And, Cordelia, if you could get an invitation to her home! Oh, my dear, it's simply superb!"

"Do," answered Cordelia rather stupidly, not knowing whether to be awed or bored. After that she had the distinct feeling of falling in the background. She did dance a few times, but mechanically, without effervescent gayness. As she sat watching the dancers it was impossible not to remember the little Glenwood hops, where she had been the most sought after partner. How many dances she had split to please one of her husband's office people or not to offend an admiring clerk of Gleason's!"

Mrs. Wells asked herto join one of the bridge tables that had been arranged for the older people who did not dance, but Cordelia had not played for two years and feared to play with these veterans.

Three days later Aunt Vivian and Cordelia returned from a meeting of the exclusive Current Events Club. It had been held at the Senator's house, and truly wonderful had been the decorations, refreshments and beautiful dresses of the ladies.

"Did you enjoy it, dear?" asked Aunt Vivian after she had warbled a long song of praise for the senator's charming wife.

"Oh, yes,' answered her neice without enthusiasm. "I did not know many people, though," she added. It seemed rather queer to be talking; she had ben so quiet all afternoon.

Stepping rather wearily into her bedroom, she gave a little screech of delight. "Dale!" And after a smothering embrace he explained. "I've come on business, honey. Great news. Mr. Whitman left, and, naturally, his place is open here in the city. There is a board of directors' meeting tomorrow, and, honey, all I have to do is to apply for it. You know they'll give it to me. Aren't you delighted? Think of it, living in the city again, and my little girl having all those things she's missed these two years! Oh, I'm glad! Of course, dear, the salary is just the same, but it naturally won't go as far in the city as it does way out in Glenwood."

"Dale, please stop a minute! You love your mill, don't you? You don't like that office routine work."

"But, dear, what's that to having you satisfied and happy?"

"Dale," coming close, "I want to go back to Glenwood and be a little tin queen."

HOME LIFE

Dear Editor:

About the first of January, 1920, I was put in touch with the "Maritime Farmer" through the kindness of friends in Charlotte County, and also the United Farm Women of Ontario. I at once received a sample copy and following that sent in my subscription for the present year.

I am pleased to have coming to my home a real N. B. "farm paper" and will confess that I have a selfish motive in becoming its subscriber, for I want so much to learn more, and yet more, about the work that means so much to me.

About two weeks ago I decided to send just a short letter to your paper hoping almost "against hope" that it might find a place in some small corner, just so that a thought from an N. B. Farm woman might give evidence of deep interest in that line. I had already chosen my subject and had done a little work on it when I received the first paper under subscription, issued February 17th, which I eagerly opened and perused. The short story entitled, "Too Much Ella" appealed to me so strongly that I at once threw aside my other subject and I will give just a bit of my own experience along this very line.

I love this dear "Ella" whether she really exists or not, for she is a woman after my own heart.

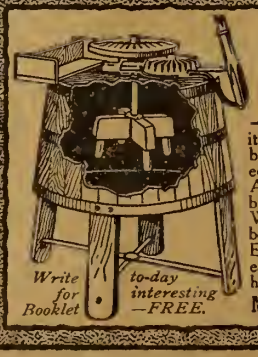
I was married very young and left the home of my early childhood. I spent about 20 years in town and country, after which fate led me to the dear old home to care for—to me—the very dearest parents in all the world. And the first thought entering my mind was: Now, you must give your mother just the sweetest rest she has ever known, for the lives of our forefathers were largely lives of struggle, and to the parents who raised a family of sturdy children, a life of unceasing toil, day in and day out.

After the excitement of becoming settled with us, mother, who was the weaker of the two, was so content that she simply slept most of the time for nearly a week. Just simply a let down from care: while I was each day making up my mind more and more to be just "To Much Ella." Mother must sit in her rocker with the dear little hand and pure mind simply at rest, while she watched her strong girl work. This went on for nearly a year, and slowly but surely I was actually killing my sweet mother with kindness. I saw a deep silence growing upon her, so very unnatural to her, and I was so utterly grieved I became most unhappy. But

Spanking Doesn't Cure!

Don't think children can be cured of bed-wetting by spanking them. The trouble is constitutional, the child cannot help it. I will send **FREE** to any mother my successful home treatment, with full instructions. If your children trouble you in this way, send no money, but write me to-day. My treatment is highly recommended to adults troubled with urine difficulties by day or night. Write for free trial treatment.

Mrs. M. Summers
BOX 309 WINDSOR, Ontario



Maxwell
"Home" Washer

—the washer that not only washes the clothes mechanically, but does it better than they can be washed by hand. There's no "skimping" by the "Home" Washer—light or heavy articles are cleaned with equal thoroughness. There's no tearing of delicate fabrics, either And it does the work in half the time! No more long-drawn-out, backbreaking washdays anywhere there's a Maxwell "Home" Washer; Just put the clothes in, and the rest is hardly work at all—because the "Home" Washer is so light, noiseless, and easy-running. Enclosed gears make it absolutely safe: "springs" make cover lift easily. Made of best quality cypress, handsomely finished. Runs by hand-power or water-motor. See it at your dealer's.

MAXWELLS LIMITED, Dept. X St Marys, Ont. 34

Kidneys Were Bad After The "Flu"

Sat Up to Turn In Bed.

That awful epidemic, the Spanish influenza, that swept Canada from one end to the other a short time ago, left in its wake a great many bad after effects. In some cases it was a weakened heart, in others shattered nerves, but in a great many cases weak kidneys have been left as a legacy.

Where the kidneys have been left weak as an after effect of the "Flu," Doan's Kidney Pills will prove to be just the remedy you require to strengthen them.

Mrs. Harvey D. Wile, Lake Pleasant, N.S., writes:—"Last winter I was taken sick with the "Flu," and when I did get better I found that my kidneys were very bad, and at night I had to sit up to turn around in bed. I used Doan's Kidney Pills, and found that they did me a wonderful amount of good. I also recommend them to my husband, and he started in to use them. I will always recommend them to anyone who is bothered with kidney trouble, for they are wonders."

Doan's Kidney Pills are 50c. a box at all dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

See that our trade mark, a "Maple Leaf," appears on the box.

Rheumatism Stiffness and all Pain

Minard's Liniment has given satisfaction for three generations. It quickly relieves sore throat, bronchitis, neuralgia, sciatica and any kind of pain.

An Old Reliable Remedy

Mrs. S. Fawcett, Hamilton St., Collingwood, Ont., writes,—Minard's Liniment surely is an old reliable remedy. I always keep a bottle in the house and have recommended it to quite a number of my friends, to whom it gave great relief. In most cases it was used as a cure for rheumatism.

Minard's
King of Pain
Liniment
Yarmouth Nova Scotia.

Mr. W. T. Charlton of Waterville, P. Q. restored his frozen feet to health after doctors had advised him to have them amputated because mortification had set in. Use Egyptian Liniment also for Cuts, Burns, Scalds, Bruises, Chilblains, Sore Throat and Chest, Neuralgia, etc.

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DOUGLAS & CO MANUFACTURERS, NAPANEE, ONT.

Advertise in the Farmer and Get Results.

just like the sudden bursting of a big black cloud to allow the sun to shine through, it come to me: Why, I do believe mother is kept too still!

I at once began to undo my former plan, for, after all, I needed her council. Gradually she grew more cheerful and happy. My own life easier to bear, for while I loved to see and know that she had "no care" yet I found that I actually needed her sweet companionship and co-operation in all my work—and why not? Was it not her guiding hand and mind, coupled with those of a faithful father that made the "old homestead" for her? And whose thought or action could guide me better than theirs? Truly it is a great and grievous mistake to believe for a minute that the dear hands that were ever found busy and the minds that were always active can suddenly become happy and contented in idlness. I would add jus a word to any who are still blest with the care of dear parents. Give them the sweet liberty that most assuredly belongs to them. Let them know that they are really needed. The home, whether on the farm or elsewhere, will then be a real home, and the inmates of it companions. The parents are a part of your daily necessities. Inded, I feel that just to have their decided approval is a strong and helpful brace in the structure of home life and I can safely say, adds years to their lives of usefulness and happiness as well as to our own.

Do not keep them in the parlor, thinking, "I am in the way." Let them live so close beside you that you feel their help each day. Then, and only then, shall we know we did our best when we've given our dear ones freedom. After that comes a long, sweet rest.

Trusting I may not have taken too much liberty and wishing the "Maritime Farmer" a bright and successful year, I am,

Sincerely,
FARMERETTE, N. B.

FOR OUR CONVALESCENTS

Severe colds, pneumonia, measles, etc., are so prevalent at the present time, the editress has selected from her cook book the following recipes especially suitable for the convalessent. She has tested them all, and, besides being nutritious, they make very attractive dishes.

Egg-Nog—Two-third cup of milk, one tablespoonful of sugar, two tablespoonfuls of wine or one tablespoonful of brandy, a few grains of salt; beat the egg slightly; ad the salt, sugar and wine. Mix thoroughly and strain; the wine may be omitted and a grating of nutmeg or other flavoring used.

Cocoa.—One and a half teaspoonful of cocoa, one teaspoonful sugar, one-third cup water, two-thirds cup milk, a few grains of salt; mix the cocoa, sugar salt and water. Boil five minutes or until it thickens; add the milk and heat to scalding point; beat untilu a thick froth forms; serve very hot. The cocoa should not be boiled after milk is put in.

Fruit Junket—1 pint milk, 1 tablespoonful sugar, ½ tablet dissolved in one-half tablespoonful of water, heat the milk until luke-warm; add the sugar and stir until it is dissolved; add the rennett; stir, pour into a glass dish; sprinkle with cinnamon or nutmeg. Let stand in a warm place until firm; chill; serve with cream or with cream and preserved fruit.

Another Fruit Junket.—3 almonds, 1/6 banana, 1 quarter cup milk, 1½ teaspoonfuls sugar, ¼ teaspoonful dissolved rennet; blanch the almonds and cut them in pieces; cut the banana in small pieces; place ina serving dish. Prepare remaining ingredients as for plain junket and pour over the fruit.

Egg Cream—2 eggs, ¼ sugar, 2 tablespoonfuls lemon juice, grated lemon rind; beat the yolks of eggs and sugar until well mixed; add the lemon juice and rind and cook over hot water as a soft custard. When thick, fold in the beaten whites; cool and serve.

Rice Jelly—Boil ¼ cup of rice in 1 pint boiling water, salted with ½ teaspoonful salt, for thirty minutes or until the rice is soft. Press through a strainner; turn into a mold and when cold serve with cream, sugar and a littie jelly, cinnamon or nutmeg.

Egg in a Nest—Break an egg and separate the yolk from the white. Beat the white until stiff; then add a few grains of salt; pile on a circular piece of toast first dipped in boiling salted water. Make a depression in the centre and drop in the yolk; place on a buttered pan and bake in a moderate oven until delicately brown. Serve at once.

STOP THAT PAIN

Why suffer—and in suffering neglect an ailment which may cost you your life? Pain is nature's method of warning you that the system is deranged—it is the signal for you to pause and take heed.

Backache, pains in the side, headache, rheumatism, lumbago, neuralgia, sciatica, etc., are due in almost every instance to Kidney trouble—to the uric acid and other impurities that are poisoning the blood through the failure of the Kidneys to act properly.

Gin Pills FOR THE KIDNEYS

WILL STOP THE PAIN

They have a wonderful action on the kidneys, soothing congestion, healing inflammation, rebuilding tissues, and enabling the delicate organs to resume their work of filtering the waste and poisons from the blood.

They contain no alcohol, just the beneficial properties of the Juniper Berry combined with seven other helpful diuretics and antiseptics.

Gin Pills are sold by all druggists and dealers at 50c a box,—with money back guarantee.

To prove their goodness we will send free on request a sample to enable you to judge their merits in relieving suffering humanity.

THE NATIONAL DRUG AND CHEMICAL CO. OF CANADA, LIMITED, TORONTO

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BEAUTY HINTS

Red Nose.—A slight catarrh, which is disagreable and makes one's nose red, can be cured by mixing a teaspoon of fine table salt in a glass of water; stir thoroughly, pour into the palm of the hand and snuff into the nose. Clear water will cause pain when snuffed into the nose, but salt in small quantities will not irritate the membrane. Another catarrh remedy is the follwoing:

Cattarh Snuff—Equal parts pulverized sugar and finely ground borax. Mix thoroughly, and keep in closed box. Use frequently as a snuff. This is very helpful in any bad cold.

Oily Skins—A little benzion dropped into the bath water is always good for an oily skin. This can be bought at any local drug store. Dashing the face with very cold water after washing is splendid also. The following may be used instead of the regular soap, for eliminating oily secretions:

Bathing the Face—Hot water, into which a little milk ha been poured, cannot be surpassed for bathing the face. It freshens and cleanses the skin and tends to lessen the wrinkles. Hot water is beneficial for the face, and should be used morning and night; espcially at night, before the cold cream massage. It opens the pores and remove a great deal of the natural oil, besides tightening the skin, thus keeping it firm and less liable to wrinkle. If hot milk and water, half and half, are used, soap will not be required. A flannel wash cloth is best, renewing it as often as it becomes thick and felt-like. Washing the face nightly in hot suds, made from pure castile soap, or with hot milk, followed by a firm upward (never up and down) friction, with a moderately coarse towel, is the recommended course for the black specks that ruin so many skins.

Liquid Toilet Soap—Four quarts rain water, 4 ounces of borax, 4 ouncesof baking soda, 2 ounces ammonia. Mix and bottle. Shake before using. Fine for sensitive oily skins.

BUILD UP YOUR BODILY RESISTANCE

1.—Sleep with at least on window open in your bedroom all the year round.

2.—Eat plenty of good, wholesome food.

3.—Never allow yourself to become more tired by staying up late after a hard day; make up for it by going to bed early.

If you are in good health, if your resisting power is good, the germs of disease are less likely to harm you.

Nothing helps to build up the resisting power so much as proper food, plenty of sleep and pure, fresh air.

COOKERY COLUMN

COCOA BISCUIT

2 cups flour
4 teaspoons baking powder
½ teaspoon salt
2 tablespoons sugar
4 tablespoons Cowan Cocoa
3 tablespoons butter
2/3 cup milk

1. Mix and sift dry ingredients.
2. Rub in the butter with the tips of the fingers.
3. Add milk gradually, mixing to a soft dough.
4. Toss on floured board.
5. Roll lightly to one-half inch in thickness, cut into small biscuits.
6. Bake in a hot oven 12 to 15 minutes.

WHAT IS A BOY'S PLACE IN THE HOME?

What is the boy's place in the home? What are his rights, his privileges? Is he to be deferred to? Or is he just simply a something— a nuisance, shall we say—that must be tolerated? The answer to all this may come this way: "It depends on the boy." Not altogether, I should say, for after all the boy is more or less what you make him, and the way he is started in the way he is most likely to follow.

How, then, shall he be directed from the beginning so as to establish satisfactory relations between the boy and his home. Of course, there are certain conditions to be taken into account; for instance, the temperament and tendencies of the parents, the circumstances into which the child is born, the other children (if any) of the home; all these have a certain part in deciding how the small boy shall be introduced into life.

We might call to mind some such instances as these: Take the boy for whose education, or college course, the pleasures of the famliy have been sacrificed, while he takes it quite as a matter of course—he had never been taught self-denial or self-control; the consequential child, whose judgment and opinions are made much of, until he becomes a more important man; the petted boy who has been waited on until his manners are hopelessly spoiled, and the idea of waiting upon mother, sister or wife would never occur to him. Such instances as these are unending, as we all know. Perhaps some may think this sounds a little hard on our boys, and will say, "Well, whose fault is it?" Let me temper this a little by saying that you will find that, in nine cases out of ten, it is a woman—mother, sister, aunt or perhaps grandma—who is at the bottom of the injury to the material from which a splendid, strong, self-forgetful man might have been made.

For centuries women were held inferior to men, and the birth of a son was always hailed with joy, while a daughter was regarded with sorrow even. Shat she should minister to her husband she takes as a matter of course. And it is but a step to transfer the ministry to her sons, and to fall into the habit of considering their comfort (which, of course, is right to a certain degree), sacrificing herself to their wishes in a way to ruin the best boy that ever lived. In former times, the boys of a family had to bear the yoke of obedience in their youth, but, with the new departure of child-training which has come in later, there has come a revolution in home methods, and the iad that children should be permitted to develop unhindered and to follow their individuality whither it led, has made life easier for them and harder for everyone conected with them.

But to come back to the subject under discussion. What is the boy's place in the home(his right and privileges? In the first place, he should be made to understand very clearly that he has a right in the home, a right to a place of his own in that home, which should be provided for him. He should have a room for himself to call his very own—not a sort of lumber room, back in some dark, out-of-the-way corner or in the attic, with the thought that any place is good enough for the boys. And, if there is any old piece of furniture, broken and past use—"Put it off in the boys' room, they won't mind." How little we know, sometimes, how much they do care.

Very little effort is made (as a rule) to make the boys' room attractive. "Oh! boys don't care for such things." Well, don't they! I wonder how many try to find out the boy's views on such matters? Any boy has some idea of tidinness and comfort, surely; and, if he has a neat, tidy room for himself, with a few of the right sort of pictures hung on the walls; clean, plain curtains for the windows and a place supplied for his books, curios, coins, birds' eggs, or whatever the boyish fancy might take to; plenty of good light to read by, I think you will find quite as much appreciation from your boys as from your girls. And, when a boy says: "Thank you, mother," with that queer little quivering look about the mouth, that only a mother can understand, surely we are more than repaid for the little extra attention given to his room.

This, then is part of what it means to give a boy a place of his own in the home. Am I counselling the very sort of spoiling I have just condemned? Let me say he is to have a place of his own in the home, but that it is not only his home, but the home of others as well, he should not be allowed to forget, and that he owes as much consideration to others in the home as they do to him. There often comes the question of how much noise the boy may be permitted to make in the home, and there seems to be no middle line to this. Either the boys are checked here and hushed there until they feel afraid to move, or else they are allowed to make all the racket they choose, on the plea that, if they cannot do pretty nearly as they like at home, they will be driven to some undesirable places or dissapation by their longing for freedom and liberty. Now, at the risk of being thought a little heartless, may I say I see no reason why boys should be privileged to make things hideous for those about them, on the plea that they must expand their lungs, etc. My conclusion is that, by calling upon the principle of compensation, a boy may be made happy in a home where he is obliged to restrain such impulses as stamping in heavy shoes on a hardwood floor, shouting and yelling playing ball in the house, and all such sports too numerous to mention. Some will say that it is as natural for a boy to do this as for a young colt to run in the field. Granted, but boys aer not colts, neither are they in the field (when in the house.)

Now for the principle of compensation, to which I referred. One of these compensations, to my mind, would be found in a room like the one we have already planned. Give him the freedom to bring his friends to it sometimes. Then, of course, we would advice a generous amount of self-control on the part of mother, as to the condition of the room after the boys have had their time in it. Also give the boy the privilege of having his friend in for a meal as often as you can conveniently do so. It does not mean so much to you, and much to the boy. Boys are not critical, bless their hearts. Give them a right cordial welcome, plenty to eat, and they are pleased. But, if we are to have the boy quiet in the home, we must provide means for him to give vent elsewhere, in places intended for relaxation and recreation. We cannot confine him to just a pleasant room, remember. And, when he displays the consideration demanded of him at home, he is putting a restraint upon himself we can hardly understand neither does he. But what he does understand is love and consideration. Give him plenty of both. The many little pleasures we plan for our children often mean more to them than we ever thought of. An afternoon out-of-doors with your boy, showing an interest in what he is interested in, all has its weight, you know.

He should also be drilled in the gentle are of waiting upon women. Not that I would place a woman upon a pedestal! The tribute to her from a boy is exacted more for his sake than for hers. Now, in saying this, I would not minify the sacrifice made by mother for children. Without admitting homage is due a woman for the mere fact of motherhood, I do not wish to deny sacrifices of will, health and happines to which mothers submit cheerfully for the sake of helping their children. And so the love and duty of her sons and daughters, the tenderness which anticipates her efforts and saves her steps and work are no more than her due. Yet there is more even than the rendering of a debt in training the boy to wait on his mother. The lad who practises gentleness is bound to feel it. He learns to understand weaknes, to pity it and, in a way, to honor it. And all this has its effect in deepening and developing the character of the man. In fact, his education is not complete if he has not been more or less drilled in the little attentions whose familiar use marks the gentleman.

CARE NEW GERANIUMS

Geraniums which were started from cuttings early in autumn, say in Setember or October, should be kept growing in the sand or soil in which tehy were started until they have made good roots.

They should not stand closer than

THE ROYAL BANK OF CANADA
recommends its
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It is easy to make claims for seeds—it is another thing to be able to substantiate them. We are emphatically able to make our claims good because our record for "seeds that grow" has gone unbroken for 64 years. For seeds, bulbs, plants of all kinds, trust Simmers' goods.
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Write for our handsome new 1920 Catalogue today.
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THE HABIT OF DAINTINESS

THE habit of daintiness may be cultivated early in any child. While it should never be allowed to develop into an unwholesome vanity and love of dress, it is an asset that makes for success and happiness in later life.

"Prue Cottons" have the advantage of combining daintiness with cheapness—softness of texture with strength and long wearing capacity. For the "recitation dress" there is a wide range of plain white cottons, fine or coarse, twill or plain, heavy or light. Or you may select quaint print designs, and for sturdier service, "Steel-Clad Galatea" or "Rockfast Drill."

The house-mark of the Dominion Textile Company, Limited, covers all these lines. It is the symbol of the prudent house-wife's approval and the pride of the manufacturers in their goods.

NONE BETTER
NONE CHEAPER

DOMINION TEXILE CO., LIMITED
MONTREAL TORONTO WINNIPEG

an inch apart. Further apart is much better, as it gives them an opportunity to shape up into a good plant from the start.

After several new leaves have started, they should be examined and if they have rooted nicely, they should be potted in good rich soil in two and a half or three-inch pots. Keep them growing until summer, when they are to be transplanted to their permanent beds.

To lift the new plants without injury to the delicate roots, something like a broad-bladed knife should be run under the plant and the sand or soil loosened from the roots so they will not be broken as in case of simply pulling the new plants from the starting soil.

Give these roots plenty of room when potting the plants. This will help to prevent the very young geraniums from starting to flower until they are old enough to have strength to put forth flowers.

The potted geranium does not bloom well until it is somewhat root-bound, and that is why they should not have too much room. If a plant blooms quite freely when it is quite young, it is not apt to do well later.

Build up Your Strength with

OLIVEINE EMULSION

One reason why OLIVEINE EMULSION is so helpful for Coughs, Colds, Weakness and a General Run-down Condition is, because it contains the substances that re-build flesh, enrich the blood, improve digestion and appetite, and give vigor and vitality to the entire system.

If you are not feeling well, see what OLIVEINE EMULSION can do for you—take no substitutes.

All Druggists and General Stores have it.

Prepared by
Frasier, Thornton & Co. Limited,
COOKSHIRE, Que. 2

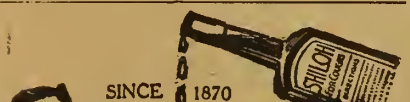
A MESSAGE TO WOMEN!!

LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of failing or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.

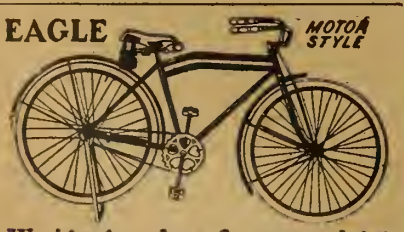
Mrs. M. Summers, Box 309 Windsor, Ont.

PILES Do not suffer another day with Itching, Bleeding, or Protruding Piles. No surgical operation required. Dr. Chase's Ointment will relieve you at once and as certainly cure you. 60c. a box; all dealers, or Edmanson, Bates & Co., Limited, Toronto. Sample box free if you mention this paper and enclose 2c. stamp to pay postage.



SINCE 1870
SHILOH
30 DROPS STOPS COUGHS

EAGLE MOTOR STYLE



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SOME VEGETARIAN SUGGESTIONS

One hardly opens a paper nowadays without finding an article on how to cook the cheaper cuts of meat. For years household science teachers have proclaimed the cheaper cuts as nntritious as the more expensive ones and could be as delicious if properly prepared, but to this the general public has turned a deaf ear. But now at last, when its purse is being touched a trifle too roughly, that same public has begun to listen. And this time it is the clever newspaper people who have caught its ear. They are not merely persuading readers that cheap cuts are tolerable, they are making them fashionable. Economy is no longer a neglected virtue, it is the fad of the moment.

Probably most people eat too much meat, certainly meat once a day is enough for anyone unless he is engaged in hard physical labor. Meat cannot be banished from the dietary, but its place can sometimes be taken by a vegetable food which is equally nutritious, less expensive and better for the system. I suspect that in many homes meat appears at supper as well as at dinner, and I should like to suggest certain dishes wihch could well take its place at the evening meal.

Meat is valuable as one of our chief sources of protein. There are, however, certain vegetables which contain protein in fairly large quantities. These are legumes—beans, peas and lentils being the commonest varieties of this class. These vegetables are all inexpensive, yet it is signifivant that they are little used. People pay a big price for canned peas and beans, which in their green state contain very little nutriment, yet they do not use the dried vegetables which are rich in food value and very cheap. I suspect that this is because they do not know what delicious things can be made with the legumes.

First let us consider beans. I am told that very few dried beans are sold in the shops. We grow them every year and save them for cooking, but I doubt if this generally done. Just try it next year and see how well you will be repaid. What seems curious is that people seem to like baked beans so well, although they seldom prepare them. I find that at a sale of food one can dispose of almost any amount of baked beans. People buy them as if they were an unaccustomed luxury, whereas they are easily made and cost little.

They are highly nutritious and satisfying, and people might well adopt the Boston custom of having baked beans for supper every Saturday. Here is a recipe. Try it and see if you don't like them.

Boston Baked Beans

Cover beans with plenty of cold water to which has been added one teaspoonful of baking soda. Let soak over night.

Drain off the water, cover the beans with fresh water and cook until, when a bean is taken between the thumb and first finger, the skin cracks readily.

Put the beans in an earthenware bean pot—a small crock will do if the bean pot is not available. Put pieices of salt pork with the beans—one-half pound would be sufficient for a pot of beans. Add one tablespoon salt, one tablespoon molasses, three tablespoons brown sugar and one-half tablespoon mustard (all level measurements). Fill up with water, if the liquor in which the beans were boiled is not sufficient to cover them.

Bake all day in a slow oven. An hour before serving remove the lid from the pot and add one cupful of catsup to the beans. Leave uncovered so that they may brown.

Boston baked beans are incomplete without Boston brown bread, which should be served hot with the beans. As a matter of fact, it makes an excellent fancy bread for any meal, particularly if one cupful of stoned raisins be added. It is easily made and inexpensive.

Boston Brown Bread

One cup rye meal.
One cup granulated corn meal.
One cup graham flour.
Three-quarters teaspoonful soda.
One teaspoonful salt.
One-half cup molasses.
Two and one-quarter cups sour milk.

Mix dry ingredients, add molasses and milk, stir till well mixed, turn into a buttered mould and steam three and a half hours.

Baking powder cans may be used as moulds. They should not be more than two-thirds full. The lids should be fitted down closely.

After the bread is cooked, turn it out, cool it, then cut in slices and eat with butter.

A supper of beans and brown bread is a delightful variation from the accustomed menu. But this is only one way in which beans may be used. Bean soup is very good and very nutritious. It may be the main supper dish, and few people will disdain a bowl of this steaming rich soup.

Black Bean Soup

1 pint black beans.
2 quarts cold water.
2 stalks celery.
1 small onion.
1 tablespoon salt.
⅛ teaspoon pepper.
1 teaspoonful mustard.
3 tablespoonfuls butter.
Cayenne.
2 tablespoons flour.

Soak beans over night, in the morning drain and add cold water. Slice onion and cook five minutes with half the butter, adding to beans, with celery stalks broken in places. Simmer three or four hours, or until beans are soft; adding more water as the water boils away.

Rub through a sieve, reheat, add salt, pepper, mustard and cayenne well mixed. Bind with remaining butter and flour cooked together.

Cut two hard boiled eggs in thin slices, and thin a lemon in thin slices, removing seeds. Put in tureen and strain the soup over them.

Split Pea Soup

1 cup dried split peas.
2½ quarts cold water.
1 pint milk.
½ onion.
¼ pound bacon cut in cubes.
3 tablespoons butter.
2 tablespoons flour.
1½ teaspoon salt.
⅛ teaspoon pepper.

Pick peas over, soak them over night, drain, add cold water, pork and onion. Simmer three or four hours; when soft rub through a sieve.

Add butter and flour cooked together, also salt and pepper. Dilute with milk, heat to boiling point and serve.

Lentil Soup

Soak lentils, cook till soft, press through a sieve.

Cook an equal kuantity of tomatoes with a bay leaf, a peppercorn and a clove. Press through sieve also.

Combine the lentil and tomato pulp adding one tablespoonful flour and one tablespoon butter, which have been cooked together. Season, reheat and serve.

Dal Soup

This is made exactly the same way as the lentil soup. Dal and lentils are not commonly sold—but grocers can probably get them. They are inexpensive and make delicious soups.

While we are talking about soups here is a vegetable soup without stock which is worth trying:

1/3 cup carrot.
1/3 cup turnip.
½ cup celery.
½ onion.
1 quart water.
5 tablespoons butter.
½ tablespoon finely chopped parsley.

Head Ached So Bad

HAD TO GO TO BED.

When the liver becomes sluggish and inactive it does not manufacture enough bile to thoroughly act on the bowels and carry off the waste matter from the system, hence the bowels become clogged up, the bile gets into the blood, constipation sets in and is followed by sick and bilious headaches, water brash, heartburn, floating specks before the eyes, and painful internal, bleeding or protruding piles.

Milburn's Laxa-Liver Pills regulate the flow of bile so that it acts properly on the bowels, and stirs the sluggish liver into activity.

Mrs. E. Bainbridge, Amherst, N.B., writes:—"I take pleasure in writing you of the good I received by using Milburn's Laxa-Liver Pills for headache. I was so bad I had to go to bed, and could not sit up. A friend told me about your wonderful medicine, and two vials have made me as well as I can be."

Milburn's Laxa-Liver Pills are 25c. a vial at all dealers, or mailed direct on receipt of price, by The T. Milburn Co., Limited, Toronto, Ont.

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means a great deal to a young man or woman when looking for an office position.

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We are thankful to an appreciative public for continued growth and are now in our 53rd year, going stronger than ever before.

Send for New Rate Card.

S. KERR,
Principal

Advertise in the Farmer.

Salt and pepper.

Clean and scrape or pare the vegetables, then cut in fine cubes—the onion must be sliced thinly. Melt the butter, add all vegetables except potatoes and cook ten minutes in the butter, stirring constantly. Ad pototoes, sover and cook two minutes. Add water and boil one hour. Add parsley, season and serve.

Scalloped Celery

A reader of this page writes of the uses of celery which, besides being a delicious vegetable, has distinct medicinal value. She calls to mind the fact that all parts of the stalk are good; the leaves, for instance, may be dried in a slow oven, and then used as a seasoning for soups, creamed potatoes, etc.

Here is a recipe for the tougher parts of the celery which one may not care to serve raw. It sounds very good—and I thank Samantha very heartily for sending it.

Cut celery into half inch pieces, wash in several waters, cook in boiling salted water till tender. Drain, saving the water in which the celery was cooked.

Put the celery in a baking dish, arranging a layer of celery, then a layer of dried bread crumbs, and over this a layer o grated cheese. Make a cream sauce with:

2 tablespoons butter.
2 tablespoons flour.
½ cup milk.
1 teaspoon salt.

Pour the sauce over the celery, cover the top with bread crumbs. Bake in moderate oven till well browned.

Onions may be boiled till tender, then placed in a baking dish and covered with a cream sauce. (Make the sauce of milk alone.) Sprinkle the top with bread crumbs, put bits of butter here and there. Bake in a moderate oven till brown.

These are only a few of the many ways in which vegetables may be premay be prepared.

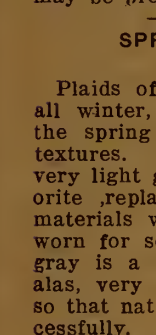
SPRING FASHHIONS

Plaids of all sorts, worn so much all winter, will be worn throughout the spring in certain colorings and textures. In plain colors the new very light gray promises to be a favorite ,replacing somewhat the beige materials which have been so much worn for several seasons. This new gray is a truly exquisite shade but, alas, very trying to the complexion, so that nat all of us can wear it successfully.

Besides, there is a new gray-green which has suddenly come into favor, a gray-blue which in bure or Kasha makes a smart tailleur, and a new shade which may be described as a sort of ivory gray and which is usually combined with black. Gray tinges many of the new spring fabrics, whatever their color— a sort of smokiness pervading everything.

Tailored jackets for spring will be sorter and generaly rather loose, although a few models show the close line to the top of the hips with a slight flare below. The redingote in light-weight materials will still be worn over thin frocks, which it is designed to conceal completely. The silhouette in general continues slender, and skirts, while no shorter, are not appreciably longer, although it is rumored that many longer skirts will be found in the spring collections—ankle-length evening frocks with skirts which are lifted in front in some fashion or slit or averlapped on the sides. However, the chances are decidedly in favor of the rather short evening skirt with trained panels which ordinarily sweep the floor for at least ten inches of their length, but which may be tucked up in dancing—and again the chances are that these panels, once tucked up, will remain so. We all adore short skirts.

The waist-line has a falling tendency—many of the latest models being frankly girdled about the top of the hips. And this line, it should be noted, is very pretty. However, with the hip girdle the skirt below falls straight. Panier effects are still worn but the latest models show a much reduced pnier, and in many the panier has given away altogether to the scanty crosswise drapery—the shallow folds drawn tightly about the figure to the hips.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Cooking utensils, Graniteware, Aluminum, Enamelledware, Tin, Copper, Brass, Iron, etc. Easy to use, no tools required, ready for use in 2 minutes. Saves a pot for ⅔ a cent. 15 cents at your Dealer, or postpaid by Vol-Peek- B-Co., Box 2624, Montreal

INEDIBLE FATS MAY BE MADE INTO SOAPS

In these days it is decidedly unpatriotic as wel las extravagant to waste one bit of fat. All housekeepers know that the price of soap is advancing rapidly and steadily. It is a very simple thing, indeed, to make your kitchen soap, yourself. But, do not use fat that might be needed for cooking purposes. Mutton tallow or fats that have been scorched and are of no further use for cooking may be made into soap in the following way. For each pound fat use one-seventh pound (1-7 lb.) of caustic potash (lye) dissolved in 1¾ cups cold water. Heat the fat to the melting point, then add the lye and water mixture; beat with an egg beater until an emulsion is formed. Or, if you have a large quantity, turn in an ice-cream freezer. Unless you mix it thoroughly it will separate in layers. Pour into a pan and mark in squares.

If the fat is very dark or has a strong odor, it will be improved if it is clarified. To do this, heat the fat with water, stirring constantly. Allow to boil one-half hour, then put aside to cool. Remove the hardened cold fat from the water and scrape any waste matter from the bottom.—Magdalene Hahn.

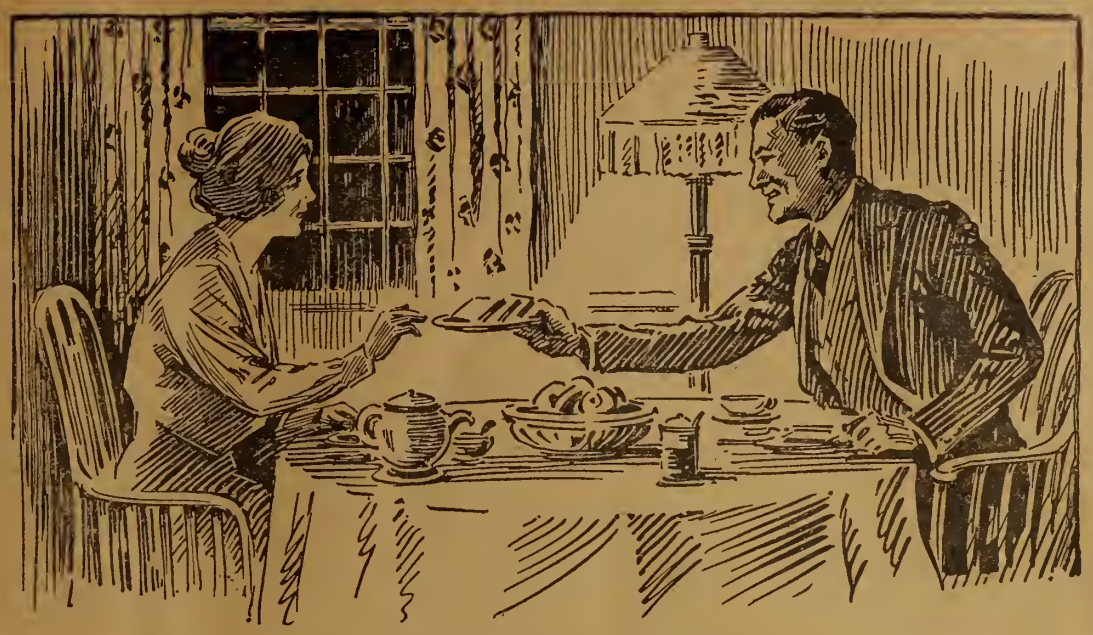
POWDERS

Powders and creams are the most generally used "beauty helps"—consequently there are hundreds of differerent kinds of preparation on the market. The woman who wants to choose the best from among them is often puzzled as to which sort she needs.

That's one of the advantages of making simple beauty cosmetics at home—you know they are pure, and you can get so much more for the same amount of money. It's rather a dainty task, too, if the woman has the time to take for it.

If you are ever in doubt about a powder, test it with ammonia. If it contains sugar or lead, which is harmful to the skin, it will turn black. Powders containing mineral substances are mostly harmful; those made from vegetable products are quite all right. Rice powder, which is exceedingly fine, is about the best to use on the face; talcum powder (having a tendency to cling to the skin, and being cooling), is best for use on the shoulders and arms, but is not very good for the sensitive skin of the face.

Plain, unscented rice powder may bought, put in a jar, and scented with extract or a perfumed oil. Take, for instance, half a pound of rice flour; half a pound of rice starch; two ounces of powdered boric acid—an antiseptic—perfume with 15 drops of essence of citron and 30 drops esennce of Bergamot. Or a similar amount of any essence you prefer, the scent being optional. This is very fragrant and refreshing.



But He Was Wrong

"Say! This is great bread. Did your Mother send it over, Mary?"

No! Indeed, she did not! Baked it myself this morning."

"It's exactly like your Mother's. You'd better cut another plateful, dear. Some bread!"

"Thank you, Jimmie. It *is* good, isn't it? It's the flour that makes this bread so good. It is perfectly wonderful!"

"Why, what *is* this wonder flour?"

"Mother's old favorite—

Extra strong in gluten—the invisible part of the wheat berry that does such a lot in producing good bread, and milled from the best hard wheat in the cleanest modern mills. Cream of the West Flour will make the finest flavored, bulgiest loaves imaginable.

Cream of the West Flour

The Campbell Flour Mills Co., Limited
affiliated with
Maple Leaf Milling Co., Limited
Toronto and Winnipeg

14

REPORT OF THE NOVA SCOTIA SUPT. OF DAIRYING

(Continued from page 415)

In conclusion I wish to thank you for the assistance and encouragement you have given me in my work. I also wish to thank the people of Baddeck District for the many kindnesses shown me since my coming to Baddeck.

Respectfully submitted,
(Sgd.) G. W. Parker.

INSTRUCTOR'S REPORT

(Read by R. B. McLellan at the N. S. Dairymen's Association)

Gentlemen:—

I have the honor to submit my second annual report as Instructor and Inspector of Creameries for Nova Scotia.

The early part of January was taken up with work in connection with the Dairy Exhibit at the Annual Nova Scotia Dairymen's Convention, which was held at the Agricultural College, Jan 9th and 10th. This exhibit was made up of one fourteen pound box of the regular make of butter, each month, from June to October inclusive, from each of the sixteen Creameries competing. Kept in cold storage until Convention time, and then socred by three independent judges and the average of the scores taken. This with the fresh made butter made up the exhibit and showed a decided improvement in uniformity of quality and workmanship over previous years, although there is still considerable room for improvement.

January and February were largely taken up with instruction work with regular students, in the Dairy.

Two weeks in February and March were spent visiting the Dairy Schools at Guelph and Kingston and also a few of the larger Creameries in Ontario and Detroit, Michigan.

It was my privilege to act as instructor in buttermaking during the short course for buttermakers at the Maritime Dairy School at Truro in March. The attendance was fair and the interest and attention given by the students throughout the course made the work pleasant for me and I hope profitable for them.

This feature of the Creamery work in the Maritime Provinces is an important one and will do a great deal towards standardizing the methods of manufacture and the quality of the Creamery butter in these provinces.

I attended several meetings in Cumberland County, held in connection with the establishing of a creamery at Amherst by Biden's Limited, giving those resent an outline of the Creamery methods. also pointing out some of the advantages of a Creamery to the farmer, and a short talk on separating milk and care of crem.

The summer months were lrgely taken up with visiting the Creameries in the province, each Creamery being visited at least three times and some of the smaller Creameries oftener. inspecting and giving the Manager and Buttermaker any instruction or assitsance possible. I found the Creameries in very fair sanitary condition, some of them showing considerable improvement over last season. Considerable attention was given to the stopping of loss and waste in Creamery practice.

Several of the Creameries have installed new pasteurizers, churns and other equipment and more will be installed next season.

Five of the Creameries have been experimenting with motor trucks for gathering cream, with generally satisfactory results. The fact was brought out quite clearly, that to get satisfactory and economical service, it is absolutely necessary to have a careful driver. who will see that his car is in good condition after each trip and make any repairs or adjustments which may be necessary. With conditions such as I have outlined a truck will run a season with comparatively little expense, out side of gas and oil, while with a careless driver the repairs will run into larger figures even to fifty per cent. of the original cost of the car.

I checked up the books of two of the Co-Operative Creameries during the summer months. This was done to inspire confidence on the part of the Patrons and to insure that the Creamery business was carefully and accurately conducted.

I checked up and made the preliminary score on the monthly shipments of butter to the North Atlantic Fisheries Cold Storage for the "Summer Butter Competition."

The month of October was largely spent in scoring the Dairy products at the Fall Fairs. The number of exhibits grows smaller each year, espeiolly in those districts served by any of the Creameries in the province. This is another indication of the tendency of the dairy farmer to ship his cream to the creamery rather than make the butter at home, as in most cases the work is considerably less and the returns more satisfactory.

The quality of the Creamery Butter in this province is showing a gradual improvement in uniformity of type and quality. One of our largest butter exporters said a few weeks ago, that "The average quality of butter received by them this season was considerably better than any previous year, but there was still considerable room for improvement."

The showing made by the Nova Scotia Creameries at the Canadian National Exhibition, where one First and three other prizes were won, and at the Dominion Educational Scoring at Montreal, where a Nova Scotia Creamery won First place for workmanship, should be very encouraging to Creamery men and Dairymen generally.

I wish to thank Mr. H. R. Brown, Superintendent of Cow Testing for Nova Scotia, and Mr. G. B. Pippy, Inspector of Dairy Products for the Maritime Provinces, for their advice and assitsance in certain phases of my work.

I wish to thank you, Mr. MacKay, for your advice and assistance in the various problems which come up in my work as Inspector.

Yours sincerely,
(Sgd.) R. B. McLennan.

AYRSHIRES IN R. O. P. TEST

During the months of January and February the reports of .71 Ayrshire cows that qualified in the R. O. P. test were received in the Secretary's office. These were made up of 14 mature cows, 7 four year olds; 13 three year olds; and 30, two year olds. In the Mature class, "Selwood Pride", 34853, owned by J. L. Stansell, Staffordville, Ont., heads the list, with 12, 591 lbs. milk, 530 lbs. butter fat, in 361 days, her average per cent of butter fat during the test was 4.21. The next highest was "Princess of Tanglewyld 3rd", 41737, owned by Wooddisse Bros., Moorefield, Ont., 11,652 lbs. milk, 457 lbs. fat in 365 days. Her average was

SUN LIFE ESTABLISHED NEW LANDMARKS *in* 1919

New milestones in the progress of the SUN LIFE ASSURANCE COMPANY OF CANADA were passed in 1919.

Applications received.....over $100,000,000.00
Assets.....over $100,000,000.00
Assurances in force.....over $400,000,000.00

Gratifying progress was made in all other departments during the year.

SYNOPSIS OF RESULTS FOR 1919:

Assets as at 31st December, 1919	$105,711,468.27
Increase over 1918	8,091,089.42
Cash Income from Premiums, Interest, Rents, etc., in 1919	25,704,201.10
Increase over 1918	4,053,101.41
Profits Paid or Allotted to Policyholders in 1919	1,606,503.37
Total Surplus 31st December, 1919, over all liabilities and capital (According to the Company's Standard, viz., for assurances, the O^{M}. (5) Table, with 3½ and 3 per cent interest, and for annuities, the B. O. Select Annuity Tables with 3½ per cent interest.)	8,037,440.25
Death Claims, Matured Endowments, Profits, etc., during 1919	12,364,651.15
Payments to Policyholders since organization	91,227,532.30
Assurances issued and paid for in cash during 1919	86,548,849.44
Increase over 1918	34,957,457.40
Life Assurances in force 31st December, 1919	416,358,462.05
Increase over 1918	75,548,805.92
Life Assurances applied for during 1919	100,336,848.37
Increase over 1918	42,529,881.70

THE COMPANY'S GROWTH

YEAR	INCOME	ASSETS	LIFE ASSURANCES IN FORCE
1872	$ 48,210.93	$ 96,461.95	$1,064,350.00
1884	278,379.65	836,897.24	6,844,404.64
1894	1,373,596.60	4,616,419.63	31,528,569.74
1904	4,561,936.19	17,851,760.92	85,327,662.85
1914	15,052,275.24	64,187,656.38	218,299,835.00
1919	25,704,201.10	105,711,468.27	416,358,462.05

The SUN LIFE issues more ordinary assurances annually than any other Company of the British Empire.

SUN LIFE ASSURANCE COMPANY OF CANADA

1871 HEAD OFFICE MONTREAL 1920
T. B. MACAULAY, President

—FORD—

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Covers Brass Radiator

Only **$17** Complete with Cap

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Fits Cars previous to 1917

Ask your Garage or write for Circular

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3.92 per cent fat. Following her was "Springhill Prairie Flower", 29407, owned by Shuttleworth Bros., Maidstone, Ont., with 10,677 lbs. milk, 433 lbs. fat, in 365 days and had an average of 4.15 per cent fat. The fourth highest was "Polly 6th, of Fernbrook", 48000, owned by Collier Bros., Beachville, Ont., with 10,175 lbs. milk, 400 lbs. fat, in 365 days. Her average was 3.93 per cent fat.

The highest in the four year old class was "Briery of Springbank 3rd," 44093, owned by A. S. Turner, Ryckman's corner, Ont., with 12,608 lbs. milk, and 519 lbs. fat produced in 365 days with an average fat content of 4.11 per cent. Next came "Duchess of Briar Crest", 50109, owned by the Experimental Farms, Ottawa, Ont., with 11,735 lbs. milk and 507 lbs. fat to her credit produced in 352 days with an average of 4.32 per cent. Following her was "Floss of Springbank", 44097, owned by A. S. Turner & Son, Ryckman's Corner, Ont., she produced 11,529 lbs. milk and 434 lbs. fat in 332 days, with an average of 3.76 per cent fat. Next highest was "Springburn Lucky Girl", 45814, owned by Gilbert McMillan, Huntingdon, Que., with 10,530 lbs. milk and 422 lbs. fat in 321 days and an average of 4.01 per cent fat.

The highest producer in the year old class was "Acmelea Grace", 57225, owned by H. C. Hamill, Markham, Ont., with 9772 lbs. milk and 396 lbs. fat in 328 days and an average of 4.09 per cent fat, the netx highest was "Fannie of Glencairn", 61528, owned by Thomas J. McCormick, Rockton, Ont., with 8872 lbs. milk and 359 lbs. fat in 363 days and an average of 4.04 per cent fat. Following was "Tanglewyld Primrose 3rd", 48993, owned by Wooddisse Bros., Moorefield, Ont., with 8466 lbs. milk and 326 lbs fat in 352 days. Her average per cent was 3.85. The next highest was Tangle wyld Pansy", 48991, owned by E. J. Cragg, Alma, Ont., with 8459 lbs. milk and 345 lbs. fat in 364 days with an average of 4.07 per cent fat.

The highest cow in the 2 year old class was "South Craig Lady Maud 2nd", 59836, owned by Wm. A. Gibson, Glenelm, Que., with 11,007 lbs. milk, and 498 lbs. fat, in 365 days with an average of 4.52 per cent fat. The next highest was "Tanglewyld Princess 4th", 53082, owned by Wooddisse Bros., Moorefield, Ont., with 10,733 lbs. milk and 452 lbs. fat in 365 days with an average of 4.22 per cent fat. The next highest was "Springbank Lady Jane", 51318, owned by A. S. Turner & Son, Ryckman's Corner, Ont., with 10,560 lbs. milk and 428 lbs. fat, in 365 days with an average of 4.05 per cent. The fourth highest was "Gardrum Floss", 50306, owned by Nova Scotia Agricultural College, Truro, N. S., with 10,382 lbs. milk and 433 lbs. fat in 357 days with an average of 4.17 per cent.

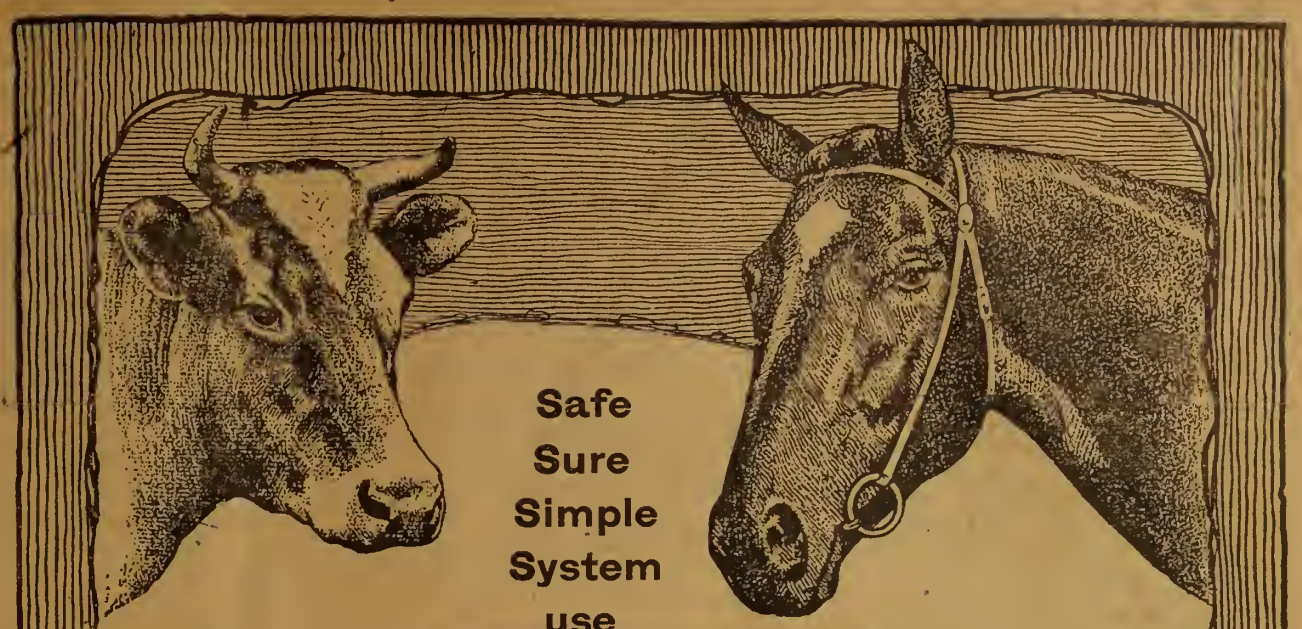
The exceptionally good records made by many of the two year olds was especially noticeable. Besides these mentioned quite a number gave over 9,000 lbs. of over 4 per cent milk.

W. F. STEPHEN,
Secretary.

COW GOING DRY

A. J. D.—Will you please tell me why my cow is going dry. There are yet two months before she is due to calf. Last year I stopped milking her while giving one pint daily, three weeks before she freshened. Now she is reasonably fat, in fact, more so than last year, and she only gives a half pint of milk at a milking.

Ans.—The food your cow eats has three functions to perform, viz.:—Maintain the cows body and nourish the calf she is carrying and produce milk. The first call on the food consumed will be for the maintenance of body and development of the uterus. If the food supply is not sufficient to leave a balance after these needs are supplied, the milk production must suffer. We would suggest that you feed your cow well and see that she is regularly watered. The winter of 1920 is much colder than the winter of 1919. It is just possible therefore, that your cow is not as comfortable in point of warmth as she should be. A two months rest with abundance of food will put your cow in good shape fir her next lactation period.



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STAMINAX CALF MEAL
(with separated milk only
Cheapest and finest calf meal in the world. You feed 1/3 to 1/2 less than ordinary calf meal and get better results.
Protein 17, Fat 14, Fibre 5
Price $9.10 per cwt.

STAMINAX DAIRY MEAL
Protein 20, Fat 5, Fibre 10
Price $5.95 per cwt.

STAMINAX MILK GROWING MASH
Protein 16, Fat 4, Fibre 7

STAMINAX MILK FATTENING MASH
Protein 16, Fat 5, Fibre 5.5

VALLEYTOWN CALF MEAL
Made from Flax, Oilcake Meal, Oatmeal, Corn, Sugar, Powdered Milk, Flour, Peas.
Protein 16, Fat 5, Fibre 5.
Price $6.25 per cwt.

STAMINAX MILK LAYING MASH
Protein 18, Fat 3, Fibre 7.5
Price $5.40 per cwt.

STAMINAX CHICK FEED
Best feed to give young chicks from 2 days to 6 weeks old. Made from Canary Seed, Flax, Groats, Millet, Kaffir Corn, Wheat, Corn.
Protein 11, Fat 3, Fibre 2.5
Price $7.70 per cwt.

VALLEYTOWN SCRATCH FEED
Made from Corn, Wheat, Kaffir Corn, Buckwheat, Oats.
Protein 10, Fat 2.5, Fibre 7.
Price $5.15 per cwt.

VALLEYTOWN LAYING MEAL
Made from Milk, Peas, Alfalfa, Shorts, Corn, Flour, Beef Scrap, Mustard.
Protein 15, Fat 3, Fibre 7
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All Staminax Feeds are delivered in new sealed bags. No oat hulls, dust, screenings, sweepings, charcoal, grit, oyster shell or cheap fillers are used. Staminax and Valleytown Feeds are guaranteed to contain nothing but the choicest re-cleaned grains.
Terms, 2% discount, cash with order. Freight paid on five bag lots to your nearest railway station in New Brunswick, Nova Scotia or P. E. I. 100-pound lots delivered by freight or express, our option, 50c per cwt. extra.

STAMINAX MILK HOG FEED

The ideal feed for hogs of all ages, as it raises hogs from Birth to finished Pork in the least possible time, with the least possible labor and expense. Place the feed dry in trough, give them all they will eat and watch them grow. After the hogs have eaten the feed give them all the water they can drink. Can be used with absolute safety from Birth to finished Pork.
Protein 17, Fat 3, Fibre 5
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WRITE FOR STAMINAX BOOKLET. SENT FREE.

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OF CANADA, LIMITED
Valleytown Feed Mills
DUNDAS, - ONTARIO

LICE LIVE IN STABLES

Lice infest stables and barns as well as the animals and will live in cracks and cervices of the walls and woodwork throughout the season that the barns are empty of cattle. Hence no time should be lost when cattle are sent to pasture in having the barns thoroughly cleaned and whitewashed, and the posts, stones, and other scratching places painted with crude petroleum or gas tar.

WARTS ON UDDER

I have a cow tbat has both sides of her udder covered with warts. How can I remove them? J. H.

Good results obtained in removing warts is got from a saturated solution of bicarbonate of soda applied twice a day. Warts that have narrow necks may be snipped off with scissors, a few at a time, then apply a little pine tar the following day.

Better farming, one of tbe chief factors of which is maintaining and building greater soil fertility, is the secret of making money on high-priced lands.

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The Aspinwall Automatic Potato Planter will SAVE your TIME and the EXPENSE of a hired man. It is SIMPLE, DURABLE, EFFICIENT. Can be drawn by TEAM or TRACTOR. Attachments for peas, beans and fertilizer furnished when desired.

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We Manufacture Strawberry Boxes and Crates for same, 6 qt. Baskets, Apple Boxes, Box Shooks, Apple Graders, Wheelbarrows. Now is the time to lay in a supply of Fruit Packages for the coming season. We have a good stock on hand, order early and ensure prompt shipment. Price on application to

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The capital, business methods and reputation of the largest farm agency in the world, established in 1900, will be behind you and your success assured. Unless you have been successful in other ventures, and enjoy the respect and confidence of your townsmen, do not apply. Experience not necessary, but must own an automobile.

Our business is paying capable men $3,000 to $5,000 yearly. State all particulars in first letter regarding your age, business experience and if you are a property owner. All communications treated as confidential Address

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Advertise in the Farmer

SOME NOTES ON SOILING CROPS

Even among the more conservative of our farmers soiling crops are gradually coming into favor. When the hot, dry weather of July and August parches the pasture fields and the grass loses much of its succulency and food value, the dairy cows are sure to fail in milk if some provision is not made to supplement the pastures.

A vast amount of data and experience in growing soiling crops has been collected by the different experment stations in Canada and the United States. Corn, where it does well, is by far the best crop for the purpose, but corn will not succeed in every district. And in some districts where it will do fairly well there are other crops that will do better if measured by the amount of labor required to grow a ton of feed.

The cost of labor is the chief argument against soiling crops, especially where these are cut and fed in the stable or yard. But many soiling crops may be pastured with the best results. This will very greatly reduce the labor needed.

Among the crops that do well for soiling are rape, O.P.V., (oats, peas and vetches), millet, oats and peas, etc. Rape may be sown either in drills or broadcast any time from spring until the last of July. When sown in drills cultivation greatly increases the yield. It gives the best results when pastured off by sheep or hogs. When fed to dairy cattle it will taint the milk. As a hog feed an acre of rape fed to young hogs equals two thousand five hundred pounds of meal.

In districts where corn does not do very well, a mixture of oats, peas and vetches is used for silage. It does equally well when pastured off.

Millet makes a good soiling crop but does not give as heavy a yield of fodder. It is often sown where another crop has been frost killed or failed to germinate. It makes a good crop of hay.

Oats and peas sown at the rate of two bushels of oats and one bushel of peas to the acre. This gives a very heavy yield of fodder. It is a fact that oats and peas sown together will produce more feed than if either are sown alone. This is an excellent soiling crop to feed to dairy cows. It will produce a large amount of good feed. The peas stand up well and are not easily damaged from tramping. The cattle may be turned onto it when the crop is ten or twelve inches high, but it is probable that more feed will be produced if the crop is allowed to attain a greater growth.

If not eaten down too closely this will continue to grow all summer. Any that is not needed for pasture will make an excellent quality of feed if cut when the oats are in the milk stage. It is harder to dry thon ordinary hay but when well cured it makes a first class feed for either dairy cattle or growing stock and requires less of the concentrated stock to form a balanced ration.

If milk cows are allowed to drop back in milk production during the dry weather it is almost impossible to bring up to standard later on. This is where a soilage crop will prove beneficial for it will prevent a decrease in the milk flow during a dry period.—John H. McDonald, Cape Breton Co., N. S.

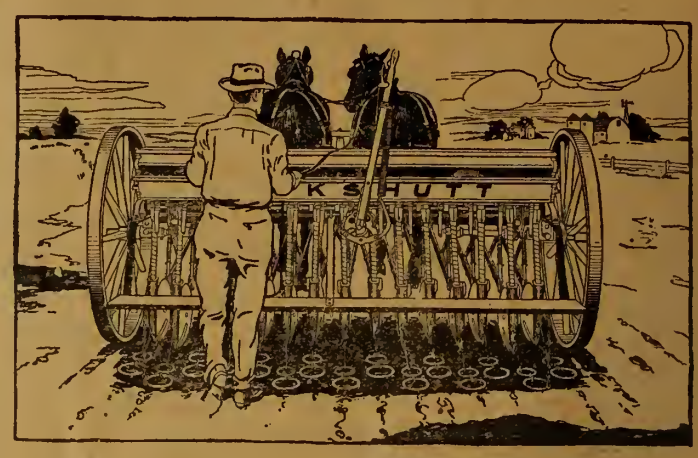
PLOWING SPEEDS

The old saying that "it is hard to get out of the rut" seems to still hold true today in regard to plowing. There is much diversity of opinion as to the proper speed to plow, but the chief argument for slow plowing seems to be that "grandfather did it."

Regardless of what you attempt, it is a slow and difficult proposition to swing people from habits they have cultivated for years. That is just what is occurring now in regard to plowing. Slowly the progressive farmers are coming out strongly in favor of faster plowing. This is emphasized by the great demand for the fast, lighter tractor.

First, let us consider what a good job of plowing is. One of the chief objects of plowing is to pulverize the soil. The plow may invert the furrow slice in a perfect manner, and completely bury all vegetation or trash, but it fails to pulverize, and leaves the soil in such a condition that the harrow cannot complete the work in the best and cheapest manner—it is not satisfactory. A good job of plowing occurs when the soil is thrown over in a well pulverized, and leveled condition, so that it can be planted

COCKSHUTT



The Cockshutt Drill —Perfect Seeding

Of all farming operations, seeding is the one in which guess work and haphazard methods must be eliminated. You have so much land to work. You want to use a minimum of expensive seed grain and you have only a limited time in which to work. All these factors have been carefully considered in the designing of the famous Cockshutt light draft Grain Drill.

It has a strong, non-sagging steel frame. Its positive force feed sows any quantity desired. The discs rise independently when striking obstructions. A convenient lever varies the depth of the seeding. The grain shoes deposit the seed accurately and the following rings cover it evenly and thoroughly.

When you buy a drill, get the best. Nothing else is worth while. Get a Cockshutt. It is no experiment but a proven, popular success. See one at our nearest Dealer's or write our nearest Branch for illustrated Drill Folder and catalogue of our full line of Farm Implements and Machines.

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Eureka Potato Planter

Pays for Itself in Labor and Time Saved

One man and team with an Eureka Potato Planter needs no hired help to plant the whole crop. Whether you plant 4 acres or 400, the Eureka Planter will pay for itself many times over. Better than hand planting. Increases yield. Does 5 operations at once, automatically—accurately.

Opens furrow, drops seed any distance and depth, drops fertilizer (if desired), covers up and marks next row. **Furrow opens and seed drops in plain sight**—an equal distance apart, at uniform depth, with **absolutely no injury to seed.** Easy to operate in any soil, made of steel and malleable iron—assuring long life, light weight and few or no repairs.

Write for **free** catalog on this great line of potato planters—the largest line made. Sizes for 1 or 2 rows, with or without fertilizer attachment. **In Stock Near You.** A success for over 20 years. Whether you are a large or small grower—write today.

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with the minimum amount of labor, and preparation.

What occurrs when you plow slowly, that is with the speed of 2 to 2½ miles per hour? The soil is turned over slowly and does not tend to pulverize to any extent but to maintain the same shape as when cut from the land. Hence the furrow slices are laid against each other and the plowed field takes on a ridged appearance. Think of the great amount of soil surface that is exposed to the drying action of the elements. This plowing does not reduce to a minimum the preparation of the soil before seeding. It is no different than the plowing done by horses; the ridged condition makes it necessary to bring the field back to its levelled state. Also trash and weeds can be be seen poking their heads up between the furrow slices, ready to grow again. The jointer fails to woll the weeds in the corner of the furrow where they belong. Large clods are noticeable which, if not broken up soon after plowing, become dry and hard. Air pockets are numerous where the furrow sliecs are laid upon each other and due to the large clods aer difficult to eliminate.

Plowing at a speed of 3 to 3½ miles per hour is referred to as fast plowing. The soil is shoved up rapidlly and tends to go up high on the turn of the mouldboard and then is thrown over well pulverized and in a level condition.

With soil in this shape it can be prepared for planting with very little preparation. The field is level and has a granulated covering of soil over it to prevent escape of moisture, so that in case the soil was not worked for some time after plowing, the harm done would be greatly minimized.

The trash is well covered, very seldom will one see weeds or vegetation showing where the soil has been turned rapidly, and is level. Where the trash is buried in one corner of the furrow much better connection is made with the subsoil by the remainder of the furrow slice.

Scouring is often greatly facilitated by increasing the speed. As every farmer knows there are often sent spots in a field which have a tendency to clog up the plows, and to start the plow scouring, it is necessary to speed up a team after getting out of one of these soft spots.

The furrow wall will also appear more elan cut, and neater than the slower job.

Farmers agree that one of the greatest arguments for the tractor is its ability to get crops in quickly. Here is where fast plowing saves time for the farmer and fulfills his expectation of reducing the labor on crops.—C. H. Sprague.

ORCHARD CULTIVATION WITH THE TRACTOR

Thousands of farmers and fruit growers are trying to decide the tractor question. They know that in the tractor twentieth century progress is offering to agriculture the greatest mechanical help of a generation. It is sometimes hard for a farmer to decide, however, what type or what make of a tractor is best suited to his individual needs.

Fruit growers especially, in deciding their tractor problems, will be interested in the experience of Minch Brothers, who are successful raisers of South Jersey fruit and produce on their thousand acre farm at Brighton, N. J. L. W. Minch, secretary and treasurer of Minch Brothers, tells an interesting story of their experience with three Cletracs, the tank-type tractors.

"We bought our first tractor," said Mr. Minch to a representative of the Courier, "with the idea of giving it a fair trial, planning to buy other machines of same make if it made good. The fact that we have since bought two more Cletracs shows that the first experiment was a success. We found that one man with a tractor equipment can often do as much and better work than two men and eight horses

"When we bought our first machine we had a reasonable competent workman who after some instructions from the ocmanpy's salesman began at once to plow an orchard. It was a success from the start. The management of both tractor and plows was entrusted to this driver who soon became quite expert in their manipulation. He could plow to any desred depth, manoeuver around under the trees, and drive under the low spreading branches without difficulty.

"We found that in orchard tillage we could use the tractor with various implements attached to much better advantage than we had been using our horses. With such heavy foilage and low-top trees as are usual in modern orchards it is extremely difficult to work draft horses without danger of over-exhausting them. This is especially true in the heat of midsummer. The tractor, however, made all seasons its own and we found that drought and hard ground were no longer an excuse for suspending work. In fact, the frequent tillage kept the soil mellow and conserved the moisture."

FERTILIZERS FOR THE POTATO CROP

Of all ordinary farm crops that of the potato is probably the most profitably responsive to liberal feeding. The aceptance of this statement does not in the least ignore the fact that there are several other factors that play a very important part toward success in potato growing—type of soil, character of season and the cultivation and spraying of the crop—but it means that with these factors favorable the crop s a very responsive one to applcations of plant food and the yield will be approximately commensurate with the available plant food supply.

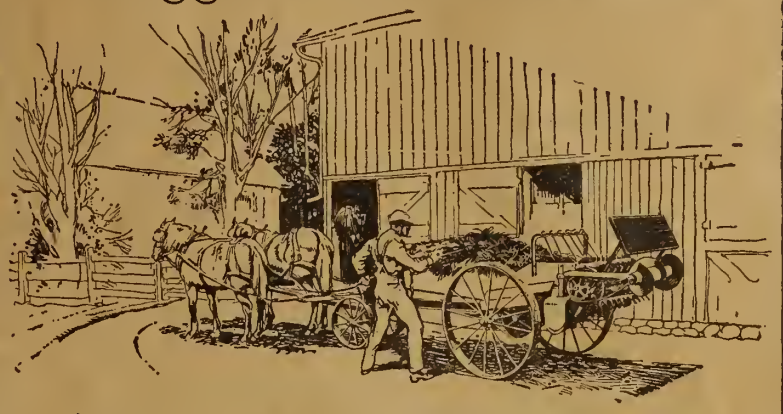
It is generally conceded that there is no better preparation for the crop than a clover or alfalfa sod well manured (10 to 20 tons per acre) and ploughed in the late summer or early autumn. This practice of fall ploughing ensures the decay of the sod and manure and provides a good supply of humus, which is so useful in keeping the soil moist, and at the same time allows for the preparation of plant food in forms available for the use of the crop. Spring dressings of manure are not desirable, as they tend to encourage the development of scab.

As is well recognized, soils differ greatly as to their productiveness—a quality largely dependent upon richness in available plant food—indeed there are no two soils exactly alike in this respect—and this fact makes it impossible to lay down hard and fast directions for fertilizing or to give a formula that would be equally applicable for all soils. But with a fairly good soil, from a well manured clover sod as described, we should consider 350 to 700 pounds of 3-9-6 commercial fertilizer would represent the limits that may be deemed desirable and profitable. This would mean an application of nitrogen 10½ to 21 pounds, of phosphoric acid 31½ to 63 pounds and of potash 21 to 42 pounds, per acre. If the ingredients are purchased rather than the ready mixed fertilizers (generally the more economical plan) the amounts would be notrate of soda 75 to 150 pounds, superphosphate 20 to 400 pounds and sulphate of potash 40 to 80 pounds, per acre. On light and very poor soilc scantily manured the maximum amounts here given may be somewhat raised, dressings to 1000 pounds or more per acre frequently proving profitable. For soils rich in nitrogen, as from clover and liberal manuring, the nitrogen in the above recommendations may be cut down one third. On clay loams the potash may likewise be reduced one-third.

It is considered good practice by many experienced potato growers to supply a part of the nitrogen in the form of an organic nitrogenous fertilizer, as dried blood. As both fertilizers contain approximately the same percentage of nitrogen this may readily be done by replacing half the nitrate of soda in the above recommendations by an equal weight of dried blood.

Probably the best plan of application is to broadcast the fertilizer mixture on the prepared land when reworked in the spring and harrow in. If the method of putting the fertilizer in the drill or furrows is considered more direct and more economical, care should be taken that the fertilizer does not come into direct contact with the sets.—Frank T. Shutt, Dominion Chemist, Experimental Farm, Ottawa, Ont.

Rugged and Efficient



THE first essential of a heavy-duty machine, such as a manure spreader, is rugged, substantial construction, so that the machine will withstand the severe strain that it undergoes when working on a rough field.

MADE IN CANADA

Warping or twisting of the frame will throw the mechanism out of alignment and cause some of the parts to jam or work hard. This does not happen with **Deering or McCormick Spreaders,** because the main frame is of channel steel, well braced by cross beams and tie braces.

The apron is moved from both sides at the same time, so that there is no danger of the chain jumping off the sprocket or of the apron twisting or binding, as sometimes happens where only a single chain is used. The beater is all steel and is placed so as to combine lightness of draft with the greatest possible operating advantage. It pulverizes the manure thoroughly. The wide-spread spiral screw gives the manure a second beating and spreads it uniformly, well beyond the wheels of the spreader.

Deering and McCormick Spreaders are rugged and efficient. They are built for long service and dependability. If that is the kind of a spreader you want, let us send you a catalog containing complete descriptive information. Write to the nearest branch house listed below. And call on your local International agent when in town.

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WESTERN BRANCHES—BRANDON, WINNIPEG, MAN., CALGARY, EDMONTON LETHBRIDGE, ALTA., ESTEVAN, N. BATTLEFORD, REGINA, SASKATOON, YORKTON, SASK.
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GROW STRAWBERRIES

We WANT your order for STRAWBERRY PLANTS this coming season. Of course you are planting a larger acreage than usual,—everybody's doing it, for strawberry growing at the prices now days is a sure fire money maker. The Canning factories are anxious to buy all the berries they can secure, so we now have no fear of over production. Get our plants and be sure of big crops. Senator Dunlap, Warfield, Beder Wood and Dr. Burrell, six dollars a thousand. Sample, Glen Mary, Premier and Bubach seven dollars a thousand. We allow one dollar a thousand discount from these prices on all orders of four thousand or over of one variety. Send for Catalogue. It's Free.

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Bigger Crops of Fruits and Vegetables
Write for illustrated booklet on Crop Diseases
Spramotor
It isn't a SPRAMOTOR unless we made it
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WANTED, One thousand farmers to try a sample ton, of our famous "DOMINION BRANDS" of mixed fertilizers for vegetables, grain and grass.

WANTED ALSO, Fifty merchants or farmers in centres where we are not represented to handle carload lots.

Write us to-day, whether you need a ton or a carload.

The Dominion Fertilizer Co., Ltd.
ST. STEPHEN, N. B.,
or
S. J. WILSON, General Agent,
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Oh ! Look ! !

Fruit Trees, Etc.

I have unsold at present a few thousand Choice Apple Trees 5 to 7 ft. high in the leading Hardy varieties, also a few Plum, Pear and Cherry trees, small Fruits and Shrubs. Write at once for prices if you wish to secure stock for Spring planting.

Address:
W. A. FILLMORE
24 Crescent St., AMHERST, N. S.

STRAWBERRY PLANTS

Senator Dunlap, Brandywine, Sample, Dickie, and other standard varieties for sale at reasonable prices. Send for price list.

JOHN N. CHUTE,
BERWICK, N. S.

N. B. INDUSTRY OFFERS STOCK

That the campaign to buy "Made in Canada Goods" is having its effect in every line of business is well brought out in this issue by the offering of Clark Brothers preferred stock, a parctical demonstration that the financial interests of the Country realize that not only should people buy Canadian made materials, but that the capital to provide and maintain the development of the industries should also be provided by Canadians. St. Stephen is well known for its several successful factories, all of them having a nation-wide reputation. Clark Brothers is one of them.

The making of boots and shoes in Canada is an interesting and far-reaching industry, touching and affecting a very large per cent. of the Canadian people. Shoe Manufacturers are planning to take immediate action to place before the public, facts and figures regarding the Canadian Shoe Industry. An interesting fact in this line was brought out in conversation the other day with Mr. John F. Clark, the head of this concern, when he pointed out that he is able to buy British grown and tanned leather at from twenty-eight to thirty cents a foot cheaper than the American manufacturers can obtain the same thing. This means so far as Canadians are concerned, the best grade of boots at the minimum of cost. It takes from thre to four feet of leather to produce on pair of ladies shoes. The saving in cost of materials at once becomes apparent.

Clark Brothers, Limited, are manufacturing and shipping between seven hundred and eight hundred pairs of ladies shoes every day, and these shoes are displayed in every city and town in every corner of the Dominion of Canada from Charlottetown to Victoria. They number among their customers such well known concerns as:

Robert Simpson Company.
Goodwin Limited.
Waterbury & Rising, Limited.
Hudson Bay Company.

And others too numerous to mention, as their accounts run into the hundreds, and every shoe manufacturer has the same story to tell, namely, that Clark Brothers shoes are the best they get. In fact the only difficulty is that they cannot get enough of them.

It is to remedy this difficulty that J. M. Robinson & Sons are selling the 8% preferred stock of the Company on terms that will give the investors 8% yearly on their money, paying it in four quarterly instalments.

Backing up successful Canadian industry with good Canadian money should be not only the habit but the principle on which Canadians from now on should do their investing.

This concern which in the seven years of its history with small capital has developed a most successful business and has built up a surplus of over $50,000, is ripe for the expansion which capital will now make possible. The business opportunity spread out before the Company runs hand in hand with the opportunity of the investors to put their money where it will give a handsome return nand do more good for Canada.

The Farmer Says—
"Show me the Cows"
World's Champions are milked with the Hinman
SOME of the world's finest pedigreed cows are milked with the Hinman daily.
Eleven years on the market—tried, tested and proven. More are in use than any other.
Hinman Milkers are better for the cows than hand-milking, because they are more uniform, more restful.
Milk is cleaner because it does not come in contact with outside air, human hands, dirt or other contamination. Hinman Milkers save much time and money.
Get the full story in our illustrated book on milking. Write to-night!
HINMAN
CANADA'S STANDARD MILKER
H. F. BAILEY & SON, MFRS., GALT, ONT.

RE CANADIAN-GROWN SEEDS

During the past ten years the commercial production of field root and garden vegetable seeds in Canada has increased almost 100 fold. Our November 1919 seed survey indicates a production of approximately 150,000 pounds of seed, all grown under government control and exclusive of some 60,000 pounds of field root seeds produced on the Experimental Farms of the Federal Department of Agriculture. These seed supplies include most o fthe standard varieties that are favorably known to the Canadian public and the trade, and are now available through the usual trade channels.

There are several distinct reasons why our farmers and gardeners might prefer Canadian-grown seed, produced under government control;

I. The seed has been grown under cultural regulations calculated to protect the users of the seed, viz.: The parent stocks, whether seeds, bulbs or roots, are subject to the approval of the Seed Branch, Department of Agriculture. This insures their outstanding merit as breeding stocks. From these parent stocks are produced the commercial seed fields, which are inspected while growing so as to insure proper rogueing of off-type and other undesirable plants, roots or bulbs. Then, following the harvest, threshing and cleaning, the seed is tested to conform with specified standards of germination before it may go on the market with the approval of the Federal Department of Agriculture. This procedure insures practical protection to the purchaser when he asks for seed grown under government control.

II. The matter of acclimatization appears as an important factor. Seed that is matured in Canada is likely to be better adapted to crop production in Canada than seed of foreign origin. Numerous comparative tests by practical farmers and on Government Experimental Farms, clearly indicate that average home-grown root seed insures stronger vitality and generally produces larger crops of roots, than average foreign seeds.

III. It would appear to be of outstanding advantage to the Canadian farmer that he may reasonably demand when, where and how the seed has been grown. He may also expect to obtain seeds of certain strains of Canadian growth year after year, such as have proved of special value on his farm.

IV. It is false economy from a national standpoint to import millions of dollars worth of these seeds, when our country is well adapted to their production and is capable of developing sufficient supplies to equal Canadian requirements, as well as to cater to an export trade and compete favourably with foreign seeds from an economic viewpoint.

V. For further information regarding Canadian-grown field root and garden vegetable seeds, produced under government control, you are invited to communicate with this office.—Chief Officer, Markets Intelligence Division, Seed Branch, Ottawa.

Best-by-Test FERTILIZERS for every CROP and every SOIL

FARMS YIELD MORE IN CROPS AND MONEY when they are kept up to a high production standard by the regular use of good Fertilizers. BEST-BY-TEST FERTILIZERS are strong in fertilizing power and are up to full strength of analysis. If you want advice as to the kind of Fertilizer you need, write us about your crop and soil. We are headquarters for scientific users of Fertilizer in Eastern Canada. We pride ourselves on having every brand, make or chemical any farmer or dealer could ask for. Ask your dealer, or form a club of farmers and order in carload lots. Prices on request.

Write for interesting Book on Fertilizers—FREE

CANADIAN FERTILIZER CO., LIMITED
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With much pleasure we offer to the people of the Maritime Provinces a good opportunity to invest their money at home in a successful manufacturing industry.

PURPOSE

The purpose of this issue is to provide additional working capital to take care of the rapidly growing business and to take advantage of the goodwill and reputation built up by the management through seven years of successful operation.

We Offer **$100,000**

CLARK BROS. LIMITED

of St. Stephen, N. B.

8 p. c. Preferred Stock

Dividends payable quarterly Feb. May, Augt. & Nov.
Price 100 and accrued dividend, Yielding 8 p. c

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Clarke Bros. manufacture high grade MacKay stitched ladies shoes of such well known brands as "Supreme Lady", "Winnie Walker" etc.

Shoes of a quality as good as can be made by that particular process and retailing at a price within the reach of 75 p. c. of the women of the country, a fact which at all times assures a wide and ready market.

QUANTITY

The output of the factory is at present 700 pairs a day---the capacity is 2000 pairs a day---and this quantity will be the aim of the management as further capital makes the increase possible.

It will be a pleasure to send you our special circular with full particulars. Wire or Write for it.

J. M. ROBINSON & SONS,

Established 1889

ST. JOHN, N. B. - - - FREDERICTON, N. B.

HOW DOES CANADIAN GROWN ROOT SEED COMPARE WITH IMPORTED?

It is commonly conceded that, for some reason or other, European seed of field roots is superior, in respect to root crop producing ability, to seed raised in Canada. In order to investigate this assertion, which, were it true, naturally would prevent Canada from becoming a root seed growing company of importance, several experiments have been undertaken during the last few years.

In 1916, seed of a few varieties of mangels and Swede turnips raised the previous year by the oDminion Experimental Farms' System was tested in comparison with seed of the same varieties obtained commercially. The results of the experiments strongly indicated that the Canadian-grown seed was fully capable of competing with the comercial seed, which later had been imported from Europe, in respect to crop producing power. In fact in some instances the Canadian-grown seed proved decidedly superior.

In 1919, a very large number of varieties of field roots were tested. The majority were grown from ordinary seed of commerce, and the balance from seed produced at the Experimental Farms in 1918.

Although complete reports, at the time of writing, have not been received, a ew remarks on the camparative value in general of the Canadian-grown and the imported seed may be offered, particularly as the results obtained clearly demonstrate on what the crop producing value of root seed largely depends.

Most of the crops from the commercial, i. e., imported seed, proved rather unsatisfactory in as much as the roots were greatly lacking in uniformity and smoothness. In a large number of cases the so-called varieties were composed of all kinds of types, in fact often to such a degree that type which is a certain variety was supposed to represent could hardly be recognized.

The crops from the Canadian-grown seed were on the whole better. Outstandingly good were the crops grown from seed which had been raised by the Dominion Experimental Farm from roots representing improved varieties, i. e., varieties which for a few years have been subjected to a rigorous selection. In other words, the importance of selection was unmistakeably demonstrated. Applying the results to practical root seed growing, it follows, then, that, in order to gain a reputation as a reliable seed producer, the grower must base his seed growing business on very careful selection. Growing of seed from ordinary root crops without careful selction will never lead to profitable results. On the contrary, it will result in the placing on the market of varieties apt to prove inferior. Seed growing without careful and intelligent selection of the seed roots must therefore by all means be discouraged. On the other hand, it is a comparatively easy matter for any one who takes the trouble to select only the very best roots, uniform in shape and color, to develop a variety superior to the ordinary commercial variety from which the selection is being made. Seed produced from such roots will prove very much superior from a crop producing standpoint.—M. O. Malte, Dominion Agrostologist.

TUBER DISEASES OF POTATOES

When digging potatoes, a number of diseases may be observed on the tubers: For example, spots of corky tissue on the skin, called Common Scab; or black surface spots which look like pieces of soil, but remain sticking to the tuber when it is washed, this is the so-called Black Scurf or Rhizoctonia. Again, there may be brown spots somewhat silvery, especially when moistened—the Silver Scurf disease. These diseases do not affect the edible qualities of the potatoes; only when they are badly infected is a loss incurred, due to a deterioration in the saleable value.

Later, however after the potatoes have been in storage for some months more or less rotting of the tubers takes place, which in bad cases may result in 30% or 40% of the tubers becoming valueless. This rotting may be observed externally through its causing irregular sunken areas to appear, which are brown under the surface of the skin. This rot is due to Late Blight; this being a disease which first makes its appearance on the leaves as dead, water-soaked areas, occasionally killing the whole plant as well as infecting the tubers. Thus it is most important to spray your plants regularly during the growing season, particularly in warm and damp weather. Again, one may also find a dry rot with white pustules breaking through the surface; in this case the cause is a Fusarium Dry Rot, which is nearly always associated with a crack or bruise of the tuber.

Other diseases may be noticed when the potatoes are cut or peeled; for instance, a black discoloration extending from the skin inwards which is sometimes wet rotted. This is Black Leg, a disease which also attacks the growing plant, causing an unthrifty condition which often results in the plant turning yellow, falling over and dying. It cannot be controlled by spraying, but is easily held in check by planting sound potatoes, for the disease is transmitted to the plant by the tuber.

To control these diseases it is necessary to adopt a careful routine for the selection and treatment of the seed tuber at planting time, and to provide the best possible conditions of storage. These two points are briefly outlined as follows:

Seed Treatment

1.—Do not use seed from a field known to have been badly attacked by some disease.

2.—Discard all cut, broken or bruised tubers.

3.—Before cutting, soak them in either: (a) Corrosive sublimate solution—2 ounces in 25 gallons of water—for four hours. N. B.—**Corrosive sublimate is a deadly poison.**

(b)—Formalin solution—1 pint in 30 gallons of water—for two hours.

4.—When cutting tubers, keep a jar of formalin at hand with a spare knife in it, and when a tuber is cut which shows any discoloration, discard it, drop the knife into the jar, and use the other one for the next tuber.

5.—Do not plant potatoes in a wet, undrained soil, for such soil furnishes conditions favorable to many diseases.

Storage Conditions

1.—See that the potatoes are thoroughly ripened, and exercise the greatest care to avoid any injury to the tuber.

2.—Keep the temperature of the store room about 36 degrees F. Potatoes freeze at 26-28 degrees, F., and freezing must be avoided.

3.—There should be ample ventilation with sufficient moisture to prevent the potato drying, but not enough to cause water to condense on the surface of the tubers.

4.—Direct sunlight should be excluded.

It is of the utmost importance to spray regularly during the growing season, since, more particularly in the case of Late Blight, mentioned above, there is a direct relationship between the diseased plant and the later rotting of the potato in storage. In this article, however, we have aimed at emphasizing (1) the planting of healthy tubers, disinfected so as to kill externally adhering diseases and (2) the providing of conditions in storage which will reduce the losses from rotting to a minimum.

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FARMERS will find it to their advantage to co-operate with this Bank.

With branches throughout every province of Canada, and correspondents in all parts of the world, we have unequalled facilities for gathering news of markets, prices, and business conditions of interest to farmers.

Make it a point to call upon us whenever you have an opportunity.

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DOCK THE LAMBS

In the ten years from 1901 to 1911 the number of sheep in Nova Scotia decreased from 285,204 to 221,074. A duction of 64,170 or twenty-two and one-half per cent, With the decrease in numbers the interest in the flocks particularly on the average farm, waned accordingly.

Since the last census interest in sheep raising old fashioned, slip shod caring for the flock is increasing. The war and the need of more stock coupled with the high prices that prevail has done and is doing wonders for the industry.

There is no need to dwell on the necessity of a flock on every farm. No province in the Dominion is better adapted to sheep raising than Nova Scotia. Despite the impetus given to sheep raising old ashioned , slip shod methods are still the rule on many farms.

Docking and castration are two operations that should not be neglected. Go into almost any district in Nova Scotia or New Brunswick and one will see flocks in which not a single member has been docked.

An undocked flock of sheep is evidence of carlessness on the part of the owner. It is not a dangerous operation nor one that requires much time or labor. It adds to the appearance of the animal, enhancing the blockiness in shape. The tail is really of no value and in summer when pastures are green and soft it becomes covered with filth that detracts considerably from the animal's appearance.

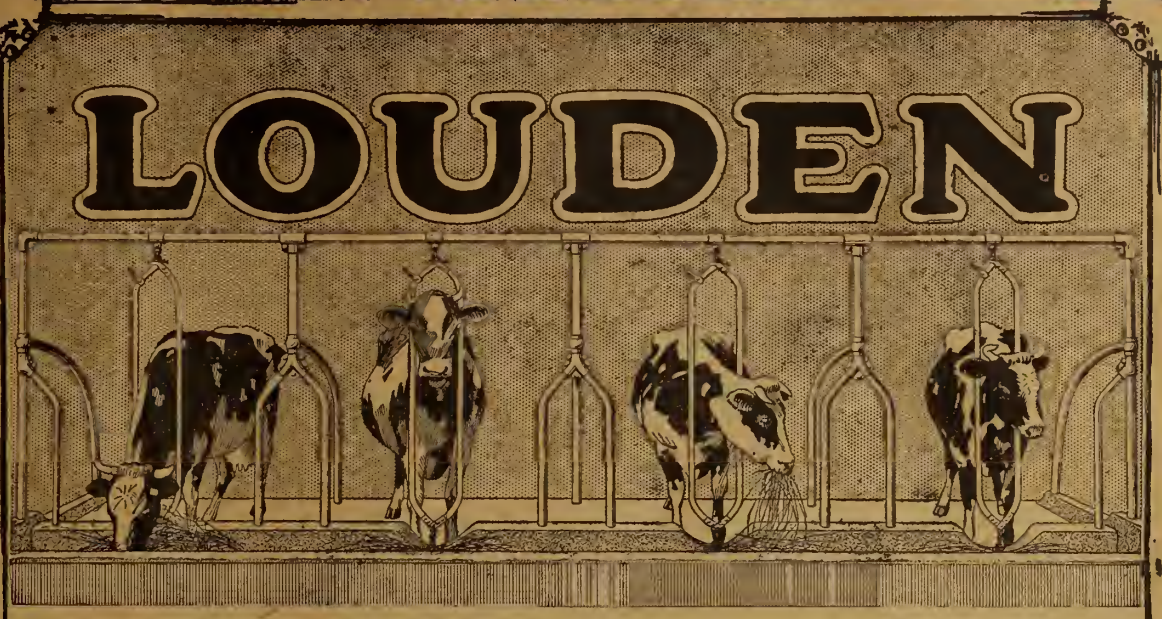
No farmer can find a reasonable excuse for not docking his lambs. There are many different methods and al are simple. Last year I had the good fortune to observe the methods employed on a mixed farm in Suffolk on the east coast of England, not far from Ipswich.

The lambs were from five to ten days old when the operation was performed. The operator placed the lamb between his feet and grasped the tail with fingers of the left hand he worked the skin of the tail towards the body. With a knife in the right hand a quick cut was made from beneath the tail upwards, severing it at the second joint from the body. This left a very short stump and the skin when released came down and covered the end of the stump. The lambs when released immediately ran to their mothers and commenced to feed. No ill effects from shock could be observed. Sometimes a few drops of antiseptic was put on the cut.

Another method is to use an inch and a half or two-inch chisel and placing the tail on a block, cut it off with a sharp blow. Another method prefered by some is to use a red hot pair of pincers. This sears the wound and prevents bleeding.

Any and all of these methods have been found satisfactory. The small amount of time necessary to perform the operation is more than repaid by the improved apearance of the flock which often means increased prices if sold alive.

No farmer can afford to neglect this operation if he wishes his flock to equal in appearance that of his neighbors.—J.H. McDonald.



Swinging Stanchions and Stalls

BESIDES being the strongest cow tie made, the Louden Stanchion is also the most comfortable.

Holding the Stanchion to the curb is a single slack chain, with a tensile strength of no less than 5,000 lbs.

This slack chain allows the cow to swing the Louden Stanchion freely in a circle eight to ten inches wide. Think of the comfort and freedom this gives. It enables the cow to lie down easily on either side, placing her body and head in as restful a position as if she were not tied at all.

Think of how comfortable the sloping corners of the stanchion are for the neck and how safe for her feet. No danger of a cow getting a foot caught between the bottom of this stanchion and the curb.

Don't worry about the twisting strain on the hinge at the bottom. The Louden Stanchion is strong where others are weak. It is reinforced and riveted and is of very great strength.

And, remember, you can open the latch of the Louden Stanchion with one hand, but it can never be unlatched by the cattle.

Like Louden Stanchions, Loudon Stalls are built of smooth, high-carbon steel tubes and excel in durability, simplicity, cleanliness and comfort.

The Louden Y Stall, illustrated above, is so constructed that when the cow enters the stall she immediately places her head right into the stanchion. When tied she can easily turn her head and lick herself.

The Y Legs prevent the cow from working hay and other feed out of the manger into the stall and wasting it.

The Y Legs and uprights are so firmly clamped together with Louden's telescoping dust-proof couplings that this patented Louden Stall combines all the strength and good features of the double or triple post stall.

The Louden Machinery Co.,
of Canada, Limited
No. 628 Crimea St., Guelph, Ont.

Branches at Winnipeg, St. John, N.B., Quebec and Vancouver also the Alberta Dairy Supplies, Limited, Edmonton, Alta.

This stall is patented by the Louden Machinery Company. Its construction is exclusive to Louden's. There is no other similar stall on the market.

With Loudon Barn Equipment, you can keep cows clean, comfortable, and contented. You can save time, labor, and money. You can save feed and straw. You can get more milk from your cows.

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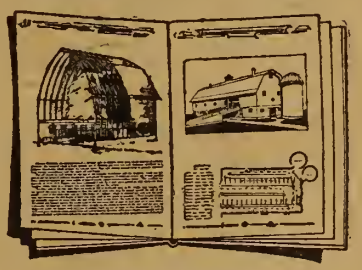

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DO NOT DEPLETE POULTRY STOCKS

Judging from the unprecedented heavy deliveries of poultry on the central eastern markets so early in the season, it would appear that farmers and producers generally are not only depleting their flocks unwarrantably but also rushing them to the market in an unfinished condition. As a result, the current price of chickens is much below normal value at the present time, in comparison with the prices of other meats. This is directly due to the overloading of the market.

With the brisk inquiry for Canadian poultry from Great Britain, it is expected by exporters that the demand for well finished, good quality stock will be very keen during the coming winter. Besides, there will be a good demand for home consumption. The price for well-finished birds continues firm, but with so much poor stock arriving wholly unsuited for export, many buyers have recentl yreduced their quotations for all low grades.

The presence of pullets and young fowl has also been noted in many shipments. This is most unfortunate considering the price of eggs. The very firm prospect for the profitable marketing of all poultry products points to the necessity of conserving in every possible way all suitable laying and breeding stock. Unless this is done ,there will be but little poultry left the eastern portion of the country. Even in a short time on the farms in the central, though feed is scarce and high, it would pay farmers to finish the birds before offering them for sale and spread their deliveries over a longer period.

Current receipts to date have consisted mainly of live poultry. The season is now sufficiently advanced, however, to warrant more liberal shipments of dressed poultry. In light of the fact that there will be a considerable movement of Canadian poultry to Great Britain, it is of the utmost importance that all poultry killed on the farms, in addition to being well-finished, be properly killed and dressed. The British market, in fact all large markets, prefer poultry bled in the mouth and dry picked. While killing by dislocation may be preferred by some, the presence of blood in the neck and the resultant discoloration make it unsuitable for storage or export purposes.

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Jerseys and Shorthorns (Pure Bred)

Jersey Offerings for the Winter of 1919—20

A few registered mature cows due to freshen the coming fall and winter.

Several yearlings, bred and not bred, registered and grades.

Several pure bred and grade calves, male and female.

Shorthorn Offerings for Winter of 1919—20

Two yearling beifers, very thrifty.

Several pure bred calves, male and female, by Imported English dual purpose Shorthorn bull, out of splendid producing dams.

We can supply intending purchasers a choice list of either Jerseys or Shorthorns to select from.

Come along witb your inquiries.

Apply for information to

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COSSAR STOCK FARM

Lower Gagetown, N. B.

importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

We are presently offering, one imported Clydesdale Stallion "Dunure Crag" sired by the famous breeding horse "Baron of Buchlyvie."

Also

One Canadian bred Clydesdale Stallion "Baron Cossar", rising 5 years old.

Further particulars on application.

G. C. Cossar, Proprietor. J. Melklejohn, Agent.

Shorthorn Cattle

High grade registered stock for sale

E. HETHERINGTON

CODYS, :: :: :- N. B.

Bonnie View Holsteins For Sale

Three bulls fit for service from heavy producing cows, prices right. Also a few bull calves to offer. I won two firsts and a third on three entries in the Amherst Fair milk test and have others as good or better.

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We bave a few young bulls to offer, sired by Dutcbland Colantba Sir Rag Apple, a son of Colantha Johanna Lad. His dam is a granddaugbter of Pontiac Korndyke. Thus combining the blood of two of the greatest bulls the world has ever seen.

The dams are daughters of Dutchland Pieterje Count. These calves are a nice straigbt growtby lot.

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FOR SALE!

Extra gocd Berkshire boars and sows fcur months old. One boar fit for service and young pigs ready to wean. Will have more youngsters ready to ship April and May. They are all the big lengthy kind. We also offer Jersey bulls and heifers from 3 months to 3 years old.

J. R. SEMPLE & SON, Truro, N. S.

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Registered large English Yorkshire pigs from old sows. Best imported stock. Price $12 at weaning time.

Cash to accompany orders. First get choice.

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WANTED—Cheese maker for Belleisle Cheese factory for season of 1920. Output for 1919, 35 tons. Apply stating salary and qualifications to R. N. PEARSON, Belleisle Creek, Kings Co., N. B.

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John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B.

Ayrshire Cattle

McIntyre Bros., Springbrook Farm, Sussex, N. B.

E. Cbaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.
C. A. Archibald, Truro, N. S.
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J. Frank Roach, Sussex.

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FOR SALE—Registered Yorkshire Pigs farrowing Feb. 20 and March 15. Price $10.—W. M. STARKEY, Cody, N. B.

RAISE SILVER BLACK FOXES, get our easy terms, prices for spring pups. Silver, Cross and Red Foxes. TODD & MOORE, St. Stephen, N. B.

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CLYDESDALE STALLION FOR SALE. Nine years old, a prize winner. Good worker and sure stock getter. Priced for quick sale. J. JAMES ROSS, Pictou, N.S.

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HATCHING EGGS.—S. C. Red and White Leghorns. Splendid layers. Tbree dollars per fifteen. MOUNT PLEASANT POULTRY YARDS. 62 Parks Street, St. Jobn, N. B.

FOR SALE—Two pure bred Jersey Bulls fit for service. Also Bull Calf. There breeding is the best, price is low. H. J. NORTH, Canning, Kings Co., N. S.

WANT TO HEAR from party having farm for sale; give partlculars and lowest price. JOHN J. BLACK, Marltime St., Chlppewa Falls, Wls.

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THE SEVENTEENTH ANNUAL Kings County Seed Fair will be held in the Agricultural School, Sussex, on Saturday, March 27th, 1920. Every farmer in the County of Kings is cordially invited to make entries and attend the Fair. Addresses on Agriculture will be the feature of the afternoon session. Copies of the prize list may be procured on application to the Secretary—M. A. McLEOD, Sussex.

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Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

HIGHLAND LAKE HOLSTEINS

Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, tbe world's record cow. Only one other 41-lb. bull in Canada.

We bave young bulls for sale wbose two nearest dams (both Canadian champions) average as bigb as 35.62 lbs. butter in seven days; anotber whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yonge St. Radial) JEFFERSON, ONT

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Shorthorn Cattle and Shropshire Sheep

The early maturing and good doing sort—bred from Show stock in every cross. Offering thirty ewe lambs and shearling ewes to avoid crowding winter quarters. Also a few ram lambs not booked yet.

C. A. ARCHIBALD, Bellevue, Clifton, N. S.

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for sale calves of both sexes, sired by Dutchland Pieterje Count, a bull of splendid size and type, whose fo nearest dams have records averaging 28.61 pounds of butter in seven days. His dam i ter of Colantha Jobanna Lad, who has 101 A. R. O. daugbters, 4 over 32 lbs., 7 over e of them world's records for 365 days. If you want sometbing cboice, come and see calves or write for furtber particulars.

We will also book o rs for young Yorkshire pigs for next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewbere

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We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

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BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows have in turn been bred to "Riverdale Lyons Echo Posch" wbose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter eacb in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a beifer calf or two. Get your orders in quick, tbey won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

Special Offering

Maple Green Farm Holsteins

On account of the great shortage in the supply of milk in our home town, we have decided (with regret) to dispose of our entire crop of Bull and heifer calves.

If taken inside of the next 30 days will price them away below their value.

The Dams of these calves are now running in the R. O. P., and the last official test conducted by the R. O. P. inspector showed an average test of 4.62% fat for the lot.

All are sired by our 32.32 lb. herd sire "King Korndyke Johanna", whose Dam is a full sister to Canada's Champion R. O. P. cow, "Jemima Johanna of Riverside". Milk in 365 days 30373; butter in 365 days, 1280 lbs.

Phone or write,

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FOR SALE

Pure Bred Registered Percheron Stallion "King Ferdinand", foaled March 16, 1916, pure black in color, broken to work, weight 1600 pounds, sired by Gresham, champion of Maritime Provinces. Dam, Lady Belle, equally undefeated.

This is a splendid opportunity to secure a horse of exceptional good breeding. Inspection of stables solicited.

For Prioe and particulars, apply

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Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Sbropshire Sheep

We are offering males and females, all ages. Have some good cows to fresben soon. Am booking orders for ram lambs for fall delivery. Write or phone for prices and description.

J. ROBIE MacDONALD,
Shubenacadie, - - Nova Scotia
Successor to J. MacDonald & Son

Five Ayrshire Bulls for Sale!

If you want the best in Ayrshires come to Hillside. Our Stock sires are a son of the great "Jean Armour" and a son of "Gardrum White Floss", 1919 Amherst champion over all breeds.

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We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S.

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SUSSEX WOOD CUTTER

They are built especially for Custom Work to handle all kinds of heavy rough wood

WE GUARANTEE SATISFACTION

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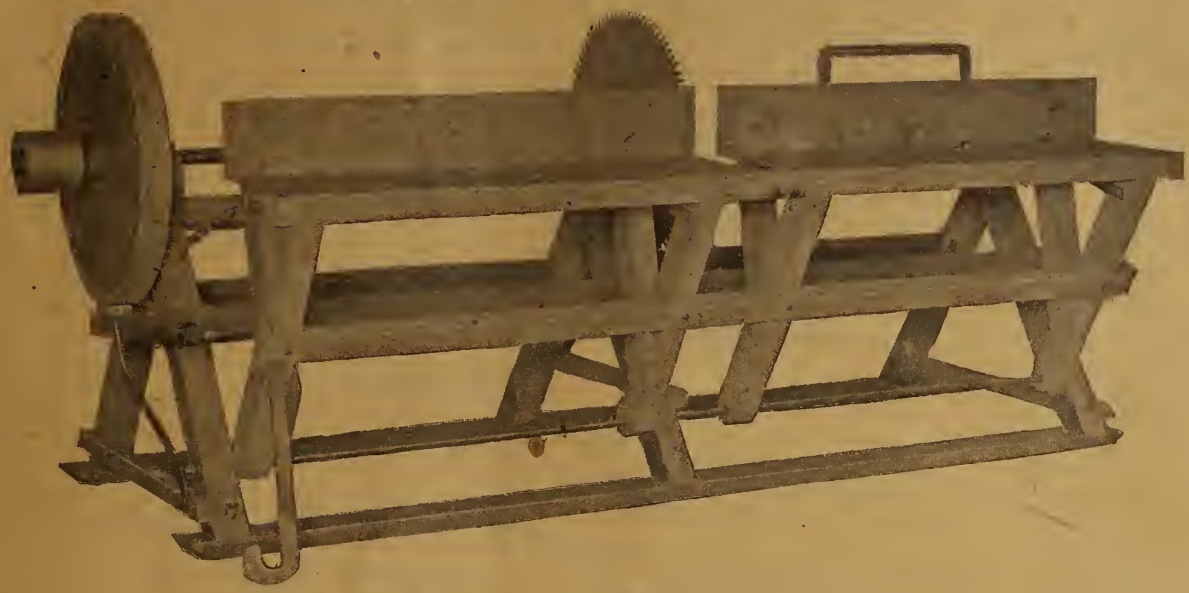

Balance Wheel 150 lbs.

LONG SWING TABLE—4 ft. 3 inches between Balance Wheel and saw.

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QUALITY is the first consideration in buying machinery. The BEST is the CHEAPEST.
Two second hand Little Giant Threshers on hand for quick sale. Write us today

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Holstein Herd Averages 18812 lbs. Milk

A herd of 13 purebred Holsteins last year averaged 18812 lbs. milk and 638.57 lbs. fat.

Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in

HOLSTEIN CATTLE

send for booklets—they contain much valuable information.

Holstein-Friesian Association of Canada
W. A. CLEMONS, Secretary.
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FOR SALE

We have to offer a nice bunch of Shorthorn bulls and heifers ages 1 to 3 years.

Also span 4 year old horses, span 5 year old horses, span of brood mares and a choice driver

For further particulars apply to

FRANK C. FAWCETT
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AYRSHIRES BULLS!

fit for service, bred from heavy producing stock.

FRED S. BLACK & SONS,
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Chester White Pigs for Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

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Calves of either sex, eight mos. of age and younger, from well bred and Tuberculin-tested Dams. Write for further particulars or come and see them.

Booking orders for Yorkshire Pigs for Spring delivery—from 1st Prize Sire and Dams at Fredericton Exhibition, Fall 1919—either sex, six weeks old. $10.00 each.

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Two yearling Gurnsey bulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

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We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

For particulars and prices write

THE EASTERN KARAKULE-ARABI SHEEP CO., LTD. WINDSOR, N. S.

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Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

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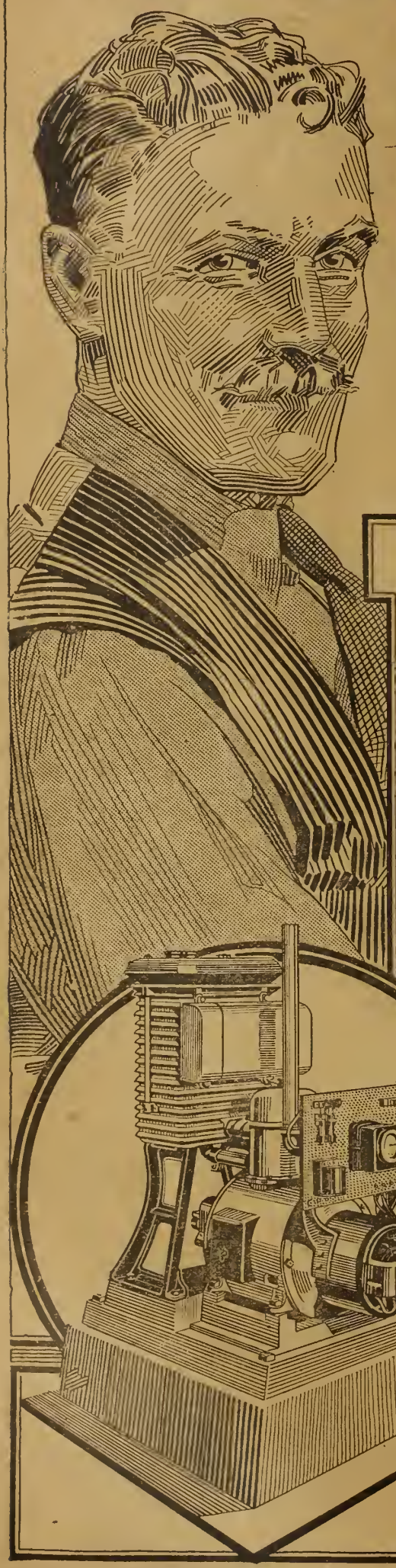

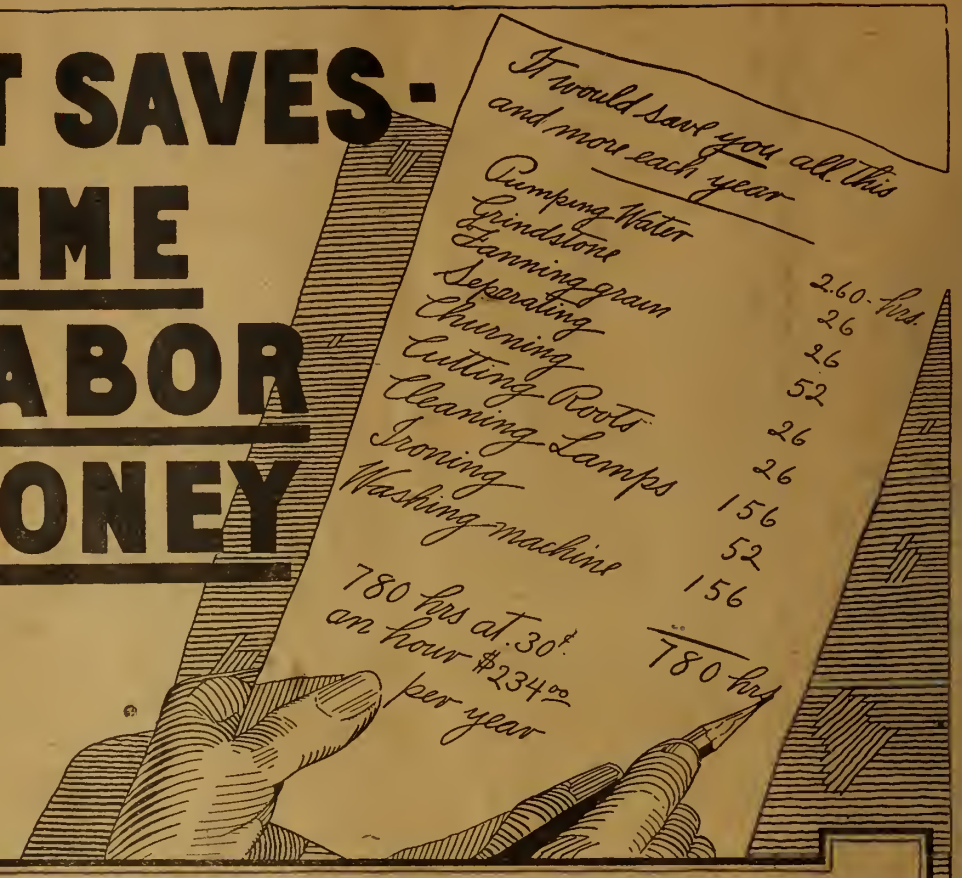

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You can electrify your farm with Northern Electric Power and Light for less than your hired man costs you for one year's work, and what you now pay for coal oil will maintain and operate it.

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The
MARITIME FARMER
AND CO-OPERATIVE DAIRYMAN

TRADEMARK REGISTERED

Published Fortnightly in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 | SUSSEX, N. B., MARCH 30, 1920 | No 13.

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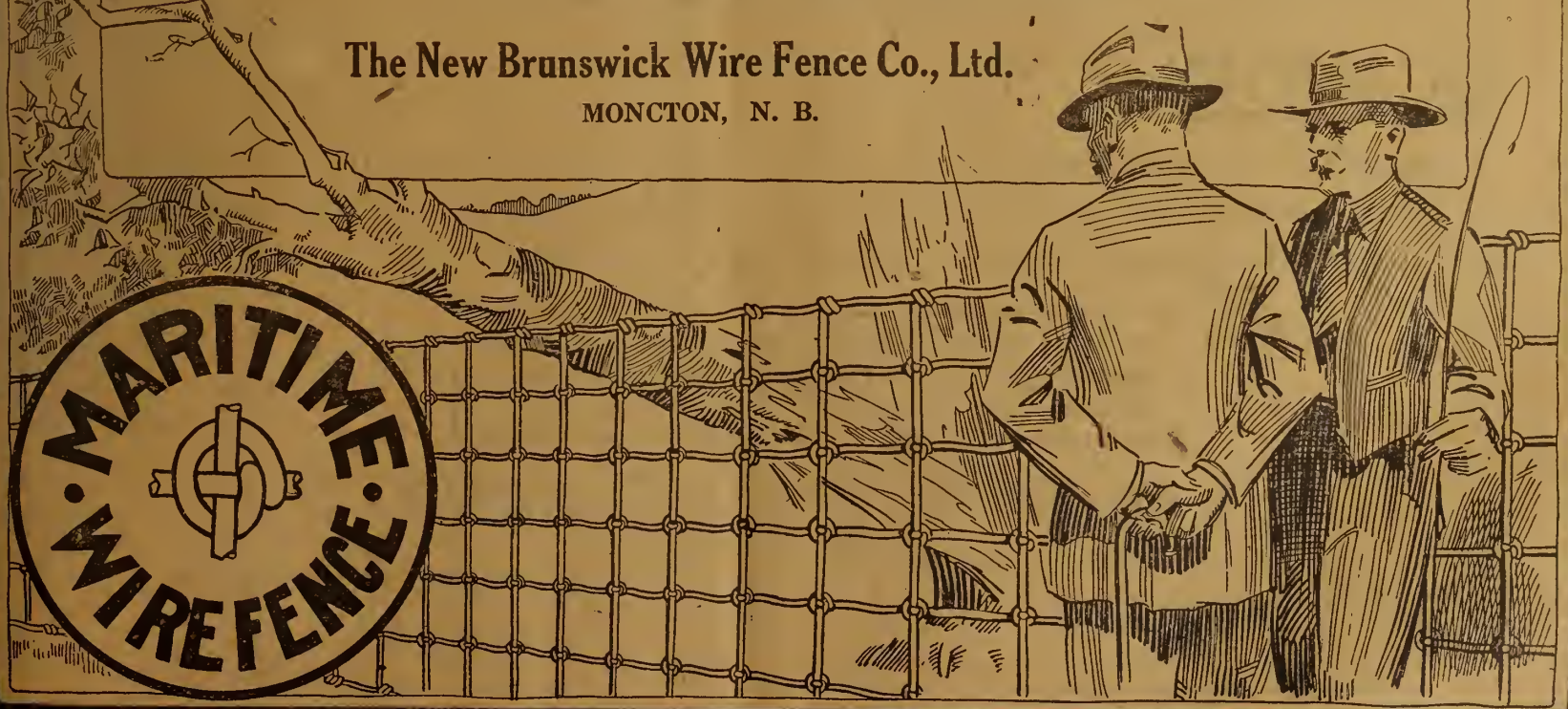
The strands and stays are firmly gripped at every join by our special time tried and tested never-slip lock. Even after years of hard service, Maritime wire fence retains its sagless shape and sightly appearance. All Maritime Fences are carefully inspected and rigidly tested before leaving the factory. When you buy it you know you have got something that is bull strong and hog tight, something that will withstand greater strain than it is ever likely to receive.

Before you buy fencing it will pay you to first learn what the Maritime has to offer in the way of real fence service.

For sale by agents and dealers in nearly every section.
If you don't know the local dealer, write to us direct.

The New Brunswick Wire Fence Co., Ltd.
MONCTON, N. B.



NEW OFFERING

With much pleasure we offer to the people of the Maritime Provinces a good opportunity to invest their money at home in a successful manufacturing industry.

PURPOSE

The purpose of this issue is to provide additional working capital to take care of the rapidly growing business and to take advantage of the goodwill and reputation built up by the management through seven years of successful operation.

We Offer $100,000

CLARK BROS. LIMITED

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8 p. c. Preferred Stock

Dividends payable quarterly Feb. May, Augt. & Nov.
Price 100 and accrued dividend, Yielding 8 p. c

BUSINESS

Clarke Bros. manufacture high grade MacKay stitched ladies shoes of such well known brands as "Supreme Lady", "Winnie Walker" etc.

Shoes of a quality as good as can be made by that particular process and retailing at a price within the reach of 75 p. c. of the women of the country, a fact which at all times assures a wide and ready market.

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The output of the factory is at present 700 pairs a day---the capacity is 2000 pairs a day---and this quantity will be the aim of the management as further capital makes the increase possible.

It will be a pleasure to send you our special circular with full particulars. Wire or Write for it.

J. M. ROBINSON & SONS,

Established 1889

T. JOHN, N. B. - - - FREDERICTON, N. B.

LOUDEN

Barn Plans Will Save You Money

LIKE many other farmers, dairymen and stockmen, you are going to build a new modern barn or remodel the old one.

If you go to a regular architect and have him draw up plans for you, it will cost you a lot of money. And a regular architect has very little, if any, experience in planning barns and is unqualified to give you the best advice on the construction of a modern barn. If you make the plans yourself you will make some technical mistakes that will prove costly.

It was to save money for farmers and to help them build more satisfactory barns that the Louden Architectural Department was organized.

This Department is in charge of an architect who specializes on planning barns. He has planned so many Canadian barns that he knows just the kind that are most suitable to Canadian farming conditions and Canadian weather. His advice would be worth scores of dollars to you.

Tell him what kind of stock you want to house, the number of animals, and your ideas of what would best suit you, and if possible, if you are remodelling, send a rough sketch of your old barn, showing location of windows, doors, supporting beams and columns, etc., and indicate the roadway, the well, the south side of the barn, and the location of your house.

Section of Louden Cow Stall.

Our architect will supply you free floor plan suggestions.

If you are not quite ready to go into particulars, send for our Barn Plan Book. Send for it anyway. We will mail it FREE to those who fill in and send the coupon.

This big 112-page book is not our catalogue. It is a book of 74 barn plans carefully selected from hundreds of Louden-planned barns that have been erected in Canada and the United States. It will give you the very latest ideas in modern barn planning and construction.

Besides barn plans, it is a regular encyclopaedia of information on the values of different kinds of building materials. It deals with ventilation, drainage, and lighting. The chapter on the mixing and laying of concrete is worth many dollars to the man who is going to build a modern barn. But we cannot tell you about this big barn plan book here, so send for it and see for yourself.

And when ordering equipment for the new barn remember that a Louden-equipped barn is even more important than a Louden-planned barn.

Louden Steel Stalls and Swinging Stanchions are easy to keep clean. There are no dirt catching nooks and corners—no wood to absorb moisture or odors. The smooth, steel-tubing construction is handsome, durable and sanitary.

Louden Y Stalls are patented and are obtainable only from us. They combine the strength and convenience and feed saving qualities of the double and triple post stalls, while giving all the freedom of the single post stall. They permit the use of the feed-saving Built-up Manger Curb.

Louden Swinging Stanchions give cows all that head-turning, body-moving freedom that is so necessary to keep an animal comfortable and contented. By replacing your old stiff stanchions with Louden Swinging Stanchions there will be an increase in the milk flow that will soon pay for the new equipment.

Louden Stalls and Stanchions, as well as other Louden lines, are fully described in Louden's General Catalogue. If requested we will include it with the Barn Plan Book if you will fill in and send us that coupon.

That is the easiest thing you can do to-day—to send that coupon. It will only take a very few minutes. When you get the books you will agree that you never spent so short a time to such good advantage, for these books will show you how to save money by better planning and proper equipment.

The Louden Machinery Co. of Canada, Limited

No. 638 Crimea St., Guelph, Ont.

Branches at Winnipeg, Man., St. John, N.B., Quebec, Que., and Vancouver, B.C., also the Alberta Dairy Supplies, Limited, Edmonton, Alberta.

The Louden Machinery Company of Canada, Limited.
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Please send me, postpaid, the book(s) checked below:

☐ Louden Barn Plan Book.

☐ Illustrated Catalogue.

I expect to build (or remodel) a barn about (date) .....

for ..... cows ..... horses.

Name .....

P.O. .....

Province .....

Chase power is driving power

Both rear wheels get the same steady driving power

There the Chase differs from other tractors.

It has no differential gears.

No matter what trouble it may get into, what obstacles it meets, however rough or uneven the going may be, the power of the Chase drives both rear wheels to pull through.

Differential gears add nothing to the operation of a tractor.

They do cause many tractor troubles.

When one wheel strikes an obstacle, the differential throws the power into the other wheel—where it is least needed—and makes the tractor practically a one-wheel-drive machine.

That is why some tractors cannot pull through when they get into holes or bad going. One wheel goes "dead" and the other spins. The power of the motor cannot be used to move the tractor.

So The Chase Stays on the Job

The Chase Tractor, having no differential gears, has an equal positive drive on both rear wheels, and thus gets the full benefit of the driving power of the heavy-duty motor.

This means that the Chase is not easily blocked, and consequently stays on the job more hours per day.

Less Strain, Less Wear

And this no-differential feature of the Chase insures longer service because it avoids uneven wear of parts.

Even in ordinary plowing on the level, the side-draft has a tendency to make one wheel do more work than the other. A tractor with differential gears cannot pull evenly under that side-draft. It becomes again a one-wheel-drive machine. It gets uneven wear and uneven strain, which must shorten its years of service.

The Chase Tractor pulls evenly—and so wears evenly.

Also Saves Kerosene

It also operates more economicallv—uses less fuel.

For two reasons. First, driving through gears wastes about 10% of the power. The Chase saves that 10%. Second, the even pull requires less power and uses less gas.

This no-differential feature of the Chase Tractor is but one of many evidences that the men who make it know what a tractor ought to be. From the heavy-duty Tractor motor to the smallest bolt in its construction, the Chase is "built to build goodwill."

World-wide Industry

Canadians build the Chase—in Canada. Canadians build the Chase that is sold in Great Britain and foreign lands—yes, and also in the United States. The Chase institution was created to establish in Canada a world-wide tractor business founded on Canadian principles of doing business. The men behind it, R. J. and W. J. Cluff, are men of high manufacturing ideals. They are exacting in their demands. They want the men who buy Chase Tractors to make money out of them. They are determined that every customer shall receive the service he requires to keep his Chase Tractor always at its best and always "on the job."

You can make Money with a Chase

You will find it to your advantage to deal with an institution with these ideas of service. You will find that the Chase Tractor is a piece of machinery that will gladden your eye. If you haven't seen it, be sure to do so. Or, write for illustrated literature and detailed information. We will send it promptly and tell you where you can see a Chase Tractor.

SPECIFICATIONS

Motor—Buda Model H.T.W. Heavy duty, Tractor type 4 cyl. 4¼" bore, 5½" stroke. Set crosswise of frame. Every part readily accessible. Extra large water passages for cooling. Force-feed lubrication, thorough vaporizing of low-grade fuels. Heated and "water washed" air.

Fuel—Specially designed to burn Kerosene or low-grade gasoline.

Drive—No differential gears are used, the drive being direct from the transmission to outer rim of wheel through bull pinions and gears. Both bull pinions and bull gears cut from forged steel and case-hardened.

Transmission—Fully enclosed and running in oil. Myatt roller bearings. Very simple type. Gears accurately machined from high grade steel.

Chain Drive—Power is delivered to the transmission gears by a wide chain fully encased and running in oil.

Belt Pulley—In direct line with crankshaft—no bevel gears. Located at side—best position for lining up with the machine to be driven.

Control—Driver has unobstructed view. Control levers are simple and easy-working.

Turning radius—12 feet circle.

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTESED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The. Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 25. SUSSEX, NEW BRUNSWICK, MARCH 30, 1920. Number 13.

Co-Operative Stores and Otherwise

Farmers can Save Money by Co-operation--Why Does Woodstock charge branch U.F. a Profit ?---Shareholders are not Just Satisfied

One feature of the United Farmer Movement in this province has been the establishment of a string of stores —designed by their promoters to redce the cost of supplies to the farmers of this province. Much has been and is being promised in the way of reducing the daily expenses of the farmer through the operation of these mercantile establishments, in fact, so much has been promised that the Maritime Farmer proposes to deal frankly with the whole question.

For several years the Maritime Farmer has been assisting farmers in the Maritime Provinces to secure through co-operation, cheaper feeds, flour, fertilizer, seeds and goods which can be purchased in car lots and handled to advantage on the track.

Careful study of the situation convinced this paper that co-operative stores, unless conducted by men of experience and ability (and such men command high salaries) cannot be run with the hope of paying a dividend on the investment, and at the same time result in any appreciable saving of money to farmers who invest in them. Time and again this advice has been given by us.

In normal times co-operative stores have repeatedly failed in the Maritime Provinces—simply because good management and sound judgment were not brought to bear on their affairs. Therefore, at a time when conditions are abnormal, when goods are costing many times more than a few years ago, when largely increased capital is required to stock stores and when the risk of declining prices is being received with apprehension by all sane business men, the Maritime Farmer feels justified in warning farmers against investing their money in enterprises which may disappear in bankruptcy—should the markets break and the owners find themselves loaded with stocks, the selling values of which may rapidly decline. That was and is the judgment of the management of this paper—and we have purchased hundreds of thousands of dollars worth of merchandise for farmers in the Maritime Provinces.

But while men of undoubted business capacity were treading cautiously—recognizing that supply and demand are still the big factors which govern prices and determine success or failure in busniess—the Unted Farmer stores, with all their glittering promises, were launched.

The scheme was for a central store at Woodstock—with branches in various places. In the case of branch stores, ten per cent. of the subscribde capital is taken by the head office and the balance is left to the branch store for working capital. The head office buys supplies for the branch stores, but only to the extent of the capital raised by the owners of the branches.

And here comes the rub. **On every sale of goods by head office the wholesale price of an article is charged plus a profit for the service rendered by Woodstock.** Why? That is what the Maritime Farmer fails to understand. Here, is a branch, which has already handed over ten per cent. of its capital to Woodstock— and is then called upon to pay second profit—when the owners of the particular branch might go on the market and in many cases buy as cheap—and in some instances buy at lower figures than the head office of the United Farmer. Why should this be done? If the Maritime Farmer may be permitted the vernacular—you may search us.

How about the money that was to be saved for the farmer? One of the most hated individuals in the world—let the United Farmer booster—is the **middleman.** Language fails to paint that criminal in his true colors. He has been described by impassioned orators, some of whom are paid by Winnipeg, as a crook of the deepest dye. **Yet here is the head office of the United Farmers at Woodstock, entering fully into the middleman's game by first relieveing branch stores of one-tenth of their capital and then charging them a profit on goods, which it has been pointed out, can be bought quite as readily by any body of farmers who desire to invest their savings in a store, and as we have said at prices quite as low as Woodstock can buy. So you see the horrible middleman appears in the form of Head Office of the United Farmer, Woodstock.**

While there is a serious phase to this feature of the business as it is conducted, the operations in connection with booming stores have not been without their humorous side. Some time ago the United Farmers bought some horse blankets and overalls at an attractive price. These goods—like everything else in the country—advanced in price and were offered at increased prices in stores in all parts of the country. So the agents of the United Farmers at Woodstock were sent broadcast to sell overalls and horse blankets at a reduced cost—and at the same time to impress upon buyers the ability of the United Farmer stores to duplicate the performance in other lines of merchandise—and thus save the farmer many dollars every year.

Let us see how these promises of cheap merchandise have been fulfilled?

The Maritime met a stockholder in one of the United Farmer stores the other day and was rather startled, when the stockholder asked: "How are we to get our money out?" It was not, mark you, "How are we to put our money in, but how are we to get it out?"

This suggested that something was amiss—and there is. Near this particular store is another, run by the owner, who looks after his own business and does his own buying. **This store undersells the United Farmer store in many lines and as a result the shareholders of the United Farmer stores are actually buying from their own competitor and saving money by so doing.** But still farmers are being urged to put money into new stores and are being promised all sorts of savings. We want to just put this instance fairly before the farmers of the Maritime Provinces for their guidance and in full support of the belief of the Maritime Farmer that nine out of ten co-operative stores, unless conducted by well paid and capable business men—cannot possibly undersell anybody—but in most instances charge more for goods.

There is another striking feature of the United Farmer stores which it is well to call attention to. Recently a seven per cent. dividend was declared. But in addition to that, according to shareholders, a second dividend has been promised on yearly purchases. That is a percentage will be paid from porfits on the total amount of goods bought from these stores during the year.

Do you grasp what this means? Suppose you are not a shareholder? If you buy from a United Farmer store you not only help to pay a seven per cent. dividend but you also help to provide an additional dividend on stocks purchased by a man who perhaps has fifty dollars invested in the business. Shades of business Napoleons—you were sorry figures in the art of merchandising compared with these geniuses who profess to save **money for farmers on one hand and promise to pay two dividends in a single year on the other.** Mr. Farmer here's the greatest get-rich-quick scheme ever presented.

But, alsa! Let us see how the thing works out. The Maritime Farmer has been doing some buying for farmers. It now has on the road cars of feed and flour which it sold to farmers at these prices:

Bran, per ton.....$47.90 delivered
Flour, per bbl..... 14.05 delivered
Shorts, per ton..... 54.90 delivered

At least one United Farmer store is selling shorts at $60 per ton, or five dollars and ten cents more per ton than this paper is supplying farmers in many sections of the Maritime Provinces. That is the statement of a shareholder in this store.

Take another example. We sold cotton seed meal with a test of 36 per cent. prótein for less than $4.00 per bag. What did the United Farmers charge for cotton seed? You know if you bought it. We sold oil cake meal at $4.30 per bag, 34 per cent. What did you pay for yours?

In buying seeds, this year, the Maritime Farmer got in wrong. But it has supplied red clover as low as $63.50 per cwt., timothy at $17.50 per cwt. and Alsike at $56.50 per cwt. These prices were later exceeded because orders came in late and on a rising market. But even at the higher prices we have saved money for scores of farmers in this province and Nova Scotia. Had our purchasing agent not been ill in December, we would have been able to supply seed at $60.00 per cwt. for clover, $16.50 for timothy and $52.00 for alsike. These prices are all for number one stock. You who buy this year from any source, will have an opportunity of placing these prices against those quoted for seed and you will then be able to determine how far the claim of the Maritime Farmer that co-operation may best be carried on under our system, is justified. We have no capital to pay dividends on. We supply feeds at cost. On seeds we charge one-quarter of a cent per pound for handling. These prices are open to any reader of the Maritime Farmer, and we expect that next year we shall handle many times more in value than we did this year.

At the recent meeting of the Farmers' and Dairymen's Association the representative of the Maritime Farmer in discussing the question of co-operation found much support from among farmers in its stand that co-operative stores must be well managed, if they are to pay. Certainly they have a heavy handicap when subjected to the additional charges for maintaining a head office, as at Woodstock. Co-operation should be based on the determination of farmers to buy where they buy cheapest. The Maritime Farmer would not ask any farmer to buy goods through its service, if he can buy cheaper through any other channel. It is just a cold blooded business proposition with which sentiment has no connection. So far as this paper is concerned, it is not out to sell gods, but to buy them to best advantage on the open market and hand them along to the farmers. It is the ideal way to co-operate and it makes losses almost negligible.

The N. B. F. and D. Ass'n. in Annual Convention

The Forty-fourth Annual Convention of the New Brunswick Farmers' and Dairymen's Association held in the Assembly Hall of the Provincial Normal School, Fredericton, on the 16th, 17th and 18th inst., was conceded by delegates who have been in regular attendance for many years, to be the best in the history of the Association. The writer has not missed a session in fifteen years and his observations corroberate the statements made in the foregoing respect by the enthusiastic farmers delegates.

The Attendance

Despite the pranks of the weather man in so piling up the country roads with snow and frozen sleet that many districts remote from the railways were practically isolated for the time, and certain branch railway lines being somewhat uncertain in operation, the attendance was particularly good. The report of the Credentials Committee showed that of the one hundred and fifty-four Societies operating in the province sixty per cent. were represented by one and at least fifty per cent. by two delegates. A goodly number of non-delegate farmers were also present, bringing the attendance to well over the two hundred mark.

The delegates, as a rule, were regular in their attendance at the various sessions. They came early and stayed late.

The Programme

An instructive and interesting programme had been prepared. No better proof of the appreciation of the delegates could be secured than the fact that they took an active part in the discussion and as was the case on Wednesday evening, the hour of eleven found the majority of them eager listeners in the Convention Hall.

The programme dealt with many subjects of interest to the farmers of New Brunswick. Every delegate who had a resolution to introduce had the privilege of reading it in open convention before passing it over to the resolution committee that the other delegates would have the opportunity of thing it over and be thus prepared to intelligently discuss its pros and cons and vote accordingly when the subject matter came regularly before the convention. There was not one instance in the whole convention where any farmer's view was limited by being held down to a certain length of time.

The President's Address

C. F. Alward, the president of the Association, was chairman at the various sessions. He conducted the meetings with promptness and due attention to Parliamentary procedure. This was the second occasion on which he has graced the presiding office of the Association.

Mr. Alward is one of New Brunswick's most intelligent farmers. In years gone by he has done a considerable amount of Farmers' Institute work not only in his native province but also in the provinces of Nova Scotia, Prince Edward Island and Ontario. His intelligent grasp of the various subjects under discussion at this year's convention eminently fitted him for the honored position held by him and won for him the hearty vote of thanks of the delegates so cordially extended at the close of the sessions.

We take pleasure in publishing the president's address in full as follows:

Gentlemen and Fellow Farmers:

Another year has passed and we are again called together on this, our forty-fourth Annual Convention of the Farmers' and Dairymen's Association of N. B.

It is now fourteen years since I was last called on to occupy this honored position as President of this general meeting and I wish to thank the members of this Association for reposing in me such confidence. While greeting you at this Annual Session, let us not forget to place the emphasis on Him who has blessed and guided us through another prosperous year.

Many and varied are the problems to be solved and we must look with a good deal of patience and strong confidence to the great men that today hold in their hands the destinies and basic principles that emanate from true democracy.

We are now looking with a good deal of expectancy to the time when the world will know for a surety that nations will war no more and peace and harmony will be inscribed on the banners of all countries.

We have met together again to discuss and deliberate on the best methods to be adopted in our farm work and management so that we may the better take our proper place in the onward march of progress in the financial and commercial world. Not only should we bend our best energies to the solving of our economic problems, but we should strive to raise our social standing to a position that is not only equal to the city life, but will be envied by our urban population. To reach that desired end it will be necessary to take such steps as will break down that clevage or wall of social jealousy that truly exists between the rural and urban population of our country. If our city friends are enjoying and living on a higher plane of social life, would it not be well for us to see to it that proper education of our young boys and girls in country life be given so that a more congenial disposition may be manifest between them. Have we ever stopped to think why it is that our rural population—boys and girls, young men and young women—are so strongly drawn to city life. Some may say, shorter hours, greater wages for labor, but I would say it is from the natural instinct dominating in the young mind, leading them into closer touch with the activities of social life which is congenial to the boy or girl between the ages of 16 to 20.

We are naturally gragarious creatures and wish to be in company with each other and the country boy looks upon the city chap as superior in social attainments because he has privileges of reaching those qualities in city life that are not so easily obtained in rural districts. What then is to be done to check the serious depletion of our rural population for city life? We cannot look to the city folk to stem the influx of population to their towns. If we could have the privilege of reading the biographical history of the men at the head of the large commercial firms of our cities and towns, it would reveal the fact that seventy-five per cent. were reared and characters established in the homes of rural districts and country villages, and it is natural to expect the managers of the large operations in our cities are over anxious to get hold of the village boy that he may be educated in these establishments so that he may be able to take charge and carry on the business successfully when he (the manager) wishes to retire to private life.

If there is any one thing that is more deplorable than another to the best interest of agriculture in these Provinces, it is the fact that our boys and girls are leaving the farms for city life. The great loss to this country was not in the sinking of so many heavy ladened cessels of food stuffs in the ocean by the enemy in the Great War that has just ceased, but by the great sacrifice of the young manhood of about 60,000 of our Canadian boys.

The mothers, fathers, wives, brothers and sisters are now realizing as never before that they are not the united family they once were, but in nearly every home from one to three vacant chairs are found, which fact brings grief and sorrow to the hearts of the remaining members of the family These are the people that have made the greatest sacrifice.

We are told by men in high authority and at the head of state affairs that the antidote for all our ills that follow from high cost of living can only be realized by greater production. But how can we expect an increase in farm products if the manhood of rural districts that have played their part well overseas and have been spared to return to us, and the boys and girls reaching manhood and womanhood, wend their way to the cities and find employment there.

If the Council Boards of our cities and towns, who have the housing and labor problem on their hands, would consider the suggestion of building houses in the rural districts of our country for their own crowded population, the farmers would shoulder the responsibility of giving employment, and thus a better equilibrium would be realized between producer and consumer.

True, there has been a levelling process going on for a number of years that is beginning to be felt in our densely populated centres and rural districts. The introduction of the gas engine, telephones, automobile and motor truck all tend to elevate farm life and make it more congenial to the rising generation. The status of education in this Province is becoming a serious problem—not so much that it lacks in system, but the solving of certain problems involved in that system. This problem is the question of teacher's salaries. Those who are engaged in the teaching profession today are barely existing and some cannot meet living obligations. Other enterprises and other callings or occupations in the commercial world are willing to pay a better and more remunerative wage for the intellectual ability of the aspiring young man or woman seeking employment, and the result is, that not only are the young shunning the profession, but the older ones now engaged in the work are drawn from it.

I am credibly informed by one of the teachers in the High School in Moncton that the janitor of that school is receiving a higher salary than the Principal. This ought not to be. I am not finding fault with the janitor's salary—he may be getting only the amount he deserves—but the Principal of that school spent the greater part of his life to equip himself and make himself efficient for his work, while the janitor could equip himself for his position in a very short period of time.

Joseph Hirsch put the subject very clearly when he said, "We cannot expect men to remain on the farms unless the farms are profitable. Nor can we expect men and women to remain in the country unless their children can obtain the educational facilities that are available to the children of the cities. The very root of the problem lies in this matter of rural education and in the development of a country life that offers, not only profit and education, but health and a fair measure of enjoyment. Farm sanitation, good roads, beautification of farm, the use of rural schools as community centres, all these and many other issues are involved.

Co-operation should be the conspicuous ensign on all the banners of the organized farmers. Through the great struggle and conflict of the world's greatest war the farmers did their part well. This was shown forcibly from the results obtained through the co-operation of the Federal with the Provincial Governments in greater production in food stuffs and the Government of this Province with the farmers should have the praise due them in the splendid results obtained. The dairy interests in this Province has not made the advancement that this country deserves. This Province is well adapted to dairying. While this is a fact we cannot expect that all sections will follow that follow that line of industry, but that many localities will adhere to beef production. But we would strongly urge that every effort be made for an increased production along the line of live stock. To increase and give a stimulus in that direction let us bend our efforts towards the establishment of stock yards together with an abattoir in these Maritime Provinces. This matter should take such a concrete form in these provinces as to make it possible, when a delegation goes to the authorities at Ottawa that they will demand attention and recognition as being an important integral part of this Dominion. There will be time for discussion of this important subject when the different papers and resolutions touching these matters are brought before this Association.

The poultry interest has become of vital importance to the farmers, not only of this province, but the whole Dominion. Ths province is measuring up well with her sister province in the organizing of Clubs among boys and girls for the better improvement of poultry and egg production. The Government has been wise in the choice of a man placed at the head of this department who is an expert and able to so co-ordinate the forces at command that a large financial income may be realized and an aid to greater production. As this branch of Agriculture is in charge of Mr. A. C. McCulloch and it has its place on the programme, it will be further discussed at the proper time.

Sheep husbandry is becoming one of the most important lines of industry in connection with the progres sive farmer. The co-operative selling of wool has forcibly brought before the farmers that are engaged in the business the benefits resulting from united action. If the farmers can receive an enhanced price for their wool through co-operative selling why cannot we receive a higher price for our meat in general if done through united action. The answer is in cold storage facilities being accessible—hence the necessity of establishing such accommodation.

Pork production, the natural adjunct to dairying, is a very profitable business. But the very serious and sudden fluctuations in market prices has, in this province, caused those engaged in that pursuit to hesitate to invest in increased production. The exhibition witnessed at the Fat Stock Show last December at Amherst, demonstrated the fact that we can produce as good a type of bacon hog as in Ontario, and yet we are, and have been, receiving from two to four cents per pound less for our pork than they—because they are catering to an export market.

Bee culture should be stimulated by every means possible—from the fact that sugar is advancing so rapidly in price that it will soon be beyond the ordinary man's ability to purchase Does it not look as if there is a sufficient reason for the Food Control Board or other authorities to look into the sugar refineries operations and ascertain the extent of the profits made while they are buying the raw material so cheaply.

I have only touched on a few of the many problems which we as farmers are endeavoring to solve. There is potato growing, potato spraying, daylight saving time, seed selection, and many other subjects which will have their place in the deliberations of this Association. Let us therefore as

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Gleanings of Agricultural Progress in New Brunswick

COOPERATIVE FIELD TESTS BY SOILS AND CROPS DIVISION

DEMONSTRATION PASTURES HAVE SHOWN THAT PIGS MAY BE RAISED OUT OF DOORS AT SMALL COST

"Pigs is Pigs," the title to an interesting story written by Ellis Parker Butler, has delighted thousands of readers. Used as the title to a story of an experiment devised by the Provincial Department of Agriculture to discover a method of cheapening the production of pork, it may prove profitable as well as entertaining to other thousands unacquainted with the writer's idea; that is, summering pigs on pasture crops.

Farmers in each county who raise pigs cooperated with the Soils and Crops Division, Department of Agriculture, to carry on a series of tests during the summer of 1918 and 1919, to introduce a pasture crop that would give cheaper pork production. The results of the tests indicate that highly satisfactory crops are grain-mixtures, clover and rape.

Forty-eight demonstration pastures were provided for and two hundred and forty-five pigs were pastured in 1918, and two hundred in 1919, while many more were fed in the pens upon green cut rape, clover and peas.

Several popular breeds of swine were represented in the test, viz., Yorkshire, Chester White, O. I. C., Tamworth, Berkshire and Large English Black. The question "which is the best breed as grazers?" can not here be answered, for in no instance were the weights of the pigs secured. But to the question "do hogs make good grazers?" the answer is an emphatic "Yes."

Pasture Crops for Pigs

The plan of the cooperative tests included pasturing on rape, red clover and three different grain mixtures, viz., (a) peas and oats, (b) peas, oats and barley, (c) oats and barley.

Each experimenter received sufficient seed for one acre of ground and a roll of woven wire hog fence to enclose the pigs.

The method of pasturing recommended as to divide the area into three parts and to enclose the pigs upon one section at a time. Thus a rotative system of pasturing was provided for by which the part grazed off would regain its growth while the other parts were being grazed and the pasturage be always fresh and succulent.

The following forage crops were tested:—

(a) Rape sown in rows 26 inches apart, 5 lbs. per acre.

(b) Red clover—a year old stand used as pasture.

(c) Grain mixture, oats 2 bushels and barley 1½ bushels.

(d) Grain mixture, oats 2½ bushels and peas 1½ bushels.

(e) Grain mixture, oats 1½ bushels, peas 1 bushel and barley 1½ bushels.

Grain Mixtures for Pastures

One of the essentials to produce a good pasture with any grain or mixture of grains is that it must be sown thickly, consequently the quantities used per acre in these experiments were greater than is used in ordinary practice for grain growing. The experiments indicate that the mixtures containing the heavier quantities of seed prove most satisfactory.

A mixture of oats 2 bushels and barley 1½ bushels was the lightest sown pasture crop, and contained 123 lbs. of seed. (b) Oats 2½ bushels and peas 1½ bushels contained 175 lbs. of seed and oats 1½ bushels contained 183 lbs. of seed.

Of these mixtures those containing peas were more satisfactory.

Fall preparation of the ground for any grain mixture is recommended. The ground should be well manured so that a rank, quick growing crop will be produced.

Pasturing should begin before the growth exceeds one foot in height, otherwise it becomes so tough as to be unpalatable.

Rape

Rape, which is one of the best plants for pasturing pigs, requires fall preparation of the soil. This plant is a rank feeder, quite similar in this respect to the turnip or cabbage, and requires the same cultural methods. It grows most rapidly in the cooler months and consequently makes the best pasturage during the months of June, September and October.

A dressing of barnyard manure applied either in the fall or early spring and harrowed in before sowing, produces a rapid growth of succulent forage. This crop grows but slowly during hot, dry weather and when tough or stale it is less palatable than the juicy young growth. Broadcasted sowing of this crop has the disadvantage that summer cultivation iannot be given, whereas sowing in rows two feet apart allows frequent cultivation to break up the hard paths along which the pigs walk while feeding; also a fresh change of pasture can be given more frequently, as the crop makes quicker growth. Five pounds of seed is ample for one acre sown in rows, while three times this quantity is used for broadcast sowing.

The reports received from the experimenters say that the amount of other food required by three months' old pigs is less than half the amount ordinarily required, and that old pigs thrive on the pasturage alone.

Demonstration Pastures

Isaac W. Baird, Chipman, ex-president of the New Brunswick Farmers' and Dairymen's Association, said concerning his demonstration pasture:—

"I grazed this year three mature hogs and five spring uigs upon a grass and clover plot of one acre and later, on one-half acre of rape.

"The pigs were turned out at three months of age upon grass, then four inches high, and were put upon the rape at four and one-half months of age when the rape was about ten inches in height. They were given about one-half the amount of slop they would have required had they been kept in the pen.

"The mature hogs, two brood sows and a stock boar, were turned upon grass about May 20th, and upon the rape about the middle of July. They kept in good condition on the pasture crop alone with the addition of water given them to drink. The two sows were removed from the pasture one week before farrowing and were fed extra. Both had good litters. After the pigs were weaned they were again turned out and are now, October 24th, getting more than half their feed.

"The stock boar was four months on pasture alone and fully maintained his condition during this period."

James Easton, Farm Manager for R. A. Snowball, Chatham, N. B., said: "One-half acre of rape and one-half acre of mixed grain maintained eleven old hogs for three months.

R. L. Hicks, Dalhousie Junction, ex-president of the Holstein Breeders' Association, pastured six pigs for fourteen weeks on three-quarters of an acre of red clover.

McIntyre Bros., Springbrook Farm, Sussex, report on the oats-barley-peas mixture as follows: "One acre was sown on spring ploughed sod June 17th, and pasturing began six weeks later on July 24th. Twelve five-months' old pigs were turned out to graze and fed in addition one-half the usual quantity of mill feeds and 100 lbs. of skim milk daily. The pasture was divided into three plots and the pigs changed about every week. We consider the pasturing plan gives good value."

Location of the Pig Pasture

A favorable site for a pig pasture is one governed mainly by its convenience to the feeder.

Where a location can be had near the farm buildings and adjacent to a frequented farm lane the thrice a day chore of feeding the pigs becomes an occasional pleasure only. An ideal situation for a pig pasture on many farms can be had by using the waste area of ground surrounding a duck pond, swamp or spring brook, so frequently an ugly feature of the farm layout. Such locations contribute a great deal towards maintaining the health and comfort of the pigs because of the advantage of the "wallow," so necessary a provision to their well-doing. Pigs perspire very little and suffer from heat, consequently a "wallow" and shade of some large tree within the pasture to give shade and protection is an essential feature of a pasture.

The swine raising industry in the province has received an impetus from the carrying out of the experimental pastures, for the test showed that pigs may be raised in large numbers without any cost for special housing, and the out-of-doors mode of living contributes to an extraordinary thrift, cheap gains and consequently greater profit.

O. C. HICKS, B.S.A.,
Instructor of Soils and Crops Division,
New Brunswick Dept. of Agriculture,
Fredericton, N. B.

IT'S UP TO MR. GORDON SHARPE

March 19th, 1920.

Gordon Sharpe, Esq.,
Pembroke,
Car. Co., N. B.

Dear Sir:—

I am instructed that at a recent meeting of the Farmers' and Dairymen's Association, you charged that the Maritime Farmer and myself were in the pay of the Manufacturers of this country, to write certain articles which appeared in the Maritime Farmer. Let me say to you that that statement is an unqualified falsehood.

I shall be very glad to have some explanation of your statement by return of mail. I will thank you to give this matter your close attention.

The columns of the Maritime Farmer will be open to you to substantiate any such statement on your part. However, we will expect that you either do substantiate it or that some explanation be made by you as to your remarkable statement.

Yours very truly,
(Sgd.) J. D. McKENNA.

JDM/JAC

ASSISTANCE IN PRUNING APPLE ORCHARDS

Realizing the shortage of competent help, the Horticultural Division of the Department of Agriculture has arranged to provide assistance in the pruning of apple orchards during March, April and May. Mr. A. C. Parker, a practical orchard man, has been specially engaged for this work and his services, together with the part time services of the regular staff, will be available.

The conditions under which this assistance will be given are as follows:

(1) In the event of more applications being received than it is possible to comply with, the decision as to whom assistance shall be given will be based on the judgment of the Department as to the dependability of the guarantees of compliance with conditions and the greatest benefit to be derived from the work.

(2) Each applicant or orchard owner must participate in the work himself, working with the man supplied by the Department, or provide an acceptable substitute to do so.

(3) The applicant must agree to furnish free board for the man or men supplied by the Department, and to pay to the Department thirty cents for each hour of work actually done by each man.

(4) In arriving at the sum total of the amount due to the Department for the pruning of any orchard, the owner must agree to accept the total hours of work done as given to the Department by its men.

(5) The applicant must agree to spray the orchard so pruned to the best of his ability at least twice in 1920, and if at all possible, three times, according to instructions to be given by the Department.

Address all enquiries to A. C. Turney, Provincial Horticulturist, Fredericton.

THE NEW BRUNSWICK PROVINCIAL SEED EXHIBITION

The Provincial Seed Exhibition was held on Wednesday, March 17th, 1920, at Fredericton, under the auspices of the New Brunswick Farmers' and Dairymen's Association, which met for its 44th annual meeting on March 16th, 17th, and 18th.

The number of exhibits was not so large as last year, partly on account of some of the exhibits being delayed through the interrupted train service.

The educational feature of the exhibition is much appreciated by the student body of the Proviniial Normal School. Since the Fair is held in the Normal School Drill Hall, the students avail themselves of the opportunity to make a first acquaintance with the various kinds of seeds on exhibition.

A large number of the samples were sold by private sale directly from the tables and considerable buying by sample was also done by the officers of Agricultural Societies and others.

The judging at the Fair was done by Messrs. S. J. Moore of the Dominion Seed Branch, O. C. Hicks, Instructor of Soils and Crops, and Jas. Bremner, Agricultural Representative of the Provincial Department of Agriculture.

The Annual Convention of the New Brunswick Potato Growers Association will be held at the Agricultural School, Woodstock on Tuesday, April 6th, beginning at 10 a. m.

On account of lack of finances, no Potato Show will be held, but steps will be taken to pay prizes on the Potato Field Crop's Competition.

Some of the things to be discussed are:

Potato Grading,
Fertilizers,
Seed Improvement,
Improvement of Financial Standing of Association.

Plan to attend. The Potato Industry is a very important one, and we must get together to discuss the many problems with which the Potato Grower has to contend.

A. A. H. Margison, President. Jas. Bremner, Jr., Secretary.

The scarcity of certain farm seeds this season will make it imperative that use be made of what is left from last year's supply, provided of course that such seeds have not deteriorated in vitality. Some seeds retain their vitality longer than others. All farmers know this, but they may not know just how old certain seeds may be before they fail to germinate. The best way is to test them before sowing them.

Rotation of Farm Crops

An Address by Prof. J. M. Trueman, at the Nova Scotia Farmers Assn.

Establishing a system of rotation of crops that is peculiarly adapted to his needs is a problem which every would-be successful farmer must necessarily solve. To some farmers it may appear at first sight a difficult one, to others it may seem comparatively simple. However, be that as it may, it is a problem of decided importance to all. More especially is this true at this time when the cost of labor, equipment, seed, fertilizer, etc., has reached an unprecedented height.

When endeavoring to arrive at a solution for the problem, we should first gain a fairly clear conception as to what the term "Rotation" means, the objects in view, and some of the advantages and benefits derived therefrom. Rotation is the term used to designate the system whereby various crops succeed one another in a regular order. The rotation is completed when the last of the crops included in it has been harvested.

The first and foremost object in crop rotation is to secure larger returns from the soil than would be secured should a proper arrangement of crops be neglected. The advantages and benefits derived from rotation of crops are many and vary in importance, but all are worthy of careful consideration. By this means the supply of plant food elements in the soil is kept in a better balanced condition, because to some extent the various crops consume the various food elements in different proportions, and they also have a varying capacity to extract the different elements from the one and same soil. Another feature and one of importance in this connection is the depth of the rooting system of various crops. It is generally known that all crops vary widely in the depth to which they send their feeding roots, therefore, if a rotation included deep rooting crops as well as shallow rooting crops, the former will take food from the soil which the latter cannot reach, thus enabling the farmer to more perfectly utilize the resources which nature has placed at his disposal.

The power which legumes (clover, alfalfa, peas, etc.) have for gathering Nitrogen from the air through bacteria which work on the roots is a characteristic belonging to this class of crops only, and is one which should not be overlooked, in fact, its importance cannot be too strongly emphasized. Since nitrogen is the most expensive element of plant food which we buy commercially, it is therefore a good policy to grow legumes, as they not only gather from the air the nitrogen required for their growth, but there also remains after the crop is harvested a consideable surplus of nitrogen in the stubble and roots, after the decay of which this nitrogen becomes available to the following crops. It is clear therefore that an important economy may be effecter in crop production, if, in every rotation at least one of these nitrogen gatherers is included.

Crop rotation assists greatly in keeping down plant diseases insect injury and weeds. It is a well known fact that the various diseases which affect our field and garden crops are caused either by the growth of some fungus upon or in some part of the plant, or by bacteria gaining entrance to some parts of the plant, e. g., Potato Scab, Club Root, Smuts, Rusts or Soft Rot. The latter is caused by bacteria, while the others are caused by spores of a specific fungus.

It seldom happens, however, that a crop is produced in which there are not some diseased plants. Due to the fact that the spores or bacteria which cause a disease in one class of plants is usually powerless of injury on another, and that they are capable of living in the soil until the next season, and in many cases even longer, it is therefore quite obvious that when a rotation is followed whereby any one crop is not grown on the same soil oftener than once in three or four or five years, it will materially assist in the control of plant diseases.

In the control of insect injury, crop rotation does not play such an important part as it does in some of the other phases, but to some extent each crop has its own insect enemies, and these in many cases are harmless to other crops. The majority of insects at some stage of their life history travel freely from field to field. On these crops rotation has no appreciable effect. There are many, however, which are somewhat sluggish in their movements, and by rotation of crops we to some extent lessen the probability of injury from this class of insect.

The reason connected with the suppression of the growth of weeds which often render rotation an advantage, are in part the same as those observed under the last two heads, because to some extent, each crop has its own specially injurious weed. There is, however, another important consideration. With certain crops there is a difficulty in controlling weeds, this is especially true of most grains whereas other crops such as orots, corn or potatoes or any so-called hoed-crop which requires careful culture, and which comes up quickly and grows rapidly, thus quickly shading the ground, and thereby assisting materially in the keeping down of weeds, and in order to prevent the spread of injurious weeds as much as possible it is expedient to include at least one crop of this character in every rotation.

Besides the seemingly theoretical, but none the less real and practical advantages and benefits, there are others that will certainly appeal to and be appreciated my wide-awake farmers. When a system of rotation of crops is adopted the farm is divided into as many fields as the rotation indicates, viz., three, four, five or six. On each of the fields is grown each year one of the crops included in the rotation. This arrangement will effect an apreciable saving of time both in man labor and horse labor, thereby keeping down the cost of production, which means larger profits, due to the fact that all labor spent on each crop incidental to seeding, cultivating and harvesting is done in the same field, thus enabling the farmer to use to good advantage the time which would otherwise be spent in travelling to and fro betweent smaller areas of the same crop situated at different parts of the farm. There is also an appreciable saving in fencing a farm when it is divided into large fields as compared with fencing many smaller irregular areas.

The progressive, business-like, modern and up-to-date appearance which a good system of crop rotation lends to a farm, incidentally adding to the attractiveness of farm life is a feature appreciated not only by the owner but by all all tourists, and in fact everyone who may happen to pass or visit the farm. Such an appearance gains for the owner a reputation appreciated by all farmers, viz., "A good farmer." which is usually well founded, because a properly arranged system of rotation of crops, with the other farm enterprises equally managed, will fulfill the object already stated.

Upon the planning of the rotation depends its success and value to the farmer. The particular arrangement of crops in the rotation which will prove best must vary with individual conditions, due to the fact that a system may meet all the scientifice requirements and yet be ill adapted to the needs of a particular farmer or gardener. The system which is followed is determined mainly by local conditions of soil and market, therefore the planning of it must be left to the individaul; each for himself to plan a system satisfying at the same time the scientific requirements, as far as possible, as well as the economic requirements of the individual case.

The system adopted may be of three, four, five or even six years duration, and the arrangement of the crops will also vary in accordance. As it is impossible to lay down cast iron rules for every farmer to follow, and it is not practical therefore to arrange a rotation which will suit all farmers in every detail. However, a suggestion may be offered in the form of a rotation that will display an arrangements of crops which in a general way observes the principles laid down.

Four Year Rotation: Turnips, Oats, Clover and Mixed Hay, each for one year. The turnips, which may be either English or Swedes is our rank feeding crop and it is to a crop of this kind that a large part of the manure produced on the farm is applied. The soil can be cleaned from weeds before seeding due to the fact that turnips are not planted until compartively late in the season. It is a rapid grower and shades the ground quickly, it also requires careful cultivation, thus keeping down the weeds. Turnips is the cleaning crop of the rotation, also a deep rooted crop requiring a plentiiful supply of available plant food, particularly phosphoric acid. This is followed by oats, a comparatively shallow rooting crop, also has a vigorous rooting system and does best on old fertility of the soil. It wil also use to advantage a good supply of nitrogen, but too much of this element of plant food is liable to produce a rank weed growth. This will prove particularly true with straw in oats, and this crop will loge very easily if too much nitrogen is present. With the oats, the clovers and mixed grasses seeds are sown, the latter of which will be principally timothy. The first crop will be mostly clover, a deep feeding crop which gathers nitrogen from the air, and is especially benefited by potash. The second crop of hay or fourth and last crop in the rotation will be principally timothy and mixed grasses. It is a comparatively shallow rooting crop and is greatly benefitted by nitrogen, consequently it will use to advantage that part of the plant food which is made available upon the decay of the stubble and roots of the clover crop grown during the previous saeson. The principles which underlie rotation, it will be seen, are fairly well met in this rotation: The crops included demand the various elements of plant food in different proportions. There are deep feeding and shallow rooting crops, a cleaning crop and a nitrogen gatherer. As aforesaid, the system may be modified to suit different conditions, for example, potatoes, corn, mangels or sugar beets may be grown instead of turnips, and wheat or barley may be substituted for oats. The second crop of hay may be used as pasture, or a grain crop may be grown instead of either, depending upon the needs of the farmer in question. If more forage crops are required a five or six year rotation may be followed whereby practically half of the farm could be devoted to hay or pasture.

It is not my purpose, however, to discuss the various systems which are in use, but only to endeavor to state some of the principles which underlie "Rotation of Farm Crops" and to offer a few suggestion which may assist in the planning of the rotation. This is one phase of practical farming which is of momentous importance, as a matter of fact, I regard it as one of the corner stones in the foundation of suscessful Agriculture, because the farmer can never hope to secure the maximum returns from the capital and labor expended, unless he has established a system of rotation of crops that is peculiarly adapted to his particular local conditions and line of farming.

SEED SELECTION AND FIELD CROP COMPETITION

Hon. W. M. Lea, Charlottetown

To insure a full crop we must have fertile, well cultivated soil, and good seed sown at the proper time. Much will then depend on the growing season we may have during maturity over this we have no control, but by securing strong, vigorous Seed and by sowing on a wisely cultivated and fertilized soil we may influence to a great extent the yield of our crop. The easiest of these conditions to control is the quality of our Seed. There is no excuse for our sowing any but the best quality of Grain in this province, as we annually export large quantities of this character. It has been proven by experiment beyond question that large, plump Seed produces from six to ten bushels more to the acre than small, lighter Seed out of the same sample, and that Seed selected from a heavy crop produces a greater yield than that taken from a light crop of grain.

The modern separating and grading machine, if properly operated, will grade out all light and small oats, and when any farmer has a quantity of good Grain on hand it will pay him handsomely to grade very strictly and carefully. The Grain culled from his Seed lot will have practically the same feeding value, and his yield may be improved 10% or over without any additional cost clear of the small amount of labour involved. No time should be lost by any who may not already have good Seed on hand for the coming season to secure their supply. It is the greatest folly to sow any light, run out Grain just because it will cost ten to twenty-five cents more a bushel to purchase high class Seed. This is indeed an instance in which wise expenditure is true economy. "As we sow, so shall we reap" has been proven often enough without any further experiment being necessary. Dear as good Seed may seem at first cost, it is by far the cheapest in the end. KEEP YOUR MIND ON THE HARVEST.

Regarding field crop competitions, it is anticipated that changes will be introduced in the Regulations, one of which may be "That the awards of the field judges include a statement as to the origin and merit of the stock seed from which the crop was produced." To be eligible for such competition, providing the change is made, it would be necessary to sow registered Seed, which has been inspected and put up in sealed sacks, to which is attached a special certificate which bears the name of the variety, the number of the certificate issued for Seed, the name or number of the grower and the signature of the inspector.

It is a noticeable fact that the principal winners in this competition to date have been the growers using the highest quality of Seed, and though the change may not be made this year, it will pay to sow nothing but the highest quality obtainable.

Increasing the Consumption of Eggs at Home and Abroad

An Address Delivered by W. A. Brown, Chief of Poultry Division Live Stock Branch, before the Eighth Annual Convention Canadian Produce Association Hamilton, Feby. 10th and 11th, 1920

Introduction

Eggs have been an important article of diet from the earliest ages. Perhaps no article of food is more commonly eaten or served in a greater variety of ways than eggs. The earliest missionaries found the Papans of Europe celebrating a festival at the time of the vernal equinox, (Easter), in which eggs were used in quantities, and even in the depths of Africa the first explorers were offered eggs and poultry in the rude market places of that dark continent.

Commercially eggs have become an important factor in the business of the world. In late pre-war years the world's egg production increased rapidly. Great Britain alone, in 1913, imported eggs from fifty-five different countries, while Germany, in the volume of her imports was a close second.

World-wide consumption also increased. The following table shows the rapid rise in imports of eggs into Great Britain since 1864. There is also included a statement of the value of dried egg yolk, liquid and dried albumen imported during the past five years. No figures are given for 1912, '13 and '14, but the increase in the importations of dried eggs during the war years has been tremendous, it having been stated in England this fall that the value of dried eggs imported into England in the first eight months of 1919 was equal, in its equivalent of shell eggs, to the total importation of Russian eggs in 1913.

Table I. Values of Imports into Great Britain

	Eggs		Value of Egg Yolk Liquid and dried Albumen
Year	Value £	Quantity Doz.	£
1864	835,028		
1870	1,105,653		
1875	2,559,860		
1880	2,335,451		
1885	2,931,237		
1890	3,428,802		
1895	4,003,440		
1900	5,406,141		
1905	6,812,476		
1910	7,296,145	183,441,333	
1913	9,590,602	215,799,500	
1914	8,652,800	179,048,083	
1915	6,123,326	102,460,250	845,564
1916	4,742,333	66,080,417	1,393,141
1917	5,067,202	49,224,020	1,459,899
1918	4,621,049	26,564,150	2,804,285
1919	8,613,326	56,443,950	7,149,628

The second table gives a statement of the principal countries supplying eggs to Great Britain in 1913.

Table II.

Countries	No. of Dozen
Russia	114,532,750
Denmark	42,649,416
Egypt	10,965,416
Netherlands	9,773,500
Austria-Hungary	8,836,500
Italy	8,457,916
France	7,022,833
Germany	5,137,416
Sweden	3,849,500
Roumania	2,261,916
Morocco	1,143,500
Belgium	728,833
Spain	122,833
United States	58,666
Portugal	55,583
Servia	45,166
Bulgaria	36,000
Algiers	27,760
Turkey (in Asia)	25,166
China	25,083
Canada	19,500
Gibraltar	13,166

Russian supplies increased very rapidly from 1906 to 1913, some English firms having worked up a very extensive connection in Russia before the war. Ireland was the next largest source of supply, Irish exports of eggs increasing from 54,702,600 doz. in 1904 to 63,982,350 doz. in 1913 to 72,650,410 doz. in 1917.

Germany's imports of eggs increased from 112,578,900 kilograms in 1899 to 137,009,800 in 1909 and 164,753,200 kilograms in 1912.

The Effect of the War on Production

During the war poultry production in most countries was seriously disturbed owing to the scarcity of and rapid increase in the cost of feed. The first effect was a curtailment in poultry flocks practically the world over. In Canada the heaviest movement of laying stock to market took place in the fall of 1915. In England and other countries the feeding of many cereals was prohibited.

For a time the outlook was dark, but soon a distinct reaction occurred which gave poultry and egg production the greatest momentum it has ever received. In the first place poultry flocks were thoroughly culled and large numbers of aged, nondescript stock were sent to market and in the second place the demand for eggs became so keen that prices rose by leaps and bounds. The price of eggs during the last two years has provided the greatest possible incentive for increased production, and the profitableness and practicability of egg production has been brought home to the individual farmer and producer the world over.

The English poultryman is talking of the day when England will be self-supporting in eggs. Holland and Denmark are rapidly re-stocking their farms. France is taking up poultry-keeping as never before. Italy is gripped with the financial advantages of poultry-keeping. Palestine, it is said, bids fair to become a second Egypt. Rumania has already again placed eggs on the British market this past fall. No one knows what the outcome in Russia may be. Mesapotamia is mentioned as a possible source of large supply. China has a vast surplus, while Australia, South Africa, Argentine, Brazil and the North African colonies are looking for an export outlet for their product. The United States with their vast consuming population has a surplus, while the potention possibilities of production in Canada have only been touched.

The effect of the universal tendency towards increased production may not be pronounced this year, but in a year or two it is clearly evident that the World's trade in eggs will be called upon to handle a volume of supply well in excess of the present demand. What then will be the outcome? Will the price to the producer be allowed to drop beyond the point or economical production, or will those interested in the world's egg trade be prepared to undertake such a comprehensive campaign of salesmanship and advertising as will insure a demand well in excess of the supply.

Eggs as Food

Eggs are one of the most palatable, most nourishing and most convenient of foods. In chemical composition eggs closely resemble meat. In nutritive value, they stand between cheese and milk, while in real intrinsic value eggs stand on a pedestal far above their value as ordinarily rated. Investigations conducted under the "New Nutrition" classify foods on a basis of their growth-promoting, disease-resisting powers. In other words, only a limited number of natural foods such as eggs and milk have been found to contain those vitemines absolutely essential to the proper growth and development of the human body and for the repair of tissue so essential in the resistance of disease.

Eggs and milk are natural foods, the only foods, in fact, that contain all the elements for the growth of the young. A chick hatches from and will live for days upon the content of the original egg. A nation's greatest asset is a high degree of public health. Eggs and milk have those elements absolutely essential to a high degree of public health.

Provincial Health Departments, State Legislatures and municipalities spend large sums of money annually in the prevention of epidemics. These epidemics spread in proportion to the vitality of the people. The use of eggs and milk in abundance would do much to promote growth, maintain health and resist disease, all of which constitutes a veritable bonanza of possibilities for the advertising genius that is prepared to undertake a world-wide advertising campaign under the slogan "Eat More Eggs."

Factors that Retard Consumption

The average house-wife views eggs with suspicion. The desire and craving for eggs is held back, dwarfed and blighted by the uncertainty surrounding the quality of the supply. Eggs as laid are one of Nature's most uniform products. No amount of handling or manipulation can improve their quality. The real cause of the uncertainty as to quality is failure to conserve that quality which nature has given.

No act on the vaudeville stage gives more amusement to the public man than the dialogue that is presumed to take place between the house-wife and the merchant in the purchase of eggs, when despite all assurances given, there is recorded the frequent disappointment and chagrin that transpires in the event of a purchase being made. The consuming public want and demand high grade eggs of a uniform quality. Actual misrepresentation in sale and lack of confidence on the part of the consumer as regards quality, combined with the high price for a variable article, are the factors that tend most to retard consumption.

The Fault of the System

In the usual course of events, eggs find their way to the consumer in devious ways. A large proportion commence their journey through the medium of the country store. Most merchants are not particularly interested in eggs, but buy eggs because it enables them to sell goods, and they, therefore, bid for eggs. It is not considered good business for a merchant to refuse eggs, and if he bids low his customer will go to his competitor across the street. As a result eggs are bought at country points by number, without regard to quality.

This system of purchase actually penalizes farmers and others who take pains to produce high-grade eggs, and, moreover, does not only fail to place a premium on good eggs, but actually ogers an incentive for a continuance of careless and dilatory methods on the farm. It makes possible as well, the disposal of eggs in all stages of decomposition and actually encourages farmers and others to hold eggs at seasons of the year hen there is an advancing market.

Some country merchants ship direct to retailers who, in turn, frequently supply the consumer under the caption,—"The eggs are fresh! Yes! Fresh from the country!" The bulk of the receipts go to the wholesale distributor when they are candled and graded.

From June on, candled current receipts show a high percentage of low grades which are slow sale, and a low percentage of higher grades for which there always is a keen demand. The distributor is in a quandary and the solution in the past has been to dilute the best with a portion of the poorest and sell the balance to the best advantage possible, often without due regard to the effect on consumption.

Increasing Consumption at Home

A nation's home market is its largest market. Canada, with a production of roughly 165,000,000 dozen, has a surplus of only a few million dozen for export. The States, with a production of several billion dozen, has a surplus of perhaps nine million. Even England produces more than half of her requirements at home. While undoubtedly the selling price of the exportable surplus will be the controlling element in price, yet the home market presents the most tangible possibilities for increased consumption.

The per capita consumption of eggs in Canada is between three and four eggs per week. Increased to an egg a day, Canada would require an additional hundred million dozen to supply her own requirements, or an increase of approximately sixty per cent. over her present production. Consumption in the United States is about the same as in Canada. Pre-war consumption in England was lower, not over two or two and one-half eggs per capita per week. The possibilities of consumption are therefore equally as great if not gerater than the possibilities of production, especially when viewed in light of the potential consuming power of, for instance, the United States.

Eggs are good food. Deterioration in quality occurs in proportion to the indifference with which the product is handled. On the other hand, consumption varies in direct proportion to the quality of eggs offered for sale and the uniformity of the quality received.

Some wholesalers are endeavoring to establish brands or marks of carbon, and case eggs which would establish confidence in the minds of the consumer. This practice is to be commended and encouraged. Unfortunately, at certain seasons of the year the percentage of really fine carbon eggs is so low that either the distributor must reduce the quality under his mark or fail to fill a portion of the demand. The proposition more often resolves itself into how much the consumer will stand. As a matter of fact, the wholesaler is the victim of circumstances which alone he is unable to rectify.

(Continued on page 476)

THE MARITIME FARMER

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DATES OF ISSUE.

April	13—27
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MARCH 30, 1920.

THE WHEAT SITUATION

In another issue of this aper we publish with pleasure a letter from Mr. Lambert, secretary of the Canadian Council of Agriculture, Winnipeg, in which he takes exception to some remarks by the Maritime Farmer in regard to the government handling wheat this season. There is nothing particular in the article that need be commented on further by the Maritime Farmer, except to say that this paper repeats that it is opposed to government handling of wheat this year. Further than that it maintains that if the government of Canada diverts public monies for the purpose of handling wheat largely grown in three provinces of the Dominion, then the federal government of this country should accord the same treatmetnt to all branches of agriculture. The Maritime Farmer makes no apology for standing behind the interests of the east. The United Farmer movement is purely political to serve western interests. The Maritime Farmer believes we should have more farmers in the legislature but it believes that these men should be elected without any dictation from Winnipeg. We are able to run our own affairs and the amount of western money that is being spent in eastern Canada by Winnipeg to tie us up to their ideals, is enough to warrant the Maritime Farmer in opposing the movement. The Maritime Farmer supports the farmers in the most practical way possible. It has saved tens of thousands of dollars for them without fuss or feathers. We are for farm organization but we want Eastern ideals —not Western.

THEY ARE ONLY FOOLING

It seems that the Maritime Farmer rather pricked the conscience of somebody in Winnipeg. From Mr. Lambert's letter, it would seem that the grain growers really want nothing from the Dominion Government. All these resolutions that have been passed by the western association for exercise. Hon. Mr. Dunning was very bitter in his denuciaation of all and sundry who opposed the granting of this boon to western farmers. The tone of the letter sent us for publication would indicate that this simple little request is all a joke. Not even is it advocated "in principle." And so, according to the Canadian Council of Agriculture, it's all a little pleasantry, but it will be well for eastern farmers to wait and see just what it does mean.

DON'T LIKE THE LOOK OF IT

The Canadian Council of Agriculture objects to the Maritime Farmer referring to the proposition to have the Dominion government market wheat this year, as part of the new "National Policy." Very well, we'll say it isn't, if that will do any good. But both babes have the same parents. They are both offspring of the same organization and have been designed to serve the same interests and the same section of Canada. So we are not particular which way you look at it. The proposition that the government use public funds to handle only one of the many products grown on the farms of this great country, is, after all, nothing to be proud of. We do not blame the framers of this narrowest of sectional propositions for wanting to get rid of it. If the Maritime Farmers never does anything else except expose this particularly parochial attempt to use public funds for the interests of the few, it will have performed a public service.

DOLLARS WORTH THE SAME

For some time at the group of hotels in New York controlled by the New York financial interests and including the Biltmore, Commodore, and Belmont hotels, Canadian money to the amount of the bills of guests has been exchanged at par. The policy continued even when the official exchange rate was 18 cents and the casual exchange rate charged by others in New York higher still. Mr. McE. Bowman, the head of these great hotels, has just made an interesting statement in defence of this policy. He believes that the depression of the Canadian dollar is artificial and that there is no basis for it.

> "Here are two countries lying side by side whose friendship is proven and established by more than a century of continuity. The man from Canada finds every opportunity that is open to the man of American birth. We speak the same language and we have intermarried. Before the war the Canadian dollar was of the exact value of the American dollar. Theoretically its value is the same. The reasons for the depreciation of the British sovereign and the French franc cannot be charged against the Canadian dollar. Canada is a comparatively small borrower and her resources are ample guarantee that all her obligations will be met when they fall due, and to discriminate against her currency only makes for restriction of trade and bad feeling, for either of which there is not the slightest reason."

Mr. Bowman gives expression to what the people of Canada have been thinking for a long time. His remarks lead to the belief that if the problem as it concerns Canada and the United States were approached vigorously, though diplomatically, by the Canadian Bankers' Association and the Dominion Department of Finance, a remedy for a mutually inconvenient and upsetting situation is not impossible.

SECURE SEED GRAIN EARLY

The annual yield of grain on the farms is not on an average more than two-thirds what it might be if a few general rules of seed selection were followed. This fact has been proved conclusively in the field crop competitions, and the work carried on under the Experimental Union at Guelph, where the same crops grown on the same land, under the same conditions, have produced on an average, one-third increase in yield as a result of careful and systematic seed selection. Is that not worth striving for? It is, and the matter of two or thre hundred bushels of grain per farm is quite a consideration in these times of high priced grains and expensive milling feeds. Operating expenses have advanced so greatly that farming today must be carried on in the most approved manner if a respectable labor income is to be made. The good farmers are making money today, but the poor or indifferent ones are just plodding along in the usual way, and the increased receipts obtained for their products are being used in the extra cost of production.

During the war the production of grain was considered the most important phase of the world's agriculture, because it was the basic food for man and beast that could be reproduced rapidly. An entire crop could be grown in one season and the returns were rapid. It is the same today. The war is over, but the call for crop production is just as urgent as it was during the conflict. Prices are high and will remain so until the European countries are able to produce crops almost equal to that of former years. On the other hand, such a situation, although serious from the consumer's point of view, offers an advantage to the farmer in that it enables him to produce a crop of grain time to catch the high prices, and, furthermore, the reward for any extra effort towards the production of a heavier crop is fairly good since the cost of producing a light crop is almost as much as a heavy one. The cost of plowing, cultivating, seeding and harvesting is the same except perhaps a little saving in binder twine and threshing of a light crop.

Of course, it cannot be expected that seed selection alone will increase the yield of grain per acre year after year. It has its limitations, and proper cultural methods must go with it if the maximum results are to be obtained. However, countless experiments and the experience of hundreds of farmers have provei conclusively that seed selection pays and the closer and more thorough the selection the greater the returns. In an experimeit conducted at the Ontario Agricultural College and extending over a period of 21 years, it has been found that the yield of oats from the sowing of large, plump seed was 63.7 bushels per acre, or exactly 12.3 bushels per acre more than that obtained from the seeding of small seed of good quality on the same ground, and under the same condition. On 30 acres of oats that means an increase of 369 bushels. Does seed selection pay? The above figures should leave no doubt.

The practical side of seed selection is not a difficult matter. If 60 bushels are required for seed that amount should be screened out of at least 200 bushels, not out of 75 bushels as is the most common method. That does not mean that the rest of the 200 busels must be discarded as screenings. Their value for feeding purposes has been decreased but little, the only difference being that the larger kernels have been removed. In order to make this selection as good as possible it should be done early in the winter when there is more grain from which to make a selection and more time at the farmer's disposal.

Notes From the Nova Scotia Agricultural College

THE DAIRY SCHOOL

The special courses in dairying are now on at the College. The buttermaker's course, which was completed on the 23rd, had an attendance of 27 students, who came in for this course especiall. The cheesemakers' course began on the 24th.

Of the 27 men enrolled in the buttermakers' course all are going to work in creameries. There is a strong and a growing demand for expert creamery men. This fact makes more emphatic the necessity for a real Maritime Dairy School.

It is a matter for congratulation to those in charge that with the short time and the meagre eqipment at their disposal, they have succeeded so well in training efficient creamery men. None the less no one feels as keenly as these men themselves the need for more time and more adequate equipment. Occasionally a student comes in for the course with keen intelligence, some measure of practical experience and the ambition that holds hime constantly at his task, He gets the utmost possible out of his brief stay at the College, and sometimes accomplishes wonders.

There was one man at the College this year who attended the course three years ago, and who is a good example of what can be done. The years before he came to the College the overrun in the creamery at which he worked, an ordinary country creamery, was 11%. This last year the overrun was 22%. He made 125,000 lbs. of butter, and this 11% gain meant that out of an equal quantity of butter fat he made $7,700 worth more butter in 1919 than with the methods of 1914. He states himself that this gain is due to his training at the College.

Such results as this from a two weeks' course can scarcely be expected with the average student. Probably there is no line of agricultural work in which effective training is as important as in dairying. The above figures give a hint of what is possible along lines of manufacture of butter. From the production point of view the demand is equally strong. The average cow whose cream went to the creameries of Nova Scotia last year produced $50 worth. The best herd reported had an average production of $208.43. What vast room for imporvement there is here!

These mere hints at the possibilities of development in dairying constitute the strongest kind of argument for an adequate Dairy School. If these three Provinces would unite their forces on this point they could supply training in the science of dairying equal to any to be had in Canada. Such a school would also stimulate greatly those general lines of improvement on the individaul farm which are necessary to make dairying really pay, and are equally necessary in order that the Maritime Dairy products may secure a reputation for the highest possible quality.

FIELD CROPS COMPETITION

The Department of Agriculture for Nova Scotia will issue in a few days a leaflet giving particulars about the Field Crops Competitions to be held during the coming season. The conditions are in the main similar to those of former years, with a few notable exceptions. The new condition which needs immediate attention is that regarding the type of seed to be used.

In 1920 no field will be admitted to the Competition except those seeded with either registered oats and wheat, or with seed that has been inspected and approved by the Provincial Department of Agriculture. This proviso means that intending competitors must now look ahead to secure their seed. Full particulars as to other requirements will be found in the leaflet, and farmers are advised to write and secure it.

AN INTERESTING CREAMERY REPORT

Annual reports often seem to the uninitiated very like Ezekiel's vision of bones: "Very many and very dry." With a competent interpreter, however, they can sparkle with interest. We have looked over the Annual Report of the Scotsburn Creamery Co., Ltd., and find it saying some useful things.

This is a purely farmers' co-operative company. It does not pose as a perfect institution, nor does it suggest anything in the way of dictation to its neighbors. It simply tells its story. In the matter of price paid for butter fat it seems as if this company has reached a high mark of attainment. The smaller creameries will not be able to reach it, but Scotsburn is to be congratulated on paying an average price through the year of 63c. per lb., with an average price monthly of 64c.

The overrun for 1919 was 22%. That is, the creamery turned out 22% more butter than it took in of butter fat. One who knows tells us that in 1915 the overrun was 15%. The gain indicated by last year's figures means an increase in earnings of upwards of $17,000 on the 454,159 lbs. of butter manufactured. Here is a gain that is made by efficiency in management, the stopping of leakages, increased skill in the actual buttermaking. In other words, the human element in this creamery was worth $17,000 more in 1919 than in 1915 to the company. Here is a commentary on the value of superior intelligence and of training, such as a Maritime Dairy School could give, which needs no elaboration.

Another deduction easily made when one possesses an inside fact or two runs thus. The seven hundred odd patrons probably average five cows each. The cows, then, sending their cream to the Scotsburn creamery produced about $67.40 worth of butter fat each on an average. One herd, which we happen to know, contains fifteen cows, produced $208.43 worth per cow. The average cow contributing her cream to this creamery has done better than the average cow of Nova Scotia creameries generally, and very much better than some. But, there is far too great a gap between the Scotsburn Creamery's average cow and this particular herd. Here is the spot for a big advance. The first step is to keep the dairy records. Breed up. Weed out the drones,—and feed.

DR. ROBERTSON'S TOUR

Dr. J. W. Robertson completed a most successful series of meetings at Yarmouth, on March 12th. During his tour Dr. Robertson was heard by between three and four thousand people at various points in Nova Scotia.

Any one who knows Dr. Robertson personally, or who has heard his addresses on other occasions, need not be told that his message on this visit sparkled with wit and humor and yet made us all feel the urgency of patriotic and humitariann duty.

To farmers, as such, the burden of his message was that there is still a great shortage of food supplies, and that, in his judgment, the next two years will give the farmers the best opportunity to make money that will occur within the speaker's lifetime. He pointed out also that in this case the personal desire to secure profits by large production at good prices lies along the line of a real service to one's fellows.

In a measure, Dr. Robertson's estimate of the farmer's opportunity at the present juncture may be regarded as an individual judgment. It will be remembered, however, that, as Direc-

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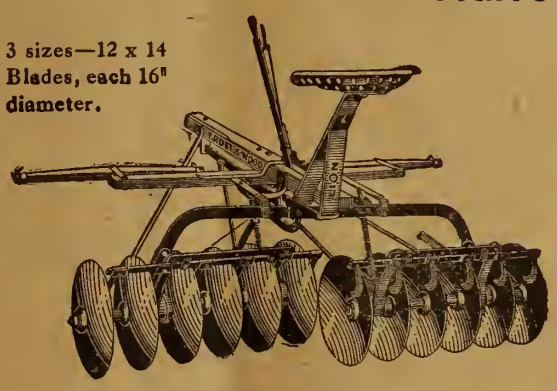

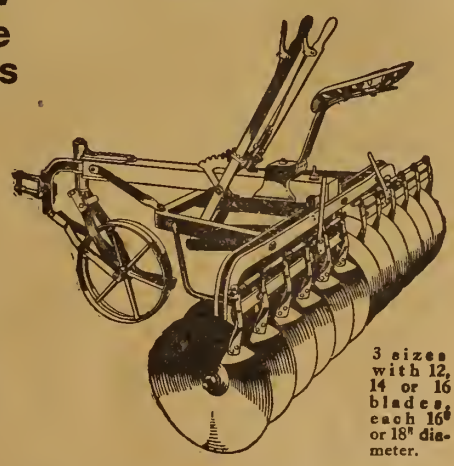

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HORTICULTURE.

MAKING ORCHARDS MORE PROFITABLE

The present high prices of fruit and the scarcity of really good producing orchards make it worth while to consider cleaning up the old apple orchard and getting a profit from it. As a matter of economy, the orchard should either bear or be cut down. Land is now too valuable to allow any of it to remain unemployed and many of the old farm orchards are today in such a condition that the land is virtually idle. It would be worth more in hay or grain than it is when occupied by an old, decrepit, run-down orchard. On the other hand, there are few, if any, crops which will beat the crop of apples from a well-cared for orchard, either in value or profit, and it is surprising how much can be done in a short time to bring an old orchard back into usefulness.

Whenever pruning is mentioned, many confuse the term with tree butchery. True, some of the so-called pruning done in orchards is nothing less than butchering, but even the inexperienced can do a good job of pruning. It is merely the applictaion of principles derived from the study and control of plant growth.

To do a good job there are certain tools which are necessary. A saw is the first thing which is needed in the old orchard. For the purpose nothing beats the steel-frame, swivel-bladed saw. The blade may be turned at any angle, nearly any cut possible with a keyhole saw may be made, and the steel frame holds the saw blade straight and rigid. New blades may be used whenever the old becomes dull, and by keeping several resharpened or new blades on hand, the work may be done more easily. A small, nrarow-bladed hand saw may do very well sometimes, but in other places it is impossible to get in the proper position to make a good cut. There is one sort of saw, improperly called a pruning saw, which should not be used for pruning at all. This is the double-edged saw so popular in some sections. The main trouble is that while the one edge is cutting where you want it to cut, the other is likely to be working where it is not wanted. An advantage claimed for this type is that there is one set of teeth for dead and one for green wood. However, if a single edged saw is set for green wood it will also cut dead wood, and there will be no opposite edge with set to drag through the cut. If you have a double-edged saw do not throw it away—it makes a good tool if one edge is ground off on the grindstone.

A pair of good hand shears should be part of every equipment. They will remove all the water sprouts and smaller branches smoothly and quickly. The most favored type is one of those which has a single blade cutting with a shearing action against a bar. These are made in the better quality with an adjusting nut which is very necessary in order to keep the blade and bar portions against each other. Only the best quality should be procured if there is much work to be done, and the shears should be large sized, at least ten inches in length for greatest ease of handling. Another very useful tool is a pair of long-handled pruners built on the lines of the hand shears. They will take off limbs of considerable size with little effort and speed up the work considerably.

Some will wish to add an axe to the equipment or use an axe for the only tool. This is all right if the purpose is to take the trees out entirely, but for pruning the axe should be relegated to the scrap heap along with the two-edged saw.

When to Prune

Time is a most important element in any work a farmer has to do. As a rule the farmer has more time in the late winter, along about February and March. For dormant season pruning this is a fine time and it is possible to clean up the job in the slack season. For the average farmer the pruning given in the dormant season is the only one possible and it is, therefore, the one which will be discussed here. It is well to remember, however, that if the trees are making excxessive wood growth and the suckers or water sprouts are very persistent a moderate pruning in June or early July will help slow down the rate of growth. On the other hand, pruning during the dormant season promotes wood growth.

The question of season as a factor in the healing of wounds is often raised. It is usualy conceded that wounds made in the late winter and early spring before growth begins heal most quickly everything considered, but this factor is much overbalanced by the position of the wound in the tree and the manner of making the cut.

Do not leave stubs. A long stub will not heal, but will die and offer an excellent opportunity for decay to get into the main branch or rtunk to which the stub is attached. Make your cuts close to the main branch, or if

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you are heading back a branch, cut it off next to a lateral or side branch, making the cut parallel to the axis of the lateral. Wounds should be made smooth and clean-cut without undue injury to the bark or wood.

A protective paint should be used on all wounds an inch or more in diameter. For rthis purpose nothing is superior to white lead and raw linseed oil. To each quart of this paint add one ounce of ground corrosive sublimate as a disinfectant. If paint is not available, tar may be used, though there is some doubt whether trees are not injured by the application of tar to wounds. It is antiseptic and prevents checking and drying of the wood, but after all is said and done, a good coating of lead and oil is the safest and most conveniently applied dressing for wounds of fruit trees. To anyone who has observed the conditions in old orchards which have been neglected, the most obvious necessity is the removal of dead and diseased branches. After these come the interfering branches, or the ones that rub each other, and lastly the heading in and thinning out of other branches, in order to shape the tree. There is no danger of injuring the tree by taking out dead and diseased wood no matter how much is removed. Care in taking out live wood is necessary, however, in order to prevent excessive sprout growth in the remainder of the tree. It is best to take three years or longer to do a thorough job of pruning. The first year after clearing out the dead, diseased and interfering branches, it is well to confine the work to a small amount of heading back on the tallest branches and those which sweep the ground too much. A few of the limbs which are parallel to others very near by may be removed also. The following year more thorough pruning, with an aditional heading in of the higher and more spreading branches should be given in connection with thinning out to let the light down into the tree.

Save the Fruit Spurs

In your work see to it that none of the fruit spurs along the main branches are removed. Too many people in their enthusiasm strip the branches of all the fruit spurs and water sprouts alike, leaving long bare poles with a tuft of leaves and fruit bearing wood at one end. Remember the fruit is borne on fruit spurs, and the more there are along the main branches the greater will be the yield of easily harvested fruit. If fruit spurs are missing along these limbs it is a good idea to hear in part of the water sprouts instead of removing them entirely, and in this way encourage spur production.

Study each cut when you first begin work. Determine in your own mind how the removal of the branch will affect the appearance of the tree. At first the decision may be somewhat difficult, but as soon as you have gained a little experience the work will go much easier. Remember that a whole branch does not have to come out in a single season. Heading back each season for two or three years wil lremove the branches without excessive removal of wood at any time.

After all, the thing to which most thorough attention must be given, is how the work is done rather than just what is removed. Keeping the general notion of an ideal tree in mind and working toward that as an objective, making each cut carefully, saving all the fruit spurs and never leaving stubs, anyone can do a job of pruning that will add much to the results obtained from the orchard.—L. S. Goode.

COMPOSTS AS A SOURCE OF HUMUS AND NITROGEN

(Experimental Farms Note)

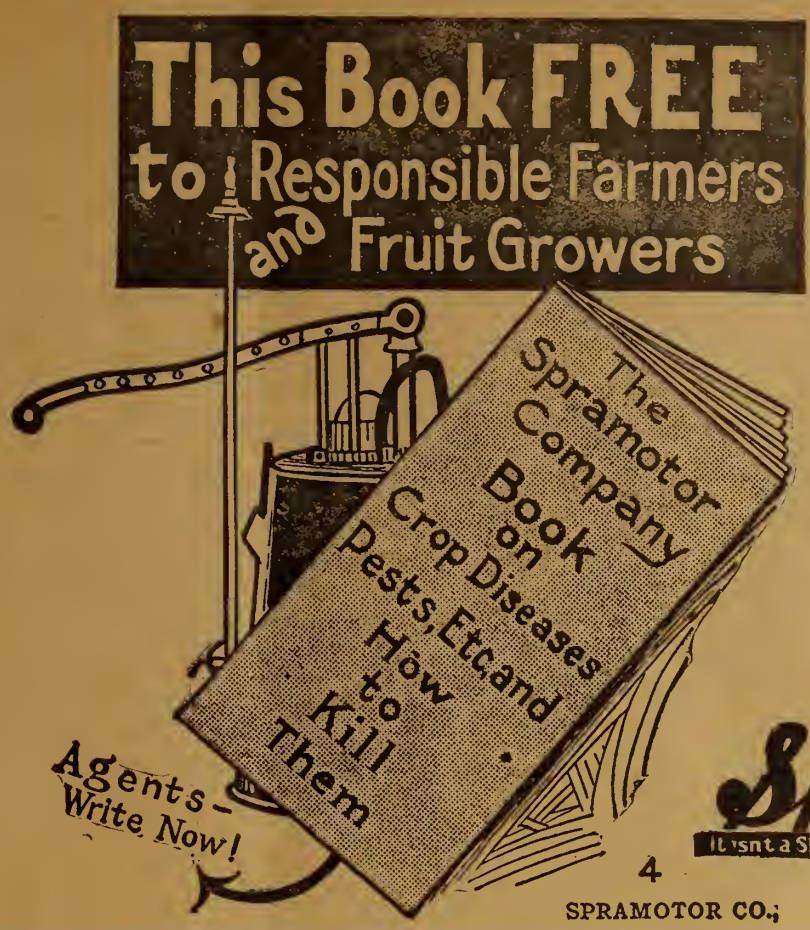
The examination of many types of soil—clays, silts and sands—virgin and cultivated, has furnished evidence of a very emphatic character regarding the fundamental and vital importance of semi-decomposed organic matter (humus) as a soil constituent. It acts mechanically in improving tilth, lightening and mellowing heavy clays and increasing the moisture-holding capacity of all classes of soils. It supoprts the microscopic life of the soil, the function of which is to phepare plant food for crop use. And, lastly, it is the natural storehouse of nitrogen—the most expennsive of all plant foods when purchased in the form of fertilizer. One of the chief objects in view in any intelligent, rational method of soil management is the upkeep and if possible the increase of the soils humus content. Applications of farm manures and the turning under of green crops—clover, buckwheat, rye, etc.—are the principal means of adding humus-forming materials to the soil, and these may be supplemented, cheaply and effectively by composts.

Every farm, every market garden, should have its compost heap, for such affords the most economical (and sanitary) means of utilizing the vegetable and animal refuse, indeed all forms of organic waste. To enumerate some of the materials that can be profitably used in this way; potato tops, cabbage leaves, waste straw, dead leaves, kitchen waste, old sods, the cleanings of ditches, road scrapings, muck and peat, pond and stream deposits; all these materials and many more rich in organic matter may by composting be converted into a forcing manure of very considerable value by reason of its humus content and its store of readily available plant food. In these days it behooves us to abandon our wasteful ways and utilize everything that may make the land more productive. The practice of burning all orangic refuse is an exceedingly wasteful one and should only be followed when, by reason of the presence of the eggs, spores and seeds of injurious insects and plants, the composted material would be likely to disseminate disease.

The making of the compost heap is a very simple affair. It can be built up of alternate layers, of say six inches, of refuse (including swamp muck if such is obtainable) and manure, to any convenient height, covering the whole with a few inches of good soil or muck. The heap should be kept moist, that decay may proceed, but not so wet as to cause drainage from the heap. The result, in a few weeks or several months, according to the season of the year, will be a manure of very considerable fertilizing value, capable of improving both clay and sandy loams and especially useful for vegetable and garden crops.—Frank T. Shutt, Dominion Chemist.

Whenever a limb of a tree is blown off or diseased, the stump should be sawn off evenly and painted with creosote or tar paint, otherwise decay will set in and spread to other parts of the tree.

The old threadbare axiom, "An ounce of prevention is worth a pound of cure," is as true today as it was the first day it was spoken.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DO YOU know, for instance, that a crop of potatoes can be improved from a total loss to 400 bushels per acre, at a cost of $1. to $3.

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BARLEY,	O.A.C., No. 21	$ 2.35	CORN, Australian Flint		$4.25
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BUCKWHEAT,	Silver Hull	2.00	" Canada "		4.00
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THE NEW BRUNSWICK FARMERS' AND DAIRYMEN'S ASSOCIATION IN ANNUAL CONVENTION

(Continued from page 450)

a body of united farmers, approach these problems, not with any sinister motive, but with that indomitable courage that has characterized the tillers of the soil through the late war struggle and made it possible for right to gain the ascendency over might.

C. F. ALWARD.

The committee to whom the address was referred with a view to bring the president's timely suggestions before the meeting for further action reported:

"We, your committee, beg leave to report that many of the points touched by the very able address of our president last evening, are being dealt with by various resolutions presented or yet to be presented. We recommend that the address be given the widest publicity, as representing the views of this convention in dealing with the many problems arising during the trying period of reconstruction.

REV. EUGENE de la GARDE,
T. R. GOGGIN,
M. A. REID,
J. R. TAYLOR.

Welcome to Fredericton

The city of Fredericton officially welcomed the delegates through their Mayor, His Worship J. A. Reid, who gave the delegates the freedom of the city and extended the felicitations of the urbanites and ruralites for a successful series of deliberation, as well as a cordial invitation to visit the industries carried on in the city. Pressure of convention business prevented the delegates from taking advantage of His Worships offer to convoy the delegates on their tour of inspection.

The reply to the address was made on behalf of the delegates by H. H. Smith, Treasurer of the Association, in the absence of J. E. De Grace, Vice-President, who was detained through illness.

The Resolutions

The following resolutions were regularly brought before the convention:

Whereas the lack of stock yards, abattoir and cold storage iacilities greatly retard the work of developing the live stock industry in the Maritime Provinces, and

Whereas the present long and expensive railway haul of livestock to the Montreal and Toronto abattoirs, coupled with the expensive railway haul of meat and meat products back to Canada's winter ports for export and for home consumption greatly enhance the high cost of living, which cost is liable to go higher, owing to proposed further increased freight rates, a matter which the consuming public can ill afford,

Therefore resolved that the New Brunswick Farmers' and Dairymen's Association in forty-fourth Annual Convention assembled at Fredericton, voicing the sentiments of over ten thousand New Brunswick farmers, this 17th day of March, 1920, hereby concur in the movement for the procuring these long felt needs for Maritime Canada, aCnada's only eastern winter ports.

Further resolved that the Dominion Live Stock Division be requested to take steps as will with the least possible delay provide for Maritime Province farmers and stock breeders the much needed stock yards and affiliated facilities.

Moved by A. E. Trites; seconded by R. M. Bynon. Carried unanimously.

* * *

Resolved that this convention of Farmers' and Dairymen's Association of New Brunswick submit to the Federal Department of Agriculture, the advantage of establishing an Experimental Station on the North shore of this Province. The nature of the soil and other local conditions are such, that a second Experimental Station, either in the Counties of Westmorland, Kent, Northrumberland, Gloucester or Restigouche, would be very beneficial to the agricultural interest of these respective counties.

In support of this resolution, it might be well to note that in the neighboring Province of Nova Scotia with a Central Experimental Farm at Nappan, a second Experimental Station has been established at Kentville, and the same applies to the other Provinces.

Moved by Phil Hebert; seconded Delphie C. Goguen.

* * *

Whereas there is a strong agitation in our cities advocating the adoption of "Daylight Saving Time," and

Whereas the change in time of our railroads and other public institutions is not only confusing, but is absolutely detrimental to the best interests of the farmer by interfering with the hours of labor and thereby curtailing production,

Be it resolved that we as farmers convened in this Farmers' and Dairymen's Association do emphatically protest against any change from the present Atlantic Standard time.

Moved by G. W. Smith; seconded by H. H. Smith.

* * *

Resolution Relative to Securing of an Egg-Laying Contest for New Brunswick

Whereas, egg-laying contests serve to create a keener interest in poultry production, and

Whereas, they promote the development of strains of higher egg producing capacity, and

Whereas, they provide the most reliable basis from which to judge the laying capacity of different strains, and

Whereas, they are a remarkable advertising medium for the poultry industry, and

Whereas, the record of New Brunswick pens in previous contests and those now in operation has been a credit to the breeders of the province, and

Whereas, New Brunswick is the only province in which a contest is not being conducted at the present time, and

Whereas, the Experimental Farms Branch of the Dominion Department of Agriculture has established a laying contest in every province, except New Brunswick, which has not already a provincial one in operation.

Be it therefore resolved and it is hereby resolved that,the Farmers and Dairymen's Association of New Brunswick in annual convention assembled, through the President and Executive Committee do take the matter up with the proper authorities with a view to obtaining a laying contest at the Experimental Farm, Fredericton, N. B. beginning Nov. 1st, 1920, and

Beit further resolved that a copy of this resolution be forwarded to the Minnister of Agriculture for Canada, the Deputy Minister of Agriculture, the Director of Dominion Experimental Farms, and the Dominion Poultry Husbandman.

Moved by G. E. Fisher; seconded by M. A. Reed.

* * *

Be it hereby resolved that the delegates to the New Brunswick Farmers' and Dairymen's Association in convention assembled hereby express their appreciation and approval of the efforts which have been made by the Provincial Dairy Department and the Representative of the Federal Dairy Division in stimulating and directing the development of the Daidy industry in this province. The delegates further express their belief that the encouragement of Central Co-operative Creameries is in the best interests of the Dairy industry and that legislation should be introduced dealing with the location of cheese factories and creameries and providing such regulations in reference to machinery and equipment as would enable the turning out of first class Dairy products.

Moved by Isaac Melanson; seconded by A. E. Trites.

Mr. President and Gentlemen:

We beg to present the following Resolution:

That whereas underdrainage in New Brunswick is not only essential but is vitally necessary to the productivity of some areas, and

That whereas, it is well known that surface or open drains are very inferior substitutes and will not render the land in as efficient condition for the productivity of crops, and

That whereas, the question of food supply is a vastly important one in our country today, and

That whereas, it has been clearly demonstrated that land systematically underdrained, will increase its production more than 100% in a very short time, and

That whereas, we, the farmers of New Brunswick do feel that the Government is not giving enough attention to this very important subject,,

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Farmers' Sons and Daughters have great opportunities to-day.

They never had better chances to make and to save money. Now is the time to lay the foundation of future prosperity by cultivating the habit of thrift.

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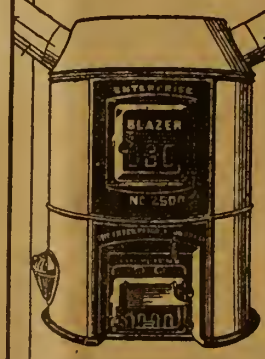

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Those who expect to enter this school for the Winter Term opening January 5th, should write for full particulars NOW.

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Get ready for a good position by joining our classes on April 7. Classes open all summer.

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Send for new Rate Card.

S. KERR, Principal

Marion Bridge, C. B., May 30, '02.

I have handled MINARD'S LINIMENT during the past year. It is always the first Liniment asked for here, and unquestionably the best seller of all the different kinds of Liniment I handle.

NEIL FERGUSON.

Therefore be it resolved, that we, the farmers of New Brunswick here assembled, do respectfully present this very important resolution with the request that it receive the attention that it so richly derserves, and

Further be it resolved, that some means be taken by the Department of Agriculture to procure clay tile to be distrubted through the Agricultural Societies.

R. Roy Raymond, Fred H. Walsh.

* * *

Resolution Relative to the Marketing of Poultry Undrawn with Heads and Feet On

Whereas, undrawn poultry passes through marketing channels (railway transit, storage, wholesale and retail stores) with less disease contamination and less leterioration than does drawn poultry; and

Whereas, Cold Storage Managers will not acecpt drawn poultry for storage purposes because it will not keep, and

Whereas, the flesh of undrawn poultry has a fresher and more wholesome taste than has drawn poultry, and

Whereas, the consuming public have no safeguard against the consumption of diseased birds when poultry is drawn and the heads and feet removed, and

Whereas, the markets of other provinces and of the United States are demanding poultry marketed undrawn, and

Whereas, so long as New Brunswick poultrymen have to market drawn poultry they can never hope for a market other than their local market,

Be it resolved and it is hereby resolved that the Farmers and Dairymen of New Brunswick in annual convention assembled do recommend that poultry be marketed undrawn with heads and feet attached,

And be it further resolved that a copy of this resolution be sent to each of the City Councils and to the leading newspapers of the Province.

Moved by Fred H. Walsh; seconded by J. R. Taylor.

* * *

Whereas, the need of the world today is such that it calls for greater production everywhere, and

Whereas, our Agricultural interests today are of paramount importance to the idividual, to the province and the nation, and

Whereas, the young men from our rural districts everywhere are leaving the farm for the city life, and

Whereas, there is no adequate textbook in our rural school calculated to turn our yoths' minds to agricultural pursuits and encourage them to stress scientific farming,

Therefore be it resolved, that we, the New Brunswick Farmers' and Dairymen's Association, convened at Fredericton, this 17th day of March, 1920, do request that a delegation be here appoited to wait upon the Government and urge upon them the necessity of immediately inserting in the curriculum of our country schools such a text book on Elementary Agriculture as shall enable the pupil at least by the time they have reached the fifth grade, to know what each of the various products or plants grown on the farm draws from the soil and also the need and value of the fertilizer required to make the growing of that plant a success.

Moved by Rev. R. M. Bynon; seconded by F. H. Walsh.

* * *

Whereas, the cost of all farm produce is considered by the city consumer to be too high, and

Whereas, the farmer is entitled to the current rate of pay for his labor,

Resolved, that this Farmers' and Dairymen's Convention here assembled, request the Provincial Government to appoint a commission to ascertain the actual cost of farm produce on the basis of an eight hour day, plus a reasonable profit. The report of the commission to be published in all local papers and also in pamphlet form.

Moved by T. A. Goggin; seconded by J. R. Taylor. Passed without discussion.

* * *

Moved by Rev. Eugene de la Garde, seconded by R. W. Melanson, that in future our Convention will not be held during St. Patrick's week. This resolution was amended to leave the matter of fixing dates for further conventions in the hands of the executive. Amendment carried.

* * *

Moved that the minutes of this Convention be sent to each secretary of Agricultural Socieies throughout the Province.

Moved by R. W. Melanson, seconded by A. J. Buttimer. Carried.

Entertainment

Musical numbers, readings and an exhibition of motion pictures, interspersed the Tuesday and Wednesday evening's programme. Among those who contributed this much appreciated innovation were Miss Hazen McCain, the efficient Superintendent of the New Brunswick Women's Institutes, A. C. Gorham, Superintendent of Elementary Agricultural Education and R. Bruce Flewelling, of the Soldier Civil Re-establishment Board, who, before going overseas, where he gained the distinction of having a German bullet shot through his body and bowels and recovered, was assistant horticulturist for the province of New Brunswick, gave several solos which were splendidly rendered and heartily encored. The readings by Miss Giberson of the Provincial Normal School staff and W. A. Walsh of Fredericton, received well merited applause and encore.

The motion picture scenes depicted beekeeping, instruction in live stock judging, sheep raising and the care and preparation of wool for market, as well as one or two comic reels.

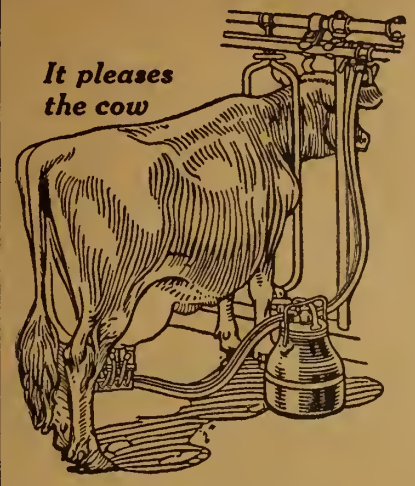
The Addresses

O. C. Hicks, instructor in Soils and Crops, New Brunswick Department of Agriculture, handled the subject of Clover Culture and Seed Selection in a clear, concise manner. He outlined the condition that must obtain in order to successfully grow a good clover crop.

Bee-keeping in New Brunswick, its Opportunities and Progress, by L. T. Floyd, the popular and efficient Provincial Apairist, aroused much interest. Mr. Floyd quoted facts and figures to show the splendid results that New Brunswick beekeepers are achieving. The progress during the past three seasons has been rapid and the total value of the bee industry from the honey standpoint alone, to say nothing of other economic conditions that are benefited by the busy bee, is well into the hundred thousand dollars.

In the absence of A. G. Turney, the provincial Horticulturist, who was detained in the country owing to conditions brought about by the recent storm, Mr. Geo. B. Danby, his assistant, gave an interesting talk on horticulture, dealing particularly with the question of the farmer's small orchard.

(Continued on page 461)



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The Milker You Have Hoped For

The De Laval Company now offers to dairymen a perfected and proved cow milker, worthy of the name DE LAVAL.

The De Laval Milker comes to your aid with the Company's full knowledge that you will expect more of the **De Laval** than of any other milker. For three years it has been in daily use on several thousand cows of various breeds, under all of the varying conditions to which a milker can be subjected.

The De Laval Milker is distinctly different, possessing many new and exclusive features that are of inestimable value to the careful dairyman and owner of valuable cows. Its action is positive and uniform from day to day, and it is faster, more reliable and more sanitary than any other method of milking.

An additional insurance of lasting satisfaction to users of the De Laval Milker lies in the De Laval Company's well-known facilities and reputation for service.

Write to nearest De Laval office for Milker Catalog, stating number of cows being milked

THE DE LAVAL COMPANY, Ltd.

MONTREAL PETERBORO WINNIPEG VANCOUVER

LIVE STOCK.

My experience has been with farm animals that 90% of their ailments are due to digestive troubles. We rarely find any sickness when our stock is running on pasture. It is only when we stable them and select their rations for them that trouble is liable to occur, most of which we make for ourselves through faulty feeding or wrong treatment of their ailments. Colic in horses and indigestion in cattle takes on various forms. I do not think, however, that as many cases of colic now occur in horses as when boiling feed for them was more commonly practised. Boiled grain and potatoes fed for a short time may help to get the poor, run down horse in condition, but if continued for any length of time is liable to cause digestive troubles. Good hay, oats and a little bran is hard to improve upon, and for my own part I consider it worse than a waste of time to boil feed for any animals but hogs. Prevention is so very much better than cure in treating farm animals that we try to "not let it happen." It is most unprofitable to try to winter cattle on hay and straw alone, and for either a milking or fattening beef animal we must so balance the rations that it constitutes as nearly as possible the ingredients found in that best of all feed JUNE GRASS. We may best provide this by growing sufficient roots, (turnips. mangels or beets) corn, or other silage, to furnish the succulency found in grass, and furnish the protein deficient in these feeds by grain and meals.

However, even if we are not anxious to produce milk or beef, it will pay us to feed a regular root ration to whatever horned cattle we attempt to winter. This will not only better their condition, but guard against loss from digestive and other ailments, and after we have taken all precaution in our rations we must still be prepared for any indications of indigestion that may appear by having a full supply of medicines for their treatment always on hand. If a veterinary is within reasonable distance and we are doubtful about the diagnosis of a case we should send for him at once. It is foolish to risk the life of an animal and not fair to the surgeon to delay until we think we are going to lose the animal before calling for his services. I have great sympathy for any veterinary who is often called to treat a case at a time when the owner should be looking for a spade. Even then for fear of being considered neglectful or thriftless the full truth of the cause of the trouble is often not disclosed.

Every man in charge of live stock should train himself to be observing. A natural stockman will notice without purposely looking for it if each animal has cleaned up its feed properly and if its eye and muzzle are normal every time he passes them. These are indications that warn an experienced stockman of danger in time to take steps to avoid it. He will continually have on hand sufficient epsom salts for any emergency, spirits turpentine and sweet spirits of nitre, also stimulants of various kinds. Whenever a cow is noticed to refuse feed or to nose it over in a careless manner, he will give from one and a half to two pounds of salts with a little ginger, as a preventative, and feed lightly on soft feeds for a few days. If an animal is found bloated more or less with dry muzzle, and omitting a grunt with every breath, four to eight tablespoons spirits of turpentine should be given in a pint of raw oil, depending on the condition of bloating, along with the salts. While it is not easy to decide which of the four stomachs is involved, the treatment is practically the same.

My experience is, the first stomach, or paunch is more often affected than the others, and the manyplies or third stomach is the next most liable to get out of order. When excessive bloating occurs and great extension of the left side is met with, we must act quickly as gases develop rapidly in the first stomach and the animal is liable to suffocate and drop dead before any medicine can be administered. When this condition occurs and the animal shows great uneasiness, tapping should be resorted to, which consists in making an opening into the stomach and letting the gas escape. A trocar and canula is the instrument that is best suited for this operation, but as the stimach is attached to the skin mid-way between the point of the hip and first rib, a puncture in this location far enough from the muscles of the loins to prevent injury with any sharp instrument will answer the purpose. It is my experience that the first stomach of the cow is a very hardy organ, and will stand rough treatment, and while it is proper to disinfect any knife or instrument used for this purpose, I have performed it several times with any knife that happened to be handy when nothing better could be had soon enough with good results. However, we rarely have to resort to such severe treatment, but we should never leave a sick animal to see if they will come around of their own accord. Delay is very dangerous in impaction when digestion ceases and large quantities of food lodges in the digestive organs, and a condition of partial paralysis occurs, and our treatment is not only to at once administer a good large dose of purgative medicine, but to do everything we can to hasten digestion, which is best accomplished by warming the body, putting hot salt across the loins, and if cold water is before them, cover it so the animal cannot drink at will, but induce it to take all the water it will drink as warm as possible. In fact, do everything possible to warm up the stomach and follow up the purgative medicine with stimulating drenches. I have known most severe and unreasonable treatment to be given in cases of indigestion and impaction, giving the animal first heavy doses of salts, then following shortly after with still larger doses of various kinds of medicines and allowing the animal to chill its stomach by drinking cold water that might be within its reach, and if the animal survives (by reason of a vigorous constitution), in spite of such superstitious handling the treatment is heralded as a sure cuer for this complaint. After the bowels have moved the animal should not be allowed any solid food until it starts to chew its

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An engine for every need. Also operated on Gas and Gasoline.

Maple Leaf Grain Grinders. 6 to 15 in.

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WINDMILLS,

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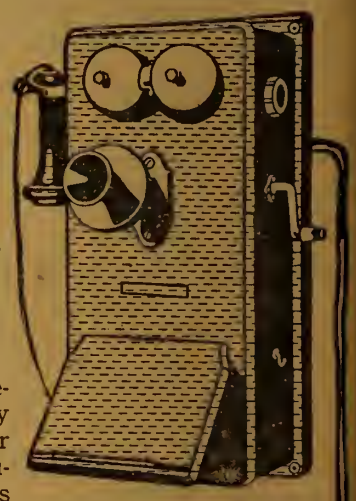

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are built better than may seem necessary to insure maintenance economy. The telephone, for example consumes less battery current while operating and gives better transmission than other kinds of instruments—which means less frequent renewals of the battery. When you pay less than our price you get less than our quality.

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Shows you how to install and take care of your telephones—tells how to organize a party line among your neighbors and explains just how to get started. Gives valuable information about all Stromberg Telephones shows how our experience goined in building over 2,500,000 telephones is of great importance to you.

Send for this free book and put your telephone problems up to our engineers—we will plan your system and furnish estimates without cost.

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Stromberg-Carlson Telephone Mfg. Co.

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cud, but at this time the owner is so anxious for recovery, and as the return of appetite is an indication of this he will often allow animals to eat enough to bring on a second attack and defeat all chances of recovery. Very limited quantities of soft feeds should be given for several days, such as bran mash, the best quality clover hay or a very few roots.

Few people can be made to realize how sensitive a cow's stomach may be after a severe attack of indigestion, and it is hard to get them to feed lightly enough for a sufficient length of time to allow a full recovery. Not only should we feed very lightly, but it is always better to give stimulants such as a teaspoonful of gentian three times a day, or one of the stock food preparations, which is about the only time we ever consider their use necessary. Always bear in mind that an animal that has passed through a severe attack of indigestion will be sensitive for a considerable length of time.

Every owner of cattle should keep the full supply of medicines I have mentioned continually on hand, and treat properly any animal showing signs of digestive derangement. It will not hurt them even if they are not sick or liable to be to administer a dose of epsom salts, and in many instances it may save us a lot of trouble or the life of a valuable animal. Of all things, learn to be observing and recognize any indications of approaching trouble. Prevention in this instance is many times better than cure.

W. M. LEA.

NOTABLE HERD OF AYRSHIRES AT COLDBROOK

The quarantine stables at Coldbrook are now sheltering the first shipment of Ayrshire cattle to be imported into Canada since the outbreak of the war and the stables have never housed at any time such fine stock as these forty-six representatives of the Ayrshire breed. They were imported direct from the Adam Montgomerie, Less Nessock stables in Ochiltree, Scotland, and made the passage to St. John in the steamer Cabotia, of the Donaldson line. Mr. Hunter, of Hunter Bros., stock breeders of Freeman (Ont.) who brought out the shipment, made the voyage with the cattle and is supervising their care through the period of quarantine which will terminate on March 18 or 20. The Canadian breeders have been eager to avail themselves of the opportunity to improve their stock through importations from Scotland once more and have been little if any deterred by the fact that the price of cattle, like that of most saleable articles, is very much greater than it was before the war. A very high figure is named as the value of these animals.

It is believed that the Cabotia brought the most valuable shipload of cattle that ever left Scotland and among the forty-six there are some of the highest priced animals that ever crossed the Atlantic. They have aroused much interest in the maritime provinces. Many breeders have visited the stables to view them and Burt R. Brown, of Little York (P.E.I.), and Dr. Cummings, of Truro Agricultural College, are negotiating with Mr. Hunter for the purchase of some of the animals. McIntyre Bros., of Sussex, made an early choice and have bought an exceptionally valuable pair, a bull and a cow, that will take a high place in the Ayrshire cattle of the maritime provinces.

The bull especially is descended from the very choicest strain of this breed in the world. He is named Lon Milton MacDonald. His dam is a wonderful young cow with a tremendous milk record. Her sire, Noonday Sun, is now champion of the breed in Japan. MacDonald's sire is the celebrated Casabianca for which a breeder recently offered $10,000 in Scotland. This bull has been sensational in his success as a sire. Thirty-two of his bull calves have already averaged $968 at public auction in Scotland and his full brother in January of last year sold, also at auction, for $7,400. Casabianca's dam holds the world's long distant milking record for her age of eight years. She has produced six of the greatest animals of the breed and milked in six consecutive years, 64,383 pounds of milk, testing 4.20 of butter fat. This wonderful cow has already returned to her owner in milk and stock $30,228. It will readily be recognized that McIntyre Bros. have secured a prize animal.

The cattle are wonderfully true to type and the Ayrshire breed perhaps demands more uniformity than any other. When the quarantine period expires it is Mr. Hunter's intention to take the cattle across the border. The next shipment of Ayrshire cattle from Scotland that is expected to reach St. John, will also come by the Cabotia, leaving Scotland on March 18. R. R. Ness, of Howick (Que.), will bring out a large shipment in that sailing. His animals will come from the Barrs stables.

MILK SUBSTITUTE IN CALF RATION

The imprtance of the dairy calf as an essential unit in the development of a profitable dairy herd is at last being accepted as an established truth. There are many barriers in the way of the man who grows calves. It is necessary that he be assured that when grown such a calf will possess hereditary qualities necessary for profitable milk yield, that it be free from disease, and that its cost be held within the bounds of his economic existence.

Nature designed a product to be used in growing calves, but man soon found that this product was necessary for his existence as well. The first step in the evolutionary process designed to make available dairy products for man and also to continue the growing of young cattle was the substitution of skim milk for calf feeding in the place of whole milk. Such a change merely denied the calf the butter fat of milk, but continued to provide all other elements of nutrition as nature had designed. Expert feeders found that good calves continued to be produced even though denied the element of fat.

As progress in our country continued, the use of milk became more insistent until today, in order to continue the growing of our dairy herds, the calves must be grown on a milk substitute to a greater degree. No doubt, as the time goes on the use of milk substitutes will become of greater importance in order to maintain our dairy herds.

Out of all of this has grown a great industry—the business of manufacturing milk substitute feeds for the growing of calves. The extent of this industry is unknown by many but as time goes on and the universal demand for milk substitute feeds becomes established the dairyman is going to find institutions who saw the shadows of coming events in time to prepare to serve them. The work of these institutions is to study the needs of the dairy calf and compound a ration upon which it will prosper. It has been found, as before stated, that fat is an unessential part of a ration for calves, providing its place is substituted by a digestible starch of carbohydrate in sufficient abundance to off-set the missing fat. It has also been found that the use of a carbohydrate for a fat has the advantage of being comparatively much easier to digest than a fat. Accordingly, in the most highly developed calf meals of today the use of fat is considered to be of secondary importance, the emphasis being placed upon a desirable form of protein and an abundant supply of soluble starch. High fat rations are difficult for all classes of animals to digest, even with man, although the best brains of the country advise a high protein ration especially with young, growing animals. So, in selecting a feed for young calves, judge the ration by its high protein, medium fat and high carbohydate declaration.—R. E. Caldwell.

The breeder of grade cattle who uses the best sires will breed more productive, higher selling cows than the breeder of pure-breds, or one who uses bulls of inferior breeding even though pure-bred.

Are you making a home for your children, or is it just a house?

The ownership of a respectable library is something which many look forward to, but few realize.

Penny Wise--Pound Foolish
Separator Buying

Many buyers of cream separators are tempted to save $10 or $15 in first cost by buying some "cheaper" machine than a De Laval.

In practically every case such buyers lose from 10 to 50 cents a day through the use of an inferior separator.

That means from $36.50 to $182.50 a year—and not only for the first year but for every year the separator continues in use.

Twice a day---Every Day in the Year

It should always be remembered that the cream separator saves or wastes in quantity and quality of product, and in time and labor, twice-a-day every day in the year.

Moreover, a De Laval Separator lasts twice as long on the average as other separators. There are De Laval farm separators now 28 years in use.

The best may not be cheapest in everything but it surely is in cream separators.

THE DE LAVAL COMPANY, Ltd.
MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 Branches and Local Agencies the World Over

Shinn-Flat Protects Property

That very fact, that Shinn-Flat Protects Property, means profitable business for dealers. This year property owners—and particularly farmers—can't afford to take chances on lightning. Lumber, labor, grain, stock and implements are all too valuable to carelessly risk a lightning stroke. It's a splendid time to sell Shinn-Flat Protection.

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LIGHTNING RODS

Do prevent Lightning losses, as demonstrated on thousands of Shinn-protected buildings throughout the Dominion and the United States. Send us a card for Prof. Day's book and our proposition to Retail Agents.

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"The Kind That Are Guaranteed."

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INVENTED by a Canadian, built
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Renfrew Separator stands to-day f
cream separators of the world.
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Its unbeatable close skimmin
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Other Lines:—

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Canadian Skill

Canadian work-
ian capital, the
most among the
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ord places the Renfrew
a perfect skimmer. It
fat.

The Renfrew is in Competition throughout the world with all foreign makes of separators. It has a large sale in the United States and is also to be found in the dairy sections of South America and in Europe.

When the Renfrew Separator is used no cream is lost through imperfect skimming. In an Experimental Farm Bulletin Mr. Barr, the Chief of the Dairy Division at Ottawa, says, "A good separator properly handled will deliver cream testing anywhere from 20 to 35 per cent. fat and not leave over .02 per cent. fat in the skim milk." The Renfrew Separator does better than that. On a test under ordinary farm conditions it leaves only .01 per cent. in the skimmed milk.

rew Cream Separator

Every part is made of the highest grade material, accurately manufactured and carefully fitted. Because of the patented Clutch which enables the gears of the separator to stop while the bowl is running down it should last one-third longer than an ordinary separator. This means that it is a 33⅓ *per cent. better investment* from the standpoint of durability and cost per year of service.

Interchangeable Capacity

The frame and driving mechanism is standard for all capacities, ranging from 350 lbs. to 1000 lbs., and made in weight and size for the largest capacity. When, by increased milk production, it is found that the capacity of your separator will have to be increased, all that is necessary is to send back the old bowl and bowl fittings for which an allowance will be made and deducted from the price of the new bowl and fittings of the size required to handle the larger capacity. Thus the Renfrew Separator will last a life time.

The working parts of the Renfrew are enclosed in a dustproof and oil tight frame casing. No dust or dirt can enter and all the gears run in a bath of oil. Oiling is only necessary four times a year. No oil can ever leak on the floor. Think what this means in cleanliness, easy running and longer life of the machine.

A Money Maker

The Renfrew requires little attention and time is money.

It needs oiling but once in four months.

No constant cleaning necessary of oil cups or places where oil leaks out.

The wide open bowl and smoothly polished steel discs are easily scalded and rinsed.

The anti-splash milk can prevents milk splashing out and is at a conveniently low height, only three feet from the floor. Women appreciate this as it makes it so much easier to lift milk into.

The driving crank is high to make it easy to drive and there is no stooping or backaches caused when running a Renfrew.

Write for catalogue of this All-Canadian Separator, and pamphlet showing Dairy School tests.

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Capital	$ 9,700,000
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53A

THE HORSE

START EARLY IN LIFE TO EDUCATE THE COLT

One lesson which has not been given very much consideration by Agricultural Colleges, and similar institutions that deal with live stock interests, has been the thorough domestication of farm animals. But there is nothing in all the industry that will give better results at less cost, than the early training of all farm animals. No other medium in the management of farm live stock will leave better profits for the outlay. To be successful with live stock, on the mixed farm thorough domestication and training must stand as the first important duty, for if confidence in their caretaker, and contentment with their lot is absent among the horses, cattle, sheep or pigs on the farm, there will be an absence of thrift in the management, and losses will be likely to occur. Every youngster is born with the instincts of the wild progenitor, and its organisms are not entirely fitted to the conditions of a life of domestication around the farm. Each species, therefore, require somewhat different training to fit in with the new environment.

It goes without saying that the spirit, the fire, the speed and the docility of the well bred horses is the result of the thorough domestication and training that the Arab gave the horse thousands of years before the Christian era. The docility and homing instinct of the sheep was generated in the species ages ago by the same race of people, who as shepherds "led" their flocks. "The sheep hear my voice and they follow me" is a biblical saying that throws a flood of light on the sucessful domestication of animals of remote times. It was the only way the Arab could make the best of the animal, and the only way the farmer can make the live stock industry worth while is to treat his animals humanely all the time; study their comfort in the varying climate, handle and train them in their nursery years; then the worries that afflict the average stockman will cease to exist.

Training the Colt

Every young colt that arrives at the farm should be halter-broken during the first week of its existence. This has been the experience of all good horsement after long practice and observation. They have found that firmness and kindness are two essentials in the work, coupled with a complete absence of fool's play and regularity in exercise that should only occupy a few moments each day. The colt will soon learn to love the diversion; but care should be taken not to weary it. The writer has never handled a colt yet but what neighed when it heard him around the barns. It was always ready to leave its mother in the stall to get its daily 60 seconds' period of exercise at being led with the halter rope.

Give the colt a short name, and always use it when speaking to it. Never strike it on the head, and be careful if ever striking it at all. It takes a long time to study the temperament of an animal to ascertain when punishment can be judiciously inflicted. At weaning time, the early training will stand it in good stead, for it will look on you as its foster-mother.

When the gasoline engine is going or the buzz saw in operation, quietly lead the colt out to convince it that nothing is amiss. Let it see the sights and accustom it to the smell of gasoline. Put a hand on it and reassure it that all is well and in order. Never push it from one side to the other in the stall, but train it to stand to the one side by the word of command. Never lift a pail of water up to its head to drink, or on a high manger, for the chances are that it may fall down or that its halter may get fixed in it, and the fright sustained may lead it to refuse to drink from a pail though thirsty. When taking it from the stall, always back the colt out, and turn it in the passage way. Many a colt has been permanently injured by attempting to turn around in a stall when alone in the stable. But a colt would never do this if it had not been accustomed to the careless method many horsemen have in allowing them to turn around in the stall when led out.

After the colt has gained sufficient strength and age to get advanced lessons, it may be harnessed and after it has become familiar with it and the bit in its mouth, the old cutter should take its place in the training. Never cheat the animal but instil confidence and give the colt the idea that so long as you are around it is all right. Kind and considerate treatment with constant attention to details, will lead to this.

MARES SHOULD HAVE SPECIAL SPRING CARE

To provide for successful foaling is of the utmost importance to the owner of brood mares. Successful foaling means starting a foal well on the way to add to the farm profit; it means that the dam will shortly be ready to resume her place in the farm work. Unsuccessful foaling may mean the loss of both mare and foal. Once in a great while the dam may be lost and the offspring saved. The loss of foal or mare or both is a serious financial set-back to the owner. The aggregate loss at foaling time is enormous. While there may be a number of causes, improper care preceding foaling and at that critical time is one of the principal causes. The mare needs simple care previous to foaling. The mares which foal in the pasture late in the spring after grass has started and after the nights have warmed usually suffer little loss. It is simply up to us on our more congested farms to furnish the mare with as nearly ideal conditions as possible, such as she would encounter on the summer range.

Feed, shelter exercise and cleanliness are the main factors with which we have to deal. The mare needs good feed to nourish the developing foal and to build up her own strength and flesh. No feeding calls for more skill than that of the mare through this period. The mare in vigorous condition can meet the rigors of foaling and will be a better mother. The most successful breeders are liberal feeders of their brood mares. They use judgment have them in good health and in solid flesh. A great many mares are eating too much hay, which is not only harmful to the mare but a wasteful practice. No hay or grain save of the very best quality should be used during this period.

(Continued on page 474)

Massey-Harris

Plowing with Power

The Massey-Harris Power-Lift Tractor Plow is the product of a rich experience of over half a Century of Plow Building. Its entire construction is especially rigid and strong to stand the immense strain of Tractor Plowing, and it is fitted with Bottoms specially designed for plowing with power.

Two Levers within easy reach of the operator on the Engine regulate the depth of plowing. By simply pulling a rope the Power Lift operates to raise or lower the Plow as desired. The Hitch has wide range of adjustment both vertical and lateral, and being stiff permits the Plow being backed. When raised all Bottoms are at the same level, the rear being equally as high as the front, namely, 6 inches. A Hardwood Break Pin in the Hitch prevents breakage. The Third Bottom or Plow can be detached to convert a Three-Furrow into a Two-Furrow, or vice versa; it can also be attached to a Two-Furrow, thus making a Three-Furrow Plow.

The Ideal Plowing Outfit—
The Massey-Harris Tractor and Tractor Plow.

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Head Offices—Toronto, Ont.

Branches at
Montreal, Moncton, Winnipeg, Regina, Saskatoon, Swift Current, Yorkton, Calgary, Edmonton.
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Agencies Everywhere

The best insurance against disease

=OMAZON=

CANADIAN MEDICINAL FOOD

Give it from time to time to your Horses, your Cows and other farm animals and their perfect health will be assured, enabling them to be of better service to you.

(It has saved hundreds of valuable animals)

On Sale Everywhere. DR. ED. MORIN & CO., Limited, Quebec, Canada.

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NO MORE BLACKLEG

Calves once vaccinated with CONTINENTAL GERM FREE BLACKLEG FILTRATE, are safe from Blackleg for life.

Write for Booklet M, which contains valuable information on Animal Vaccines, Breeding Tables, Horn Training, Branding and Marking Appliances, and other stock subjects. It is free.

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223 Church St., Toronto, Ont.

Eastern Distributors for Continental Serum Laboratories Co. of Muscatine Iowa products.

Have You a Sick or Lame Horse

You can get two preparations—endorsed by the leading horsemen of the Dominion—which will save and preserve the lives of your sick, ailing, lame horses and cattle.

Dr. J. Woodbury's Horse Liniment and Condition Powders

They are specifics for Cough, Distemper, Colic, Glanders, Spavins, Pink Eye, Splints, Curb, Enlargements, Cracked Hoof, Founders, Kidney Troubles, Fever, Cuts, Sores, and will remove bunches of any kind.

Every Horseman and Farmer should keep these standard preparations in the stable.

Sold by all Druggists and General Stores.

Prepared by
Frasier, Thornton & Co.
Limited
COOKSHIRE, Que. 101

STANDING OR TRAVELLING THE STALLION IN SERVICE SEASON

The question of travelling a stallion, or standing him at home or a suitable centre, is one of great consequence to Cyldesdale breeding. The custom or practice of either travelling or standing is of vital importance to the two great issues in the industry, viz., the vitality of the stallion and the convenience of the farmer with a brood mare to patronize him. The stallion that is kept in the box-stall all winter without sufficient exercise and stands at home in summer waiting for the mares to come around, is liable to have his fertility impaired. There are very few of the average stallion owners that realize the amount of winter exercise that a stallion requires, in order to keep him in breeding trim. It is a mistaken idea to treat a stallion as if he were a fat steer, but many stallion owners treat their stud horse in a similar manner. Winter box-stall confinement of the stallion, as done by the average owner, is a distinct loss to the breed.

Travelling and Fertility

From the earliest times it has been observed that the generative system of an animal is markedly susceptible to any changes of existing conditions from that which maintained in vigor, the different species of farm animals in the wild state. Exercise played a more important part in their vitality for reproduction than feeding. The stallion therefore should be kept in as natural a condition as possible, neither too fat or too lean, with as much exercise as will keep him in a state of existence in which all the functions of the body are perfectly performed.

It is claimed in many cases that impotence in stallions is due to overfeed. This is only true in degree to the amount of exercise given. Like the mares they breed, they should be in the natural state. A stallion that comes out in the first of the season in a natural condition, and is settling the mares well, generally takes on flesh durng the season.

A good object lesson on the utility of giving the stallion plenty of exercise is very well illustrated in the general practice with owners of French Canadian horses. This class of horse is hardy, full of spirit and exceptionally fertile. There is no cuddling of stud horses in winter time with owners of this breed. The stud animal is taken to the lumbering shanties to do his share in the rough work there, and in summer time he is not idle when opportunity arises for his services on the farm field. There is no lack of foals where such practices exist, 90 to 95 per cent. of the mares generally prove in foal.

Standing at Centre Puts Industry on the Decline

In standing a stallion at a centre, there is apt to be generated a lack of interest in horse breeding. The stallion himself is not getting the chance for exercise nor does he get the advertising which he otherwise would do if travelled around the country. With the exception of a very few of the aristocratic stallions in the breed in Scotland that get mares sent to them for hundreds of miles, it is the custom there to travel all the stallions in the various districts. It is considered a point of excellence with the groom, in his fortnightly call, to arrive at the same time of the day at each succeeding call. It is recognized as the groom's business to call at each farm where the breeding mares are to be found. This is expected when the stallion is engaged. The farmer expects the stallion to make the usual calls at intervals of two weeks. It is not at all consistent to think that a busy farmer will give up seeding or haying or harvest to walk his mares a few miles to see if they are in season or not.

It does not take a great stretch of imagination to see how the practice of standing a stallion for service, at one or two centres, affects the horse breeding industry. To a stallion owner, whether it is an individual or a syndicate, the loss is all the same, both to them and the industry. By it, fewer are encouraged to get interested in the breeding operation, and consequently fewer brood mares to propogate and popularize the breed. It is the aggressive principle that is needed to increase interest in Cyldesdale breeding among the rank and file in farming communities, and the travelling stallion has all conditions in his favor.

Complaints are often made by stallion owners and importers that the service fee that farmers are willing to pay is not an adequate sum for the trouble and expense of rearing or buying the best animals. The regulation fee of $12 or $15 for every mare that proves in foal is not an arrangement to encourage the horse breeding industry. The high values that meantime rule for the class of Cyldesdales in Scotland that are worth importing calls for a higher fee, as well as the mare owner taking some of the risk of the mare not proving in foal. The customary fee for an avertage stallion in Scotland is $12 or $15 at service and $12 to $15 when the mare porves in foal.

The half fee paid on the last round at service is what is due to the stallion owner for the regular calls at the farm where the brood mares are kept. The other half is collected in the spring time when it becomes known that the mares are pregnant; the groom or owner making the round of the previous season. The intention to raise the fee to $25 for each mare proving in foal, that is advocated by stallion owners, is not at all an extravagant fee for a good horse, but the dividing it up in two payments is an arrangement that would encourage more mare owners to breed to the best horses, and encourage stallion owners to get a better class of animals. It is time for owners to get together and discuss the question of fees, mutually, so that the Cyldesdale industry may be kept progressive and the individual business of the horse breeding farmer may become more prosperous.

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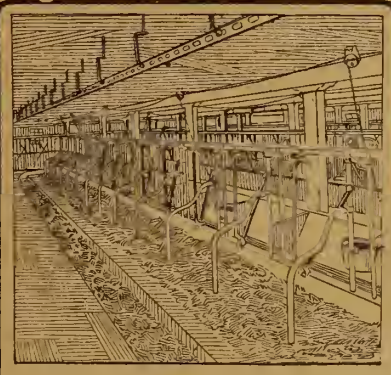

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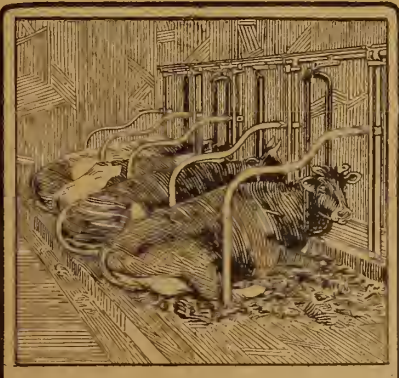

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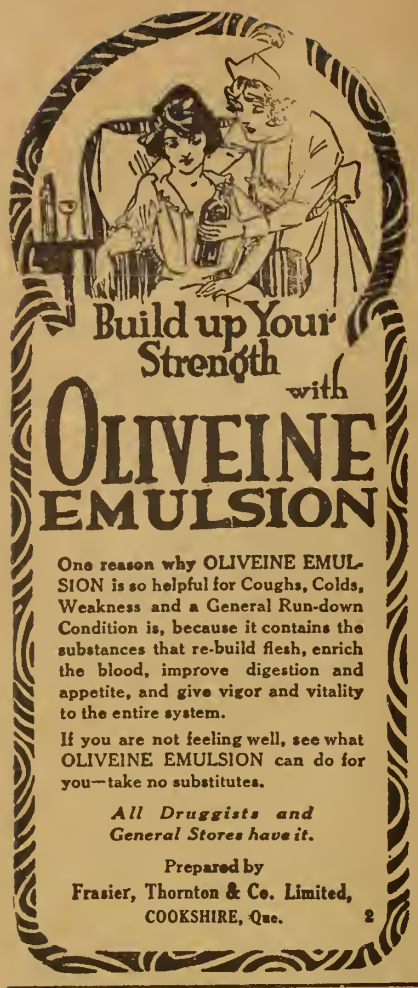
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THE NEW BRUNSWICK FARMERS AND DAIRYMEN IN ANNUAL CONVENTION

(Continued from page 459)

A. C. McCullough, Poultry Superintendent for the Provincial Government discussed the poultry situation, and outlined the work undertaken by his department during the past two seasons in bringing into the province eggs and chicks from high producing strains of Barred Rock poultry. The successes attained by New Brunswick competitors at the Prince Edward Island and Nappan Egg Laying Competitions in 1919 and this year, go to show that the right kind of stock and eggs have been introduced.

The questiin of Dairying and Co-operative Creameries was ably handled by A. E. Trites, president of the Farmer's Co-operative Creamery Company, Moncton. The success of the Farmer's Co-operative Creamery Company is well known to readers of the Maritime Farmer. The example is good and ventures of a similar nature in other parts of the province should prove equally successful. Mr. Trites has been untiring in his efforts to get the Farmer's Co-operative Creamery away to a good start, and must feel justly proud of its success.

H. W. Coleman, Dairy Superintendent, outlined dairy conditions as he has found them in this province. He told about the establishment of a Cheese Board at Sussex, and its operation. He also explained the aims and objects and success so far attained by the New Brunswick Dairymen's Association. A full account of whose convention appeared in these columns a few issues ago.

Bulls, their Care and Keep was the subject of an instructive and much needed talk by James Bremner, Agricultural Representative for the Uorthern counties.

Hon. J. F. Tweeddale, Minister for Agriculture, outlined the past, present and prospective policies of his department. Substantial progress looms up splendidly in every division, with the result that as never before, the rank and file of the farmers of the province are working hand in hand with the efficient leaders of the respective division of his department, to make for a bigger and better New Brunswick.

The Marketing of Eggs and Fowl was the subject of a paper prepared by G. R. Wilson, New Brunswick representative of the Dominion Poultry Division, who was unable to be present to read it himself, owing to illness. Readers of the Maritime Farmer, who have met Mr. Wilson in the discharge of his duties, and who are conversant with the good start made in the co-operative sale of poultry at Port Elgin last season, must know how much energy he puts into his work. We were pleased to note that Mr. Wilson was able to be present at the closing session of the Convention.

Hon. P. J. Veniot, Minister of Public Works, delivered a timely address on the subject of Roads. The number and nature of the questions asked by the audience, clearly showed the interest that the farmers take in this subject.

Co-operative buying was ably discussed by Mr. J. D. McKenna, Secretary of the Agricultural Societies United, and manager of The Maritime Farmer.

The co-operative purchase of fertilizing chemicals through the agency of the New Brunswick Agricultural Societies United, has saved and is saving the members of Agricultural Societies in New Brunswick many dollars on each ton of goods thus purchased, as is the co-operative purchase of seed and feeds through the agency of the Maritime Farmer.

Mr. McKenna clearly stated his attitude re farmers organizations. There should be no East and no West so far as this country is concerned—just one Canada. Farmers should organize, but in so doing there should be that freedom of thought and action that will preclude the possibility of one section prospering to the detriment of some other section.

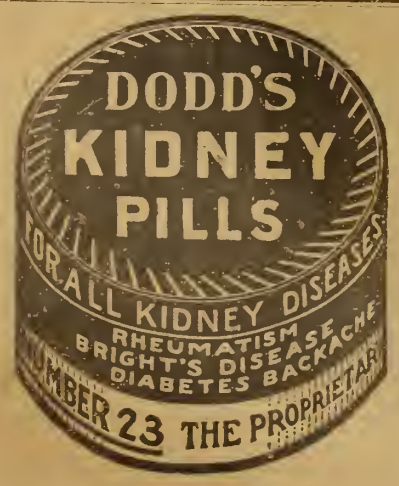
Mr. E. P. Bradt, Secretary for Agriculture, gave a talk on live stock conditions, dealing principally with the needs for Maritime Stock yards.

Geo. E. Sanders, of the Dominion Entomological Laboratory, Annapolis Royal, N. S., gave a talk on Potato Sprays and Spraying, in the course of which he demonstrated the proper method of making Bordeaux, using white arsenic as an insecticide. The reports of the various Agricultural Societies, showing the prevalence of potato blight and subsequent rot, is ample proof of the necessity for a strong potato spraying campaign during the coming summer.

Rev. R. A. Robinson, Stanley, N. B., spoke of the need and value of Community Social Centres. There is ample opportunity and need for much work along this line, and consequently the address was most timely. Better social conditions in a community will materially help to make for contentment and prosperity in a community.

The co-operative marketing of wool, lambs and other live stock was well handled by F. Waldo Walsh, Acting Live Stock Superintendent, and J. Kenneth King and Robert Donaldson, representatives of the Live Stock Division, Ottawa.

Mr. Walsh outlined the work of the Canadian Co-operative Wool Growers' Association, and the splendid results



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achieved in the marketing of wool co-operatively by the farmers of New Brunswick.

Mr. King gave timely advice on the marketing of lambs. He strongly advocated the practice of docking the lambs and castrating the ram lambs intended for the market. The formation of co-operative shipping clubs was the best solution for the sale of lambs until such a time as Maritime Stock Yards are put into operation. When the stock yards are an accomplished fact, the clubs now being formed will divert their stock to the Maritime yards, and will be in shape to give such yards a line of trade right from the start.

Mr. Donaldson was for many years connected with the Nappan Experimental Farm, and is a practical stock man, whose services should be invaluable to the farmers of New Brunswick.

M. A. MacLeod, Superintendent of Agricultural Societies, gave a short report of his department and outlined the Federal Departments' proposed new policy re subventions for Field Crops Competitions in the province.

John Woods outlined the plan under which the Clover Huller is operated, and gave much valuable information on clover seed production.

On two afternoons between the hiurs of four and six o'colck, the meetings were turned over to the French speaking delegates, who listened attentively to splendid addresses in the French language by J. A. Ste. Marie, Ottawa, and Messrs. Barabois and Tardif of the Dominion Pathalogical Laboratory staff, Fredericton.

Delegates Visit Experimental Farm

The closing session of the Association was held at the Experimental Station, where lunch was served by Superintendent W. W. Hubbard and his staff.

Nearly two hundred farmers sat down to the well laden tables, and partook of the bountiful repast, after which Mr. Hubbard outlined the work that is being accomplished in building up the farm dairy herd by the use of pure bred sires.

E. M. Taylor, Assistant Superintendent, spoke on the subject of Lime in Agriculture, outlining the facts which had come to his notice as the result of investigations conducted by him on his father's farm, and later during his college career on several farms in other parts of Westmorland County. He also gave the results of his research work re the lime stone deposits in this province, and his survey of soils to determine conditions re acidity, while he was working under the auspices of the Provincial Department of Agriculture.

Prof. W. S. Blair, Superintendent of the Kentville Experimental Station, whose timely article on the subject of lime appeared in the last issue of The Maritime Farmer, and who has been getting such striking results through the use of ground lime, also spoke in support of Mr. Taylor's address.

In passing he referred to his pleasure at hearing Rev. Mr. Robinson's address the previous evening on Community Social centres. He strongly urged the farmers to carry Mr. Robinson's message to their respective communities, and put the suggestions therein contained into practice.

At the close of Mr. Blair's address, many of the delegates retired from the dining hall to wander at will through the stables and barns, to take note of the live stock, while a goodly number of interested potato growers remained to hear Mr. Geo. E. Sanders, who by request gave another interesting talk on Potato Spraying.

Votes of Thanks

An unanimous vote of thanks was tendered to the retiring president, to the various speakers who addressed the meetings, to the ladies who so kindly entertained by song and story, to the Superintendent of Agricultural Societies, M. A. MacLeod for his work among the Societies and at the Convention, and a standing vote in honor of Col. H. Montgomery Campbell, a past president of the Association, who was present after his return from doing his bit overseas.

A. E. Trites and J. D. McKenna placed themselves on record as being willing to go to Ottawa as a delegation, at their own expense, to further the wishes of the Association in respect to any movement requiring Federal attention.

Mr. Pratt of the Grain Grower's Guide gave a short address on the condition of the Western wheat markets, and the conditions that effect wheat prices.

C. Gordon Sharpe, Secretary of the United Farmers of New Brunswick, was introduced to the meeting by Mr. H. H. Smith, Treasurer of the Association. Mr. Sharpe evidently was present for the purpose of attempting to discredit Mr. J. D. McKenna and The Maritime Farmer.

He inferred that the big interests of Canada were attempting to offset the United Farmer Movement, and he had been told that a fund had been created for the purpose of buying advertising and editorial space in the press to further their own ends. He insinuated his belief that a portion of the funds in question were being used to influence the Maritime Farmer and Mr. McKenna.

This insinuation was hotly resented in the absence of Mr. McKenna by Rev. R. M. Bynon, who eulogized the good work that the Maritime Farmer and Mr. Kenna have done for the farmers of New Brunswick.

Mr. Bynon was cheered to the echo, which cheer gave Mr. Sharp an answer that he d'd not anticipate, and he shortly afterwards left the hall. Mr. H. H. Smith spoke in favor of Mr. Sharpe, and at this juncture the discussion was ruled out of order by the president.

The addresses of the various speakers at the convention will be published in future issues of the Maritime Farmer.

Officers for the Ensuing Year

The election of officers resulted as follows:—

President—H. H. Magee, Quispamiss.
Vice Pres.—A. J. Gaudet, St. Joseph.
2nd Vice Pres.—J. R. Taylor, Little Shemogue.
Corresponding Secretary—A. J. Doucett, Moncton.
Recording Secretary—K. M. Fisk, Florenceville.
Treasurer—F. H. Walsh, Coverdale.
County Vice Presidents—
Albert—Lewis Smith, Coverdale.
Charlotte—Wm. Hyslop, Moores Mills.
Carleton—H. M. Estey, Hartland.
Gloucester—J. C. Killoran, Belledune River.
Kent—E. A. Melanson.
Kings—W. E. Wallace, Penobsquis.
Madawaska—J. A. Bernier, Edmundston.
Northumberland—W. M. Johnston, Newcastle.
Restigouche—Harold Hayes, Nash's Creek.
Queens—Geo. W. Dingee, Gagetown.
St. John—J. M. Donovan, Coldbrook.
Sunbury—H. H. Smith, Hoyt Station.
Victoria—Jas. Clark, Kincardine.
York—E. J. M. Jarvis, Stanley.

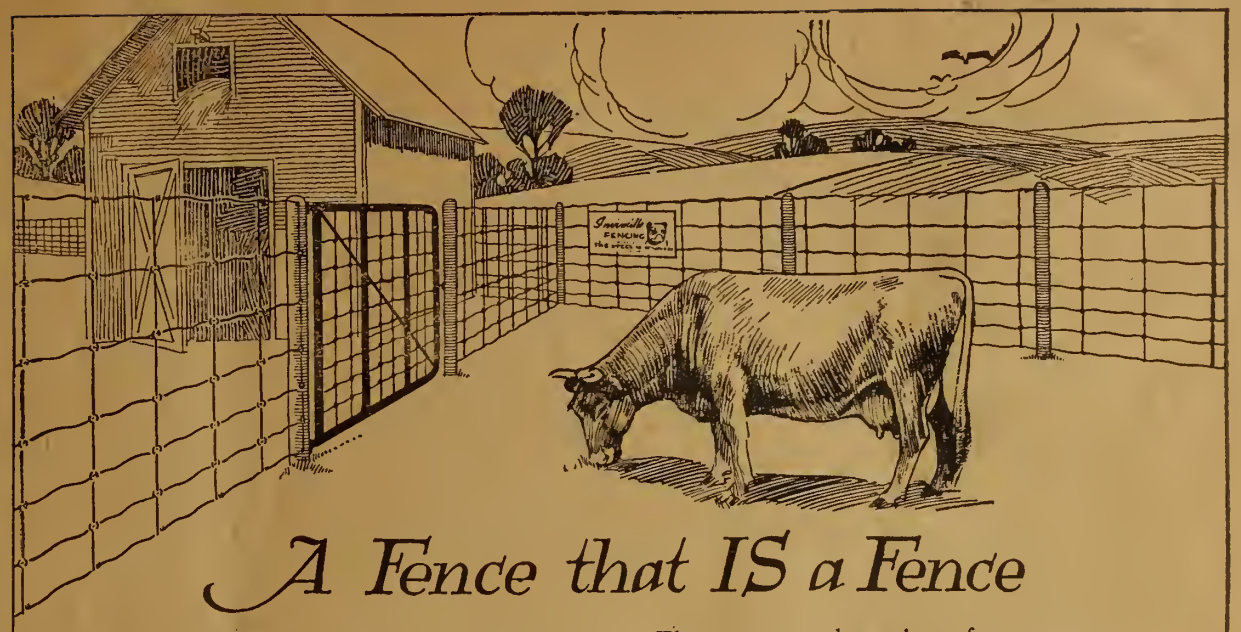
Local Parliamentary Committee

A. E. Trites, Salisbury; C. F. Alward, Havelock.

Federal Parliamentary Committee

A. E. Trites, C. F. Alward, J. D. McKenna, Sussex and Hon. J. F. Tweeddale, Fredericton.

The 1920 Convention is now over; it was a good one. Let all Society members work for a bigger and better Convention in 1921.



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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Shbjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N. B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

ACHIEVEMENT

Bravely and cheerfully face your task.
Nor cavil at the burden you must bear
Since it is yours alone. This place
May be the very spot wherein success
Awaits your readiness and earnest zeal.
The dark moments when the sun is hid
May be the crucial to test your strength.
One ne'er achieves greatness or desire
Who finds not obstacles to be o'ercome.

THE BIG HOUSE

Barney Hulton, twenty-six, well-tailored, fresh and vigorous, sat on the verandah railing and looked down at the girl in the low wicker chair. She was a pretty girl of the same type as himself, with cheeks almost as rosy as the wool of her gay sweater. Never had she looked more delightful than in the soft May twilight, and never had she been so happy, for she and Barney were to be married in two weeks.

"Father's as pleased with you as if he'd picked you out himself," Barney said. "He can't talk of anything else. For once in my life I have tickled him pink. And I'm glad of it. Good old boy, dad. By the way, guess what he is going to give you for a wedding present, Eloise? Your choice of a house and lot. How's that?"

Eloise clapped her hands.

"Oh, lovely!" Her eyes sparkled.

"I knew you'd be delighted," Barney went on. "When dad does a thing he does it up brown, I can tell you. He's going to show you two houses and let you take your pick. One of 'em's that little new bungalow he built last spring on Perch street——"

"Ohh!" Eloise's tone was rather flat. "That."

"And the other is the Waltham house on Pearl avenue."

"Barney!" Eloise sprang to her feet, excitedly. "The Waltham house! That perfectly wonderful old mansion with the grounds and fountain and trees. Do you really mean that your father is willing to give us that?"

"So he says." Barney's face fell. "But you wouldn't want it, of course, Eloise. Why it has sixteen rooms. What would we do with 'em?" He laughed. "We'd be lost completely in that great place."

"We needn't use any more of the rooms than we like," Eloise said. "Think of living in those grounds in the summer."

"Yes, and think of shoveling paths in wintner. I'd rather got my eye on the bungalow, Eloise. Its six rooms and a bath look mighty cozy to me."

"Six rooms and a bath!" Eloise made a backward gesture, shrugging her shoulders. "I've lived in a small house all my life, Barney. What I want is a big one. You leave it to me. I'll see that you're perfectly comfortable. Your father is a darling and he knows. Probably he's heard me say that I like big houses."

"Probably," sighed Barney.

Two weeks later Eloise was the prettiest bride of half a dozen years and Barney the happiest bridegroom. They went away for a month's honeymoon and in the meantime Barney's father saw that the Waltham place was put in order for their return. The great yard was shorn, the fountain cleaned out, the windows washed, the rooms were swept and aired. The old house which had stood empty for several years had taken on a look of being inhbited even before Eloise's charming presence claimed it.

Eloise was the happiest young wife under the sun. She was in love with the whole world, with Barney first, of course, then with herself, then with her father-in-law, whose generosiity had acquired for her the desire of her heart. Her parents were moderate, easy-going folks, who had never been able to accumluate property. They had lived up their money as fast as it was earned and had little more to show for it than Eloise herself, with her beauty, a rather superficial education and a love of pretty clothes which amounted to extravagance. Having lived in a small house all her life Eloise felt that to possess a whole dwelling the size of the Waltham house would leave nothing to be wished for. And the proudest moment of her life was that upon which she walked up to the impossible portal and saw Barney's nameplate on the door panel.

A few days in the big house convinced her that a maid was necessary so one was hired. Even yet a home was scarcely accomplished. It is true that a few rooms presented a livable appearance, but the rest of them stretched away empty and dreary. Barney said, laughing a little uneasily, that the house swallowed up furniture the way an alligator does flies. —"You'll find we'll need ten carloads to make a showing. You can't make a drawing room out of a morris chair, one table and a lamp." Eloise was rather provoked at Barney for saying that. She had curtains up to all the windows so that the whole house looked nice enough from the outside. And when callers came she took them into the reception room.

Before a month had passed Barney announced that with the extra work at the office he could'nt mow all of the lawn every week or train the roses, so Eloise had better hire a man for the job. Eloise was perfectly willing to hire. At home they had done every bit of work themselves and this seemed such an easy way of getting it done. Besides, it looked so well to have a man servant as well as a maid.

One thing she had not reckoned upon—that people who live in big houses have a great many demands made upon them that people who live in small houses know nothing about. While Barney's father had given the house, his gift ended there and Barney was expected to keep up all expenses. These expenses grew at every turn. Barney's salary was gone almost as soon as it was earned, and sooner presently. He tried his best to keep out of debt, but a party Eloise gave, got them behind and they never quite caught up. Barney began to look worried and to act cross. Eloise could not imagine what ailed him. She wondered if he were getting tired of her and began to fret and have secret little fits of crying.

Then one day young Mrs. Elder whose husband had inherited so much money that he scarcely knew what to do with it—this gay, stylish, empty-headed little social butterfly, who had been attracted to Eloise by reason of the big house, informed Eloise that she ought never to think of walking over town, that it was a simply killing distance, and that she should think Barney wolud get Eloise a car.

Now Eloise had been thinking that very thing herself, so she told Barney never dreaming that he who had thus far denied her nothing would deny her that. "Get a little car, Barney, dear. I don't ask for an expensive one. I'll learn to run it, and it will be so nice for me to whisk you back and forth from your work these fall days. Barney became crimson, incoherent and almost breathless with rage. A car! The idea, when he could not meet expenses as they were, do the best he could. He was in debt, a thing that had never before happened in his family. He would not stoop to borrow from his father or anyone lse. They'd have to pull up short. If the house was doing it, why, they'd leave the house, that was all there was about it. If she didn't know what they were up against it was time she found out. Then he lit his pipe and nearly ground off the end of the stem in his strong teeth, while Eloise flew to her room to cry her eyes out.

Thereafter she did try to retrench, but what can you do with a careless maid in the house? And Barney was on a perfect grouch. Eloise really did try to do her bit, but she failed and the knowledge nearly broke her heart.

One day Barney's father sought her.

"Now see here, Eloise," he said, "I've come to you with a proposition. I've got a chance to sell this house if you don't want it any longer at a good price. I'll trade you in the bungalow and that will leave you a tidy bank account besides, which shall be in your own name, mind. What say, little daughter-in-law?"

Eloise said nothing. She couldn't, but she threw her arms about the old man's neck and kissed him. Then she told him a good many things she hadn't dared tell Barney.

Some two months later, as she was sitting cozily with Barney one evening in the living room of the bungalow, Barney said:

"Great old schemer, dad, eh, Eloise? Quite a tryout he gave you—us, I should call it. Guess he thought we had to learn our lesson the hardest way. We learned it, all right, that's certain."

FRESH AIR AT HOME

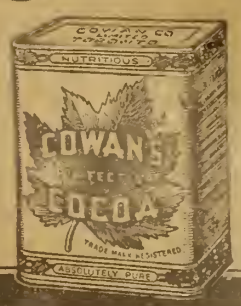
In a house in which the air is rigidly excluded, a man's foes are surely those of his own household. Added to the exhalation from human bodies and the smell of dead-and-gone meals, there are also germs from past colds and sore throats, preserved and carefully guarded to prevent their escape. Look about among your friends who shut themselves up. Ninety-nine times out of a hundred you will find them irritable; they quarrel over trfles, they have headaches, colds go through the whole family with wonderful rapidity, the children fuss, meals go wrong and the entire household seems at cross purposes.

Do not imagine that your house is well aired if you simply change the air by opening a door or window. Every room that is occupied by day or night should have a constantly

a delicious COCOA CAKE try it yourself

½ cup butter, 1 cup sugar, 1½ cups flour, 1 teaspoon baking powder, 2 eggs, mix ½ teaspoon soda with ¾ cup sweet milk, mix 1½ teaspoons cocoa with 4 teaspoons hot water, 1 teaspoon vanilla, pinch of salt. Mix yolks, butter and sugar; add milk, soda, flour and salt; beaten whites of eggs last. Use a cocoa or colored icing for filling and cover cake with same.

numerous other delightful dishes are made by using COWAN'S COCOA



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27 Notre Dame Street West, Montreal.

changing current of air, and unless there is a modern ventilating system some other means should be provided for admitting it. A simple and effective way of letting in a free current of air without chilling the room or its occupants is to hang a board a quarter of an inch thick and twelve inches wide, by means of screw eyes set in the upper edge, to two hooks inserted in the window casings so the bottom of the board fits in, exactly flush with the window sill. The board may be fastened on one side near the sill by a movable button and the whole painted to match the window frame. When the window is raised about ten inches a steady stream of pure air enters the room and there is no draft.

Never make the mistake of thinking that cold air is pure air, if you sleep in a room without heat. A tightly closed room will rob your blood of oxygen the same as a tightly closed warm one. Often persons whose bedrooms are small do not open their windows because they do not want to sleep in an icy wind. That, of course, would not be pleasant nor necessary. A blanket thrown over the back of two chairs and put near the window will serve as a windbreak; or tack some light weight cloth over a screen and put it in the window and you will have plenty of pure air circulating in the room without blowing directly on the bed. Although a cold room is the ideal sleeping place it is a waste if vitality to get into a cold bed and try to warm it with the heat from the body. Put a hot water bag or soapstone into the bed long enough before retiring to make the mattress and clothes warm. This is especially essential for children.

Second-hand air is far worse than a second-hand tooth brush, yet many persons who would be horrified at the latter are willing to inhale the air expelled from other people's lungs.

The importance of good ventilation where several people are sitting cannot be over emphasized. In providing air remember that if two gas jets are burning they are consuming as much good air as four persons; and one kerosene lamp consumes the same. A lamp left with the flame turned down adds very much to the impurity of the air because of imperfect combustion. If you use a gas droplight and will remove the tubing for a test you will readily see from the odor of gas which escapes how necessary it is to take it down frequently and air it.

Householders seldom know that their cellars are the storehouses from whence comes fifty per cent. of the air of the first flooor and thirty per cent. of that on the floor above. If they did there would not be so many dark and noisome places filled with refuse and mold, spiders, cobwebs and mice to say nothing of decayed vegetables and fruit. Vapors from all these combine to penetrate the whole house and add their poison to the air that is breathed by those living above them. Every cellar, even if kept free from dirt should be ventilated as well in winter as in summer. A musty smell shows that mold plants are growing and are awaiting to attack fruit and vegetables. Cold will not kill these destructive germs. There should be plenty of air let in the cellar every clear day. Moisture laden air entering condenses on the wall and pipes and soon makes it so damp that it is a menace to the house. All cellars should have dishes of unslaked lime in them; this takes up moisture with avidity. When the lime crumbles, losing entirely its crystalinne character, it has become slaked and will take up no more moisture. It should then be renewed.

Numerous ill effects result from the extremely dry air of many over heated houses. Furniture checks, cracks and falls to pieces, pianos lose their tune, house plants get brown and wither, skins become parched, throats become sore and voices become hoarse. The dry atmosphere acts as a stimulant to the nervous system. Sleep is restless and broken. The change from too dry air of the house to the moist air out of doors causes colds.

It is necessary for every housewife to know how to regulate the atmospheric moisture of the home. Although hygrometers which register the moisture of the air can be purchased, they are expensive and there are other ways of determining the moisture. A string which contracts or expands according to whether it is dry or wet, if hung by the window in the fall before the house is closed, will hang a certain length when saturated with the moisture in the outer air. This cord sould touch this mark at all times after the windows are closed and if it does not the housewife should supply the needed moisture. This can be done in several ways. If the house is heated by steam keep the stopcock open. If there is a hot air system put pans of water where the air of the furnace passes over them. In the case of hot water a pan should be placed on top of the radiator. When the house is heated by a stove, hang the wick like strips of cloth near the stove with the ends in a pail of water; these darw up the water and the airs absorbs it. Best of all is to keep a constant current of fresh air entering the house.

An important part of water ventilation is often overlooked, that of personal ventilation. Your clothes, your hair, your teeth, all play their part in fouling the air indoors by the odor which emanates from them when not properly cared for. Wollen clothing particularly absorbs and retains emanations form the body and when not in use should always be hung where they will get sun and air; never in a dark, stuffy closet. Remember that your closets need the air and should have the doors left open, if you do not want the air of other rooms vitated every time the closet door is opened.

And the Reason Was—

"Have you any more of those lovely tea biscuits?"

"You are just twenty minutes too late, Mrs. Thompson. When we opened this booth at two o'clock we had thirty dozen of them, all baked by Mrs. Irwin, if you please! And by half past three they were all sold."

"Oh! And I promised Harry I'd buy some."

"She certainly is a marvellous cook, isn't she? I got her recipe for tea biscuits, but I can't make them anything like hers."

"I wonder what magic Mrs. Irwin works to bake so beautifully?"

"Well, I never knew until to-day. She told me she uses

Milled from selected hard wheat in model mills, untouched by human hands until opened in the kitchen, Cream of the West Flour will bake the finest bread, biscuits, buns, muffins, etc., with a surprisingly good flavor.

Cream of the West Flour

The Campbell Flour Mills Co., Limited
affiliated with
Maple Leaf Milling Co., Limited
Toronto and Winnipeg

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VOL-PEEK
Mends Pots & Pans

Cooking utensils, Graniteware, Aluminum, Enamelledware, Tin, Copper, Brass, Iron, etc. Easy to use, no tools required, ready for use in 2 minutes. Saves a pot for ½ a cent. 15 cents at your Dealer, or postpaid by Vol-Peek- B-Co., Box 2024, Montreal

MINARD'S LINIMENT
King of Pain

The old reliable remedy for Rheumatism and Neuralgia, Sore Throat, Sprains, Strains, Swelling of any sort and Bruises

RELIEVED THE PAIN

Miss Ruth Tarkington, 12 Trafalgar St., St Thomas, Ont. "My grandmother was subject to rheumatism and used to call me from my playmates to go to the druggists to get Minard's Liniment. I was often unwilling and declared I hated that old stuff, but I soon found out how good it was. I got neuralgia. Grandma came with the Liniment and applied it to my head and I was very much surprised to feel how quickly it relieved the pain."

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Limited
YARMOUTH NOVA SCOTIA

That Racking Persistent Cough

Should Never Be Neglected.

The constant hacking, racking, persistent cough that sticks to you in spite of everything you have done to get rid of it, means danger.

The longer the cough sticks, the more serious menace it becomes to your health.

It is a very easy matter to get rid of the cold at the outset by using

Dr. Wood's

Norway Pine Syrup.

In nearly every case it will allay the inflammation, soothe the irritation, heal the diseased mucous lining of the lungs and bronchial tubes, and thus rid the system of all the bad effects of the lingering cough or cold.

Dr. Wood's Norway Pine Syrup has been universally used for the past 30 years, and so great has been its success, it is only natural that a great many imitations have been placed on the market.

Don't accept any of these, so-called Pine Syrups. Get the original "Dr. Wood's."

Put up in a yellow wrapper; 3 pine trees the trade mark; price 25c. and 50c.

Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

EGGS

Protein, 14.9 %; fat, 10.6%; Mineral Matter, 1%; Water, 73.5%.

Eggs, like milk form a typical food, inasmuch as they contain all the elements, in right proportion, necessary for the support of the body. Their highly concentrated, nutritive value renders it necessary to use them in combination with other foods rich in starch (bread, potatoes, etc.) In order that the stomach may have enough to act upon, a certain amount of bulk must be supplied.

A pound of eggs, 9, is equivalent to a pound of beef. Eggs being rich in protein, serves as a valuable substitute for meat. In most families, their use in the making of cake, custards, puddings, etc., renders them almost indispensible. It is surprising how many intelligent women, who look well to the ways of the kitchen, are satisfied to use what are termed "cooking eggs;" this shows poor judgment from an economical standpoint. Strictly fresh eggs should be used if obtainable. An egg, exposed to air, owing to the porous structure of the shell, has the water speedily evaporating from it; air rushes in, and consequently decomposition takes place.

White of egg contains albumen in its qurest form. Albumen coagulates at a temperatures of from 134 to 160 degrees F. Herein lies the importance of cooking eggs at a low temperature, thus rendering them easy of digestion. Eggs cooked in boiling water are tough and horny, difficult of digestion and should never be served.

When eggs come in from market they should be washed and put in a cool place.

Ways of determining freshness of eggs:

1.—Hold in front of candle flame in dark room. Centre should look clear.

2.—Place in basin of cold water and they should sink. Place large end to cheek and warmth should be felt.

Plain Omelet

4 eggs.
½ teaspoon salt.
4 tablespoons butter.
Few grains pepper.
1½ cups thin white sauce.

Separate yolks from whites. To the yolks add salt, pepper and hot water and beat until thisck and lemon colored. Beat whites until stiff and dry, cutting and folding them into the first mixture until they have taken up mixture. Heat omelet pan, and butter sides and bottom. Turn in mixture, spread evenly and place on range where it will cook evenly. When well "puffed" and delicately browned underneath, place pan on centre grate of oven to finish cooking the top. The omelet is firm when it has cooked enough. If it will cling to the finger when touched it will require longer cooking. Fold and turn on hot platter, and pour around it one and a half cups thin white sauce.

Milk is sometimes used in place of hot water, but hot water makes a more tender omlelet. A few grains baking powder is used by some cooks to make an omelet stay up.

To Hold and Turn an Omelet

Hold an omelet pan by handle in left hand, with a case knife make two one-half inch incisions opposite each other at right angles to handle. Place knife under the part of omelet nearest this handle, tip pan to nearly a vertical position by carefully coaxing the omelet with a knife, it will fold and turn without breaking.

Omelet with Meat or Vegetables

Mix and cook plain omelet. Fold in remnants of finely chopped cooked chopped chicken, hen, veal or ham. Remnants of fish baked may be added to the white sauce, or cooked peas, asparagus or cauliflower may be added.

Bread Omelet

4 eggs.
½ cup milk.
½ cup stale bread crumbs.
¾ teaspoon salt.
⅛ teasoon pepper.
1 tablespoon butter.

Soak bread crumbs in milk, add beaten yolks and seasonings, fold in whites. Cook and serve as plain omelet.

Boiled Eggs

Have ready a sauce pan containing boiling water. Carefully put in with a spoon the number of eggs desired, covering them with water. Remove sauce-pan to back of range, where water will not boil. Cook from 6 to 8 minutes if desired "soift boiled." Eggs may be cooked by placing in cold water and allowing water to heat gradually until the boiling point is reached, when they will be soft-boiled. In using hard boiled eggs in making other dishes, when taken from the hot water they should be plunged into cold water to prevent if possible the discoloration of the yolks. Eggs perfectly cooked should be placed and kept in water at a uniform temperature of 175° F.

Dropped Eggs (poached)

Have ready a shallow tin pan two-thirds full of boiling salted water, allowing one-half tablespoon salt to one quart of water. Put two or three buttered muffiin rings in the water. Break each egg separatel yinto a cup and carefully slip into a muffin ring. The water should cover the eggs. When there is a film over the eggs and the white is firm, carefully remove with a buttered skimmer to circular pieces of buttered toast, and let each person season his egg with butter, salt and pepper. If cooker for an invalid, garnish with four toast points and a bit of parsley. An egg-poacher may be used instead of muffin rings.

Eggs a la Suisse

4 eggs.
½ cup cream.
1 tablespoon butter.
2 tablespoons grated cheese.
Salt, pepper, cayenne.

Heat a small omelet pan, put in butter and when melted, add cream. Slip in the eggs one at a time, sprinkle with salt, pepper and a few grains of cayenne. Finish cooking and serve on buttered toast. Strain cream over the otast.

Scrambled Eggs

5 eggs.
½ cup milk.
2 tablespoonfuls butter.
½ teaspoonful salt.
1/3 teaspoonful pepper.

This Soldier Knows What Helped Him

DODD'S KIDNEY PILLS CLEANED OUT HIS RHEUMATISM

He Found in the Old Canadian Remedy Relief that the Hospitals of Egypt Could Not Give

Cape St. George, Nfld., March 28th. (Special)—Eugene Cornect, keeper of the light and fog alarm here and who was overseas with the Newfoundland forces is a firm believer in Dodd's Kidney Pills as a help for kidney disease and rheumatism.

"For two years I suffered from kidney disease and rheumatism," Mr. Cornect states. "I was treated for them in the hospitals in Egypt. But it was five boxes of Dodd's Kidney Pills that cured me."

Dodd's Kidney Pills are purely a kidney remedy. By putting the kidneys in shape to strain all the impurities of the blood they remove the uric acid, the cause of rheumatism. With the kidneys cleansing the blood there can be no uric acid to crystallize in the muscles and cause those excrutiating pains knowns as rheumatism. Ask your neighbors about Dodd's Kidney Pills.

GOLD DUST

Better Coffee?

How? Fresher Coffee Pot!

HERE'S a simple recipe that makes the "insides" of your coffee and tea pots absolutely pure and sweet:

Place a teaspoonful of Gold Dust in the pot, fill half full with cold water, let boil slowly for a few minutes. Pour out part of water and scrub with small brush. Rinse thoroughly.

This Gold Dust treatment *purifies* coffee and tea pots. That's why it helps to make your tea and coffee taste as they really should.

Don't wait till your package of Gold Dust is empty. Go get another package today. But be sure it really *is* Gold Dust you buy.

THE N.K. FAIRBANK COMPANY
LIMITED MONTREAL

MADE IN CANADA

Mr. J. A. McFarlane of Napanee, Ont., had chilblains so bad that he couldn't wear boots. Egyptian Liniment relieved them. Don't suffer from chilblains this winter. This liniment is also for Frost Bites, Burns Scalds, Cuts, Bruises, Sore Chest and Throat, Neuralgia, etc.

DOUGLAS' EGYPTIAN LINIMENT
AT ALL DEALERS 35¢ BOTTLE
DOUGLAS & CO MANUFACTURERS, NAPANEE, ONT

Beat omelet pan, put in butter and when melted, turn into the mixture. Cook until of a creamy consistency, stirring and scraping from bottom of pan.

Eggs a la Buckingham

Make 5 slices of milk toast and arrange on a platter. Use recipe for scrambled eggs, having the eggs slightly underdone. Pour eggs over toast and sprinkle with 4 tablespoons grated cheese. Put in oven to finish melting cheese and cooking eggs.

Buttered Eggs

Heat omelet. Put in one tablespoon butter when melted, slip in an egg, and cook until white is firm. Turn it over once while cooking. Add more butter as needed, using just enough to keep egg from sticking.

Fried Eggs

Fried eggs are cooked as buttered eggs, without being turned. In this case the eggs are cooked without being turned and the fat is poured over them in spoonfuls. Lard, pork, ham and bacon fat are usually employed —a considerable amount being used.

Eggs a la Goldenrod

3 hard boiled eggs.
1 tablespoon butter.
1 tablespoon flour.
1 cup milk.
½ teaspoon salt.
⅛ teaspoon pepper.
5 slices toast.
Parsley.

Make a thin white sauce with butter, flour, milk and seasonings.. Separate whites from yolks of eggs. Chop whites finely, and add them to the sauce. Force the yolks through a potato ricer or strainer, sprinkling over the top. Garnish with parsley and remaining toast, cut in points.

Scalloped Eggs

3 hard boiled eggs.
1 pint white sauce (as above.)
¾ cup cold meat.
¾ cup buttered cracker crumbs.

Chop eggs finely. Sprinkle bottom of buttered baking dish with crumbs, cover with one-half the eggs, eggs with sauce and sauce with meat, repeat. Cover with remaining crumbs. Place in oven on centre of grate and bake until crumbs are brown. Ham is the best meat to use for this dish. Chicken, veal or fish may be used.

Omelets

For omelets select large eggs, allowing one egg for each person, and one tablespoon liquid for each egg. Keep an omelet pan especially for omelets, and see that it is kept clean and smootoh. A frying pan may be used in place of omelet pan.

Recipes prepared by Fannie Mermit Farmer in "The Boston Cooking School Cook Book."

MACHINERY HAZARDS IN THE HOUSEHOLD

"Machinery in common use in the household presents serious hazards for the housewife, and particularly for children, when it is improperly constructed or when carelessly handled," declared the Bureau of Standards.

"Washing machines, ice cream freezers, churns, bread mixers and similar appliances which have gearings should have the gears inclosed so that fingers, hair and clothes are absolutely prevented from getting caught in them. Wringers, especially the motor-driven wringers attached to washing machines, should have a guard to prevent the fingers from entering between the rolls, and, moreover, should be equipped with a release device so that extreme pressure upon the rollers will throw them out of gear.

"Sewing machines should have a guard to prevent the fingers from sliding under the needle. Electric fans, of course, should invariably have a guard.

"Machines with sharp blades such as lawn mowers should be handled with great care. A lawn mower may easily cut off the fingers if turned while being cleaned. Young children should never have access to such machines as they do not comprehend the dangerous possibilities involved in playing with them."

REMEMBERING DATES

(From Farm and Home)

"If," said the teacher, "you rhyme the facts of history, it will help you remember them. For instance, 'In fourteen hundred and ninety-two Columbus sailed the ocean blue. That will help you to remember the date of the discovery of America."

Next day the teacher said, "Johnny, when did Columbus discover America?"

"In foutreen hundred ninety-three Columbus sailed the dark blue sea."

PILES Do not suffer another day with Itching, Bleeding, or Protruding Piles. No surgical operation required. Dr. Chase's Ointment will relieve you at once and as certainly cure you. 60c. a box; all dealers, or Edmanson, Bates & Co., Limited, Toronto. Sample box free if you mention this paper and enclose 2c. stamp to pay postage.

MARKETING OF GRAIN

Winnipeg, Man., March 2, 1920
The Editor,
The Maritime Farmer,
Sussex, N. B.
Dear Sir,—

Will you permit me space in your paper to reply to the leading editorial in your issue of February 3, entitled "A Narrow National Policy." I take the opportunity of making this request because of the misinformation upon which your editorial is based. I prefer to attribute the fallacious character of the article in question to misinformation rather than to a deliberate attempt to prejudice the minds of your readers in the Maritime provinces against their brethern in Ontario and tbe middle Western Provinces.

In the first place, the resolution adopted by the Canadian Council of Agriculture on January 5, and later approved by the annual conventions of the organized farmers in Manitoba, Saskatchewan and Alberta, to which you refer was as follows:

"WHEREAS the abnormal conditions of the war have rendered it necessary for the Governments of importing and exporting countries to exercise measures of control over shipments of foodstuffs, particularly wheat;

"AND WHEREAS, possibilities of continued governmental control over the grain markets of the principal importing countries of Europe, including Great Britain, still exist;

"THEREFORE BE IT RESOLVED that the Canadian Council of Agriculture, while not at this date declaring upon the principle of governmental control as a permanent policy, believe it is desirable to continue national marketing of Canada's wheat product, at least so long as the principal countries importing Canadian wheat retain governmental control of their imports and distribution."

That resolution has nothing whatever to do with the New National Policy which is the other name given to the Farmers' Platform, and in which there is absolutely no reference whatever to the problem of marketing Canada's wheat crop. Therefore, in all fairness I think you ought to correct the assumption upon which your editorial is based, that the foregoing resolution is part of the New National Policy.

In the second place, I should like to point out the mistaken character of your statements with regard to the resolution quoted above. The system of marketing Canada's wheat crop of 1919, is not the same system which was in existence during the war. Our wheat crop of the past season has been marketed under the control of the Canadian Wheat Board which was appointed by the Dominion Government in July last. During the crop seasons of 1917, 1918 and 1919, our crop was under the control of the Board of Grain Supervisors for Canada. Prior to 1917, the grain markets of Canada were open and uncontrolled by any Government agency, and it is worth noting here that in the spring of 1917, before the markets were controlled, wheat on the Winnipeg Exchange rose to the unprecedented price of $3.00 per bushel.

As you say in your editorial, "a guarantee of the price of wheat was a war measure and as such was accepted loyally by the farmers of the Maritime provinces." That was the condition which prevailed during the seasons 1917-18, and 1918-19. During the present crop season of 1919-20, in which the Canadian Wheat Board is marketing our wheat crop, there is not, however, a guaranteed or fixed price of wheat. In your editorial you assume that the condition which existed in the war years when the price of wheat was guaranteed, still continues. That is not so.

The only control of the marketing of our wheat that has been exercised this year is in the process of selling it. The Canadian Wheat Board was established simply for the purpose of disposing of Canada's wheat crop in 1919-20, in the best national interests. The price which the Wheat Board is able to get for our wheat is determined entirely by its value in the world markets. There has never been since September the 1st, 1919, a fixed or guaranteed price paid to the Western farmer or anybody else in return for wheat. The Canadian Wheat Board, however, advanced to the producer of wheat a minimum, initial price amounting to $2.15 a bushel on the basis of No. 1 Northern Fort William or Port Arthur, and at the same time gave to the farmer a participation certificate which entitled him at the end of the present season, which will be next August, to share in a "pool" made up of the amount which the Canadian Wheat Board might be able to secure in the markets of the world, over and above $2.15 per bushel. The domestic price of wheat to millers also controlled by the Canadian Wheat Board is supposed to represent the exportable value of our wheat and is also supposed to represent the actual price at which the Wheat Board is able to dispose of our crop abroad as well as at home. At the beginning of the present season the price of Western wheat to Canadian millers was $2.30 per bushel on a basis of No. 1 Fort William or Port Arthur. At the end of December, that price advanced to $2.80 per bushel, showing that the Canadian Wheat Board was being able to dispose of the Western crop on the markets of the world at a figure which was considerably in advance of that which prevailed at the beginning of the season. It was then, for the first time, that the Western farmer realized that his participation certificate would be worth considerably more than he had expected last fall when it was issued to him.

The Plant Dept. Bell Telephone Co.—maintaining communication lines in winter time.

Macdonald's Napoleon is a great solace to the outdoor worker.

MACDONALD'S
NAPOLEON

1 Size

15 cents

A CHANCE TO SECURE
HIGH CLASS HELP ON THE FARM

Imperial ex-service men who desire to take up land in Canada under the Soldier Settlement Act, must first gain experience on Canadian farms. Many of them have applied to the Board's officers in the British Isles. A number who possess outstanding qualifications (including men of considerable farm experience) have been selected and are ready to come to Canada as soon as places can be found for them on high-class farms.

Farmers who require the assistance of these Imperials should apply to the nearest office of the Soldier Settlement Board. They should indicate the length of time for which they can employ a man, the wages they are willing to pay and the conditions of service.

DISTRICT OFFICES At: Victoria, Vancouver and Veron, B. C.; Edmonton and Calgary Atla.; Regina, Saskatoon and Prince Albert, Sask.; Winnipeg Man., Torono, London, Fort William and Ottawa, Ont; Quebec and Sherbrooke, Quebec.; St.John,N.B.; Halifax, N. S.; Charlottetown, P. E. I.

The Soldier Settlement Board of Canada
W. J. BLACK, Chairman.

This explanation of the operations of the Canadian Wheat Board surely should correct the misrepresentation which your editorial conveys when it assumes that the price of wheat is fixed this year. True it is high, but it is high because the law of supply and demand have a chance to work naturally with regard to our wheat crop. Furthermore, because of the world's scarcity of wheat at the present moment, especially the hard wheat which is grown in Western Canada, the price under the operations of professional traders on open exchanges, such as existed in Winnipeg during the early part of 1917, would be manipulated to much higher levels than they are at present. This truth was evident last summer when for one week the Government permitted the Grain Exchanges to open. It will be remembered that on the Winnipeg Grain Exchange the price of wheat shot up 20 cents in a few days, and then the Government closed the markets again. Because the professional trading element in the grain business is eliminated in Canada, and is replaced by one efficient selling agency namely, the Canadian Wheat Board, the price of wheat represents more nearly than it could possibly represent under open market conditions, the true value of that commodity.

There is another reason why the task of disposing of our wheat crop during the past year should have been placed in the hands of such a selling agency as the Wheat Board, and that reason is because those countries which are the chief buyers of our wheat, all had their governmental purchasing commissions. With the buyers of our wheat organized in this way to purchase their supplies, Canada as well as the United States had no other alternative in the matter than to adopt similar organizations for purposes of selling. And all that the resolution which you wrongly credit as part of the New National Policy, asks for it that the present system of marketing Canada's wheat product should be conducted just so long as the principal countries importing our wheat retain governmental control of their buying.

Your several references to "an inflated price for wheat", "a fixed price", "a boosted wheat price", "a special preference," and "the Western crop disaster of 1918," are entirely without foundation. The watchword of our organized farmers of the West as well as of Ontario and your own province of New Brunswick (who have just applied for affiliation with the farmers of the West through the Canadian Council of Agriculture), is "special privileges to none," and this watchword has been lived up to consistently by our organizations for the past fifteen years.

Having in the conclusion of your editorial invited "an expression of opinion on this subject." I ask you respectfully to be good enough to publish this reply to your recent misstatements.

Yours truly,
NPL/F.

N. P. LAMBERT
Secretary, Canadian Council of Agriculture.

The above letter is the one which Mr. Gordon Sharp, of Pembroke, accused the Maritime Farmer of refusing to publish.

In this connection the following letter, addressed to the Canadian Council of Agriculture, 613 Boyd Building, Winnipeg, under date of March 11th, 1920. The letter speaks for itself. It shows that if Mr. Gordon Sharp's other statements to farmers are as accurate as those he made at Fredericton concerning this letter, they are not to be taken at face value. We will leave it to the hundreds of farmers who heard Sharp refer to the refusal of this paper to publish this letter, to designate Mr. Mr. Sharp's statment, each to his own satisfaction.

Our letter follows:

We have your letter of the 3rd inst., re article in the Maritime Farmer. We are publishing it in our issue of March 30.

We note the letter was registered. May we say that it was quite unnecessary for you to do so. The Maritime Farmer is a well known publication, and it has not yet reached the stage where it refuses to publish an article from a correspondent, provided that the article is in order. We thought that the registration suggested that the Maritime Farmer would try to dodge publication of the article. We can assure you that we do not publish that kind of a paper.

Not Just Good—The Best Roof

The tendency to-day is to use the best roofing material as a covering for all roof surfaces. This is not due to people having more money to spend, but to the realization that the first cost of a good roof is practically its only cost.

NEPONSET PAROID

provides a roof that is serviceable and long-lived. Lay a Paroid Roof today and forget it for the next twenty years or more. Before the roof needs repairs you will have spent far more than its original cost in repairs to other parts of the building. Hundreds of buildings throughout the Dominion of Canada conclusively bear out this statement.

The base of Neponset Paroid is a high-grade rag felt thoroughly impregnated with asphalt, making it positively waterproof, and fire-resisting.

It is further reinforced with a talc surface, grey in color; or with a permanent slate surface, red or green in color.

Roofed with Neponset Paroid you may rest assured that your buildings are perfectly weather-proof and sound.

Easy to lay—With every roll of Neponset Paroid is supplied sufficient nails and cement with full directions.

There is a Neponset dealer in your district. Write us for his name and a copy of our illustrated booklet "Roofing Canada."

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"Canadian money, Canadian made, should be spent in Canada for Canadian trade." 220

NEPONSET ROOFS

FEDERAL ASSISTANCE TO HORSE BREEDING

Recently, certain Clubs whose members are the owners of a number of pure bred mares requested the Live Stock Branch, Dominion Department of Agriculture, to allow them to pay a premium over and above a Twenty-Five Dollar service fee, which is the maximum allowed under the Federal Assistance to Horse Breeding Policy. These Clubs expected by the offering of a premium to secure the services of the best stallions in the country.

In the hope that the pure bred stock of the country will be improved thereby the Branch has agreed to allow any Club that hires a stallion considered worth more than a Twenty-Five Dollar fee, and that passses a special inspection, to pay a premium to the owner.

Clubs have the option of giving the owner either a lump sum of money or to be paid at a time agreed upon, or a certain amount for each mare that proves to be in foal, the total to be paid on a certain date.

All stallions must possess size and be true to breed type. Draft stallions in particular must be up to weight when in ordinary breeding condition. Clubs interested should write the Horse Division of the Branch for an outline of the premium scheme and special Application and Agreement forms. All Clubs should note that the final date for receiving Applications is April 1st, next.—Live Stock Commissioner.

DISCUSSING THE MATTER

A farmer said to his negro servant:

"Jim, have you fed the horses?"
"Yassir."
"What did you feed 'em?"
"Hay."
"Did you feed the cows?'"
"Yassir."
"What did you feed 'em?"
"Hay."
"Did you feed the ducks?'"
"Yassir."
"What did you feed 'em?"
"Hay."
"Did they eat it?"
"Nowsir; dey didn't ezactly eat it so far as I saw, but they was talkin' about it when I lef'."

Fainting, Dizzy Spells

Weakness and Shortness of Breath.

Those feelings of faintness, those dizzy spells and "all gone" sinking sensations which come on from time to time indicate a weakened condition of the heart and disordered state of the nerves.

Milburn's Heart and Nerve Pills have no equal for strengthening the heart and invigorating the nerves.

Mrs. C. A. S. Drake, Paris, Ont., writes:—"I have used on towards the second box of Milburn's Heart and Nerve Pills and find they have done me good. I had those fainting, dizzy spells once in a while, and also weakness and shortness of breath, and would become so choked up at times I could hardly sleep without sitting up in bed. When walking too fast I would have to stop and try to catch my breath. I feel a lot better since I have used your pills and know that they have helped me wonderfully as I have improved very much."

Price 50c. a box at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

DR. ROBERT'S TOUR

(Continued from page 455)

tor of food supplies and as Canada's Agricultural representative at the Peace Conference, he has had better opportunity to know the real situation than any other single man in Canada. Farmers will do well to accept his forecast and produce to the limit.

CO-OPERATIVE NOTES

Mill feeds are scarce—very scarce. We can supply straight cars of splendid feeds and oats at reasonable prices. Prices, of course are high, but we offer feeds at wholesale prices to farm organization. We have available, subject to previous sale, 50 tons of cotton seed meal, 43 per cent protein.

About your auto tires. These recently advanced 20 per cent. We have a supply of small car tires and tubes at the old prices. They are offered, while they last. So get your order in and get it in quickly.

We will buy your dairy butter and strictly fresh eggs this spring and summer. We are prepared to pay cash and give you a price f. o. b. St. John. Eggs will be subject to candle test and we want only first-class stock. We want nothing but good butter, too. Watch the next issue of the Maritime Farmer for particulars.

If there is anything we can do for you—a reader of the Maritime Farmer, write us. We have saved thousands of dollars for farmers in all parts of the Maritime Provinces. You want to get the co-operative habit—the real co-operative habit. Write Maritime Farmer, Co-operative Department.

A Beautiful Complexion

reflects good health and pure blood. If the complexion is not clear—if it is blotched or pimply, use

Dr. Wilson's HERBINE BITTERS

the true blood purifier. Regulates the system, purifies the blood, and brings the bloom of health to pale and sallow faces.

At your store—35c. and $1.00.

The Brayley Drug Company, Limited
ST JOHN N B. 49

MARE SHOULD HAVE SPECIAL SPRING CARE

(Continued from page 464)

The mare needs protein. Alfalfa, clover, bran and oilmeal contain protein and may be fed with excellent results. The mare which has been working and which is left off the team ten days or two weeks before foaling should have her feed greatly reduced. She does not need the large amount of grain that she ate and assimilated while at work. Overfeeding during those few days has injured thousands of mares every spring and has added to the loss of foals. Many good horsemen cut the grain in half when the mare is left to rest. Good judgment must be the guide, as a mare in thin condition can stand more feed and actually needs more than a mare already in high flesh.

Brood mares may be given too much shelter as well as too little, and harmful results come from both conditions. Most farm mares are used to being stabled at night. The care need not be changed greatly in most cases. It is well to see that the mare is kept in a clean place and that she has plenty of fresh air. A boxstall may be an absolute necessity at foaling time, yet when we put a mare into it from the tiestall, where there is a free circulation of air, or from the outside, where she has been sheltered behind a haystack there is a serious probability that the box will be so warm as to be harmful. The box-stall for the mare should have windows for ventilation and sunlight.

The brood mare needs exercise.

During the few days preceding foaling a good horseman will furnish mares with a paddock in which they may exercise at will. Exercise keeps the mare in good thrift and her muscular system hard and vigorous.

It is most essential to prevent injuries. An accident may cause the loss of the foal and may injure the mare permanently. Chief among the causes of injury is the mean, crabbed, old mare which fights the others away from the water trough or kicks them out of an open shed. The shed open on one side or with one or two doors is ideal for some live stock but certainly it is not adapted to sheltering brood mares.. Crowding the mares through gates or forcing them to cross icy ponds frequently leads to serious injuries. Once in a while a dog chases a mare, causing an accident of some sort. Improper team work is another cause of accidents. As foaling time approaches the mare should have light work and short hours and and should do little or no backing. She had best be placed in the hands of the most careful driver.

The mare should be accustomed to her boxstall before the day of foaling arrives. If she has been living in that stall for one or two weeks it will be all the better. She should learn to know the man who is to care for her and he should have gained her confidence. The mare that comes up to foaling time in a vigorous, properly-fed condition is the on likely to foal safely, if given the proper opportunity in a clean place.

1920 PRIZE WINNERS PROVINCIAL SEED FAIR, FREDERICTON

Wheat

White Fife, (1 bus.)—1, Henry Gordon, Chatham; 2, John Inch & Son, Keswick; 3, Thos. D. Stewart, Florenceville; 4, H. M. Estey, Florenceville; 5, Geo. E. Fisher, Chatham; 6, Basil Kilpatrick, Florenceville.

White Russian—1, Henry Gordon, Chatham; 2, J. R. Taylor, Little Shemogue.

Red Fife or Marquis—1, H. B. Parlee, Sussex; 2, Henry White, Chatham; 3, Geo. E. Fisher, Chatham; 4, C. C. West, Hopewell Hill; 5, Arthur J. Marr, Newtown.

Any other named variety—1, R. Leslie Loggie, Lower Napan; 2, W. F. Mosher & Sons, Sussex.

Sweepstakes in wheat—1, Henry Gordon, Chatham; 2, John Inch & Son, Mouth Keswick.

Oats

Banner type—1, H. B. Parlee, Sussex; 2, Henry Gordon, Chatham; 3, Wm. Johnston, Newcastle; 4, J. W. Stevenson, Gladstone; 5, Robt. J. Shaw, New Maryland; 6, W. E. Palmer, Keswick; 7, R. Leslie Loggie, Lower Napan; 8, Henry White, Chatham.

Any other white variety named—1, Henry Gordon, Chatham; 2, R. B. Shaw, Maryland; 3, J. W. Stevenson, Gladstone; 4, Wm. Johnston, Newcastle; 5, F. L. Traer, Chatham; 6, R. J. Shaw, New Maryland; 7, Basil Kilpatrick, Florenceville; 8, W. F. Mosher & Son, Sussex; 9, Thos. D. Stewart, R. R. No. 2, Florenceville.

Black Oats, any variety named—1, Arthur J. Marr, Newtown.

Sweepstakes in Oats—1, J. W. Stevenson, Gladstone; 2, Henry Gordon, Chatham.

Barley, Six Rowed—1, J. W. Stevenson, Gladstone; 2, H. B. Parlee, Sussex; 3, R. J. Shaw, New Maryland.

Buckwheat

Smooth-hull (1 bus.)—1, R. J. Shaw, New Maryland; 2, H. B. Parlee, Sussex.

Rough-hull—1, Thos. D. Stewart, R. R. No. 2, Florenceville; 2, R. B. Shaw, Maryland; 3, W. E. Palmer, Keswick; 4, John Inch & Son, Mouth Keswick.

Potatoes

Green Mountain Group, (Green Mt., Delaware)—1, R. J. Shaw, New Maryland; 2, Henry Gordon, Chatham; 3, John Inch & Son, Mouth Keswick; 4,

It made a Success out of a Failure

Three years of crop failure—droughts which caused the loss of hundreds of trees—rains that rotted the roots of the young trees—and then Charles Sheppard discovered the advantages of planting with stumping powder. Today his 30-acre apple orchard is a money-maker.

C.X.L. Stumping Powder

will make your orchard a profit producer, if you do as Mr. Sheppard did—blow out the dead trees with C.X.L. and dig your holes for new trees by the same means. In the first five years their growth is nearly double those of spade-planted trees.

Canadian Explosives Limited

Head Office, Montreal
Halifax Toronto
Sudbury Winnipeg Vancouver

"Explosives for the Farm" tells what C. X. L. Stumping will do in your orchard. Write Dept. C for free copy today.

CANADIAN EXPLOSIVES TRADE CXL MARK LIMITED

Oh ! Look ! !

Fruit Trees, Etc.

I have unsold at present a few thousand Choice Apple Trees 5 to 7 ft. high in the leading Hardy varieties, also a few Plum, Pear and Cherry trees, small Fruits and Shrubs. Write at once for prices if you wish to secure stock for Spring planting.

Address:

W. A. FILLMORE
24 Crescent St., AMHERST, N. S.

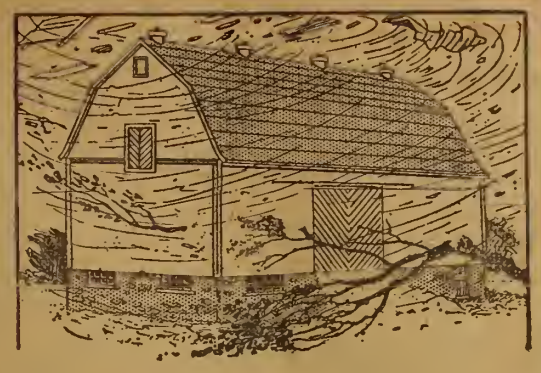
STRAWBERRY PLANTS

Senator Dunlap, Brandywine, Sample, Dickie, and other standard varieties for sale at reasonable prices. Send for price list.

JOHN N. CHUTE,
BERWICK, N. S.

RAINPROOF

SNOWPROOF



WINDPROOF

The Economy of an Asphalt roof

The cost price of the roofing material is not the real cost of any roof. There is also the cost of laying and the cost of the repairs it needs from time to time. The sum total of all of these is the real cost.

While you may pay less per square for some other roofing material than you would for Brantford Asphalt Roofing the cheaper roofing will cost you far more in the end.

Brantford Asphalt Roofing

is not made to sell at a price to meet competition. It is made of the most enduring materials procurable, and made most carefully, too.

The body of Brantford Asphalt Roofing is a specially woven felt of exceptional pliability and durability. It is also very absorbent, so that it will take a heavy asphalt saturation.

A special blend of asphalts is used for the saturation and coating. By blending hard, brittle asphalts with soft, pliable ones we get an asphalt with remarkable elasticity — a tougher and more durable material.

Any good grade of asphalt is a very enduring material but our blend of asphalts is exceedingly lasting, and it puts Brantford Asphalt Roofing in a class by itself as an economical investment.

It is non-absorbent, therefore proof against rain and snow—and there are no exposed edges or places where the wind can get under and loosen or lift off the roofing.

The cost of Brantford Asphalt Roofing and the cost of laying it is the total cost of this roofing. It requires no repairs. It is a permanent roof.

If you could go through the factory and see this roofing made, you would be convinced of its splendid quality. But it has already proved this by its record of many years of service on roofs and still practically as sound as ever.

Brantford Asphalt Roofing is the real economy roof,—the roof that is made on a small margin of profit. By enlarging our output and installing the most up-to-date labor-saving machinery we have reduced the cost of production and thereby offset to a large extent the increased cost of raw materials. Quantity production has helped us to keep prices down, and at the same time maintain quality at its highest level. This company is building for the future and is maintaining its old policy of keeping up the high standard of its products and offering them at fair and square prices.

Brantford Asphalt Roofing is easily handled and quickly laid, saving time and cost of labor.

If you have a barn, silo, chicken house, root house or other building that needs re-roofing, or if you are going to put up any new building this year you will be interested in reading our latest roofing catalog.

Write for a copy. It is free.

Brantford Roofing Co. Limited

Brantford, Canada

Branches at Toronto, Montreal, Halifax

Also makers of Brantford RUBBER Roofing, Brantford Asphalt SLATES, Standard MOHAWK Roofing, and LEATHEROID Roofing.

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J. Walter Inch, Keswick; 5, W. E. Palmer, Keswick; 6, John W. Stevenson, Gladstone; 7, Wm. McKnight, Lower Napan; 8, Wm. H. Moore, Scotch Lake.

Irish Cobblers—1, P. R. Semple, East Florenceville; 2, R. J. Shaw, New Maryland; 3, W. E. Palmer, Keswick; 4, Thos. D. Stewart, Florenceville, R. R. No. 2; 5, Henry Gordon, Chatham; 6, John Inch & Son, Mth. of Keswick; 7, J. Walter Inch, Keswick; 8, William McKnight, Lower Napan.

Any Long White Variety—1, W. E. Palmer, Keswick; 2, Henry Gordon, Chatham; 3, John Inch & Son, Mth. of Keswick; 4, J. Walter Inch, Keswick.

Any Rose Variety—1, R. J. Shaw, Maryland; 2, W. E. Palmer, Keswick; 3, J. Walter Inch, Keswick; 4, John Inch & Son, Keswick; 5, William McKnight, Lr. Napan.

Any Red Variety—1, J. W. Stevenson, Gladstone; 2, W. H. Moore, Keswick; 3, W. E. Palmer, Keswick; 4, John Inch & Son, Keswick.

Any dark-skinned variety—1, John Inch & Son, Mth. Keswick; 2, W. E. Palmer, Keswick; 3, R. J. Shaw, Maryland; 4, J. Walter Inch, Keswick; 5, R. Leslie Loggie, Lower Napan.

Field Roots & Garden Vegetables

Turnip or Swede Seed (2 lb.)—1, Henry Gordon, Chatham; 2, R. J. Shaw, New Maryland; 3, R. B. Shaw, Maryland; 4, Henry White, Chatham; 5, John Inch & Son, Mth. of Keswick.

Mangel Seed (2 lbs.)—1, Henry White, Chatham.

Carrot Seed (½ lb.)—1, J. W. Stevenson, Gldastone; 2, R. J. Shaw, New Maryland.

Six Turnips (Swedes) named, for Seed Raising—1, Henry Gordon, Chatham; 2, John Inch & Son, Keswick; 3, J. Walter Inch, Keswick.

Six Mangels, named, for Seed Raising—1, Fred Taylor, Florenceville; 2, Henry White, Chatham; 3, Henry Gordon, Chatham.

Potato Onions (5 lbs.)—1, H. B. Parlee, Sussex; 2, Henry Gordon, Chatham; 3, E. Lorne Hume, Florenceville; Shaw, New Maryland; 2, R. B. Shaw, Maryland; 3, Thos. D. Stewart, Florenceville, R. R. No. 2; 4, Henry Gordon, Chatham; 5, Jos. H. Albert, St. 4, J. Walter Inch, Keswick.

Six Table Onions, correctly named, for Seed Raising—1, Henry White, Chatham.

Garden Peas (½ peck)—1, H. B. Parlee, Sussex; 2, Arthur J. Marr, Newtown; 3, Henry White, Chatham; 4, R. B. Shaw, Maryland.

Beet Seed, (2 lbs.)—1, Henry White, Chatham; 2, R. J. Shaw, New Maryland.

Parsnip Seed (½ lb.)—1, Henry White, Chatham

Grass & Clover

Timothy Seed (½ bus.)—1, R. J. Hilaire.

Red Clover (½ bus.)—1, George McLaughlin, Perth; 2, Chas. B. Stevens, Andover.

Miscellaneous

Field Peas, large (1 bus.)—1, Henry Gordon, Chatham; 2, Thos. D. Stewart, Florenceville, R. R. No. 2.

Beans, white (1 peck)—1, Thos. D. Stewart, Florenceville, R. R. No. 2; 2, Wm. Moore, Keswick; 3, Henry White, Chatham; 4, R. J. Shaw, New Maryland; 5, Arthur J. Marr, Newtown.

Beans, colored, (1 peck)—1, H. B. Parlee, Sussex; 2, J. Walter Inch, Keswick; 3, W. E. Palmer, Keswick; 4, R. J. Shaw, New Maryland; 5, R. D. W. Hubbard, Oromocto.

Beans, yellow-eye (1 peck)—1, J. W. Stevenson, Gladstone; 2, Henry Gordon, Chatham; 3, R. J. Shaw, New Maryland; 4, P. R. Semple, East Florenceville; 5, Henry White, Chatham.

Corn, any flint var., (12 ears)—1, Thos. D. Stewart, Florenceville, R. R. No. 2.

Special Competition

Potatoes, (½ bus.)—1, W. E. Palmer, Keswick; 2, H. B. Parlee, Sussex; 3, E. Lorne Hume, Florenceville.

INCREASING CONSUMPTION OF EGGS AT HOME AND ABROAD

(Continued from page 453)

Then again, when not only each centre but often each firm in each centre has a system or style of grading peculiar to itself, it is not surprising that the retailer or consumer becomes confused as to grades. Two firms may be using the same grade terms but that is no assurance that the eggs purchased from one firm are of the same quality as those purchased from another.

The question of increased consumption is a proposition bigger than any firm or individual. It is national in its scope. What is needed is something national in its application; in other words, a national gradation and terminology for grades of eggs that will have the united support of the business acumen and advertising genius of all distributors of eggs.

Canadian eggs are standardized but the grades have not been adopted for domestic trading. Much publicity has been given to these grades, but without the support of the trade in making them effective, the significance of the grade names and what they stand for has not been brought home to the consumer in a realistic manner. Individual firms could still use their own firm brands of eggs but they should be applied to the grades rather than to eggs as a whole. For instance there might he the "Rose" brand of "Specials" and the "Banner" brand of "Extras," and so on. That would still retain and promote individual firm efficiency. At the same time, it is contended that in order to promote nation-wide increased consumption, special significance should be given to recognized national grades upon which advertising matter could be based for the whole country so that when a consumer saw the word "Extras" on a carton or an a case there would at once spring to his mind a visualized picture of the quality of eggs in that case. In other words, provide for the home consumer something of the same system of standardization, grading and marketing that is in vogue for the export trade today.

Increasing Consumption Abroad

The reputation of Canadian eggs on the British market has been greatly enhanced during the past year. Last spring, the story of Canada's potential productiveness, her standardized product, her system of inspection was told in person to practically every importer in Great Britain.

Canada's system of inspection for export is based upon inspection by words "Canadian Eggs". and the Maple Leaf constitute a national guarantee of quality. The result has been that Canada not only sold every exportable egg available but sold at such a price that she was enabled to do what Holland and Germany did before the war, namely, import foreign eggs for home consumption and sell their own for export. As a matter of fact, only those who have had actual experience in exporting both States and Canadian eggs this past year realize to the fullest, what a boon to Canada Government inspection has been.

Canada has a distinct asset and great selling argument in her system of inspection for eggs for export. The British importer appreciates the general significance of this and it gives him confidence in buying. but as yet he does not fully understand the difference between grades. The domestic trade of Great Britain has been built up on brands and in pre-war days brands were legion on Tooley St. at the London Egg Exchange.

Denmark was the first country to place national grades of eggs on an export market. This was first done by the Co-operatives and later by the whole trade. As a result, Danish eggs are not seen on Tooley St. as much as formerly. They have found a more direct outlet to the egg merchants of London and the Provincial towns. Danish exporters still use brands but they are brands of grades not of eggs. Retailers and consumers have come to appreciate the significance of these grades, with the result that Danish eggs are the highest priced eggs on the British market.

So far, Canadian exporters have not paid sufficient attention to the shipment of the higher grades. The grade "First' represents eggs of only ordinary quality. "Firsts" are not a grade upon which to build an individual or national reputation.

"Extras" have been the highest grade shipped in quantity. Two or three small lots of "Specials" have gone across. Canadian "Specials" have, in at least one instance, made the top of the market in London. Certain parts of Canada are more favorably located to ship "Specials" than others. At least one large co-operative association has signified their intention of shipping "Specials" this year, but having in mind the close proximity of the Maritime Provinces to England, and the possibilities of rapid transportation between Halifax and Liverpool, there is no reason why with proper enterprise and business management, the Maritime Provinces as a whole, and even Ontario and Quebec via the North Atlantic route should not place on the British market a quantity of eggs commensurate with the best that is today supplied by Denmark and Ireland.

Importance of Advertising

Only the thin edge of the wedge has been inserted into the possibilities of advertising the Canadian product. It is easy to advertise Canada in Great Britain at the present time. The name "Canada" stands high in the esteem of the British people, and anything, backed by quality, is in brisk demand. Canada seems actually closer, nearer in actual distance, to Britain than ever before. Canadians should capitalize every opportunity to establish a place for Canadian products at the present time.

Canada has achieved a distinct national accomplishment in the marketing of her eggs and the slogan should be not only "Eat More Eggs" but "Eat More Canadian Eggs." British newspapers welcome notes about Canada. Backed by judicious advertising, the story of Canada's adaptability for poultry-keeping, her potential productiveness, and the story of the Canadian egg on the British market can be told and appreciated in every British home. The moving picture houses can be induced to help, and nothing would be more effective than pictorial representation of the value of eggs as food and what Canada is doing in an endeavor to conserve quality and supply Britain with a guaranteed article. The Government offices will help. A complete exhibit of Canadian eggs graded in accordance with the standards correlated material is now being shown in the principal centres. The following is an extract from a letter just received from the Superintendent of Emigration in Great Britain:

> "The exhibit of Canadian eggs which is being shown in our various agencie sis attracting a good deal of attention. Our agents are frequently asked for information as to the wholesale price of Canadian eggs, where they can be obtained, the breed of hens and other matters relating to poultry raising in Canada."

The Canadian Railway offices will help. To popularize Canadian products in England is good tactics for Canada, it means bigger business and more immigration of the best kind. To be successful, the work needs coordination, endorsation and support. It needs executive direction and representation in England and national

Announcing
A TRIUMPH

1920 McLaughlin Master Six now ready

Victorious Roman Chariot 50B.C.

Canada's Standard Car 1920

LEADERSHIP was ever accorded the victor

Supremacy is the reward of exceptional merit in all walks of life.

Canada's Standard Car owes its leadership to its inherent merit.

For 1920 the new McLaughlin Master Six more than ever maintains that reputation which has established its Supremacy from coast to coast.

See the new Master Six at the nearest McLaughlin Show Rooms

McLAUGHLIN MOTOR CAR CO. LIMITED
OSHAWA • • ONTARIO

McLaughlin Master Six K-Six-45 Extra Special

The McLAUGHLIN MASTER SIX

See the McLaughlin Models at the Nearest McLaughlin Show Rooms

and individual effort should be synchronized.

Increased Consumption International In Its Scope

The increasing of egg consumption is a propisition bigger than any one nation; it is international in its scope. It is to Canada's interest that her competitors eat an increasingly large proportion of their own eggs at home. The peculiar growth-promoting, disease-resisting elements in eggs are just as important to the South American as to the European, and experienced travellers state that the solution of the Chinese egg menace is the making of industrial conditions in China such that the Chinaman can afford to keep his eggs at home.

Increased consumption was one of the chief topics of discussion at the International Poultry Convention held in London in March last and on a resolution from the Convention the different governments were asked to name delegates to a committee to consider the question of International Standards for eggs as a basis for increased consumption. This committee, representing fifteen different countries, met in London in September last, carefully reviewed the whole situation, discussed tentative standards and viewed eggs graded in accordance with existing standards. The committee will make its final report at the World's Poultry Congress to be held at the Hague, Holland, in August, 1921. During these deliberations, Canada's standards for eggs really formed the basis of the discussions, based as they were upon quality, edibility and science, the display of Canadian eggs graded in accordance with these standards was carefully analysed and favorably commented upon by all.

Conclusion

Canada has stepped into a prominent place in the world's activities in eggs. It is fitting that she should take the lead in the world's campaign for increased consumption, and with this end in view it is recommended that the Canadian Produce Association name a committee to collaborate with Government Departments on the matter.

This committee should be representative of all interests in the industry because **Increased Consumption** is bound to be the biggest and most vital thing affecting the whole industry. **Increased Consumption** includes a consideration of bigger and better business methods. It also includes increased production, conservation of quality, quality payment, legislation. It includes everything leading up to **"A Satisfied, Delighted, Persistent Consumer"**—a nation's biggest business asset at home and abroad.

SLIP KNOT FOR HALTER ROPE

Now what would happen if there were a fire in the barn and one wanted the horse out in a hurry, or if he hapened to get tangled up in the rope some way? These things all happen, as every farmer knows. With a hard knot there would be a long wait before getting the rope untied. Of course, if the man hapepned to have a knife in his pocket he could cut the rope, yet, how often do we farmers have a knife in our pocket all the time?

The knot that can be quickly unloosened ends with a loop just where the end of the rope would be pulled entnirely through if it were to be a hard knot. Then the end of the rope is slipped through the loop. Pull the end of the rope out of the loop and the horse is untied. That is easy and it doesn't take one second longer to tie that knot than the other. Get into the habit of tying horses to the manger in this manner, and it will come natural to the hand, and may save the life of a valuable animal some day.

These Tires Will Suit Your Loads and Your Roads

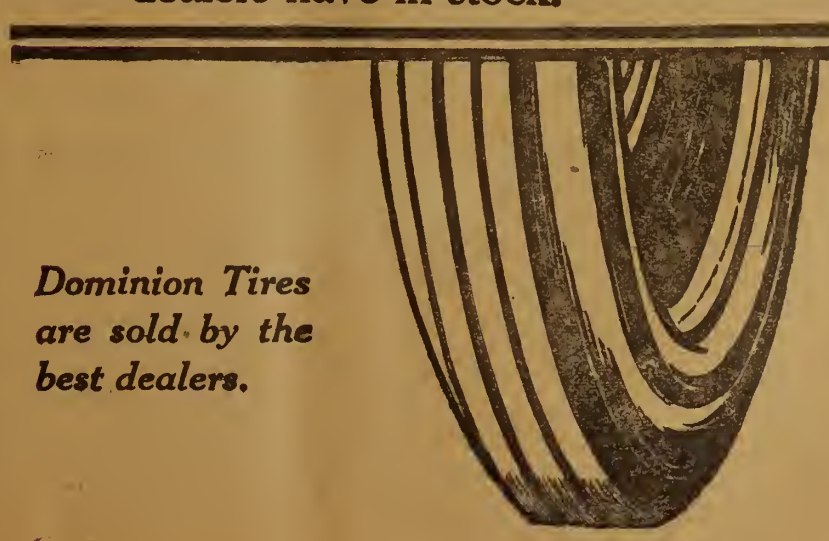
On farm and ranch and country road—on heavy hauls to town—on pleasure bent when work is done—DOMINION TIRES will give you long and satisfactory service.

DOMINION TIRES

ARE GOOD TIRES

Among experienced motorists, they are known as "greater" tires—because they give greater service, greater mileage, greater pleasure in riding.

DOMINION INNER TUBES mean perfectly balanced tires. Carry an extra inner tube in the car, as well as a supply of DOMINION TIRE ACCESSORIES — which all Dominion Tire dealers have in stock.



Dominion Tires are sold by the best dealers.

CANADIAN CONSOLIDATED RUBBER CO. LIMITED
DOMINION RUBBER SYSTEM
AND ASSOCIATED COMPANIES

Lawndale Stock Farm

Jerseys and Shorthorns (Pure Bred)

Jersey Offerings for the Winter of 1919—20

A few registered mature cows due to freshen the coming fall and winter.

Several yearlings, bred and not bred, registered and grades.

Several pure bred and grade calves, male and female.

Shorthorn Offerings for Winter of 1919—20

Two yearling heifers, very thrifty.

Several pure bred calves, male and female, by Imported English dual purpose Shorthorn bull, out of splendid producing dams.

We can supply intending purchasers a choice list of either Jerseys or Shorthorns to select from.

Come along with your inquiries.

Apply for information to

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

COSSAR STOCK FARM

Lower Gagetown, N. B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

We are presently offering, one imported Clydesdale Stallion "Dunure Crag" sired by the famous breeding horse "Baron of Buchlyvie."

Also

One Canadian bred Clydesdale Stallion "Baron Cossar", rising 5 years old.

Further particulars on application.

G. C. Cossar, Proprietor. J. Melklejohn, Agent.

Shorthorn Cattle

High grade registered stock for sale

E. HETHERINGTON

CODYS, :: :: :- N. B.

Elmwood Stock Farm

We have a few young bulls to offer, sired by Dutchland Colantha Sir Rag Apple, a son of Colantha Johanna Lad. His dam is a granddaugbter of Pontiac Korndyke. Thus combining the blood of two of the greatest bulls the world has ever seen.

The dams are daughters of Dutchland Pieterje Count. These calves are a nice straight growthy lot.

W. L. ETTER, Shubenacadie, Hants Co., N. S.

FOR SALE

Registered large English Yorkshire pigs from old sows. Best imported stock. Price $12 at weaning time.

Cash to accompany orders. First get choice.

EDWIN ESTEY & SON

WOODSTOCK, N. B. - - R. No. 6

Pleasant Valley Farm

Stallion Catalon For Sale

I offer for sale my carriage stallion CATALON, 57741, foaled in 1904.

CATALON is a handsome 15-3 hands, 1075 lbs. mahogany bay of perfect conformation and sound. He had trotted a trial mile in 2.14¼, last ¼ in 32 seconds. Perfectly clever and kind. He is sired by Bingen 29567, record 2.06¼. Catalon's dam was the great race mare Improvidence, 2.12, by Prodigal, 2.16, and dam of Owassa, 2.06¾, full sister of Catalon. Catal is a half brother of Uhlan 1.54½, the world's champion trotter. Cataion sired the second fastest two two year olds ever raised in this province, Ima Catalon winning the race in Summerside in 1917. Second heat in 1.12½. This is a very speedy mare and I feel will make a great race mare. She is also for sale. If interested, come and see her.

J. T. WAITE,
14,18 Summerside.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B.

Ayrshire Cattle

McIntyre Bros., Springbrook Farm, Sussex, N. B.
E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co,, N. S.
C. A. Archibald, Truro. N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

YORKSHIRE PIGS

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co.. N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
C.A. Archibald, Truro. N. S.
J. James Ross, Pictou, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on. as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex N. B.

RAISE SILVER BLACK FOXES, get our easy terms, prices for spring pups. Silver, Cross and Red Foxes. TODD & MOORE, St. Stephen, N. B.

FOR SALE—Registered Yorkshire pigs, farrowed March 11th. A. E. FERGUSON, Gowan Brae Farm, West Bathurst, N. B.

WANT TO HEAR from party having farm for sale, give particulars and lowest price. JOHN J. BLACK, Maritime St., Chippewa Falls, Wis.

FOR SALE—Registered Yorkshire pigs, farrowing March 16, price $9.00. F. SCHAFHEITLIN, Lyndhurst Farm, Canning, Nova Scotia.

FOR SALE—Two pure bred Scotch Collie puppies, four months old, bred from A 1 stock. Crated and shipped, ten dollars each. Color, dark, in fine health. EARL HUNSLEY, Fort Lawrence, Nova Scotia.

WANTED—Cheese maker for Belleisle Cheese factory for season of 1920. Output for 1919, 35 tons. Apply stating salary and qualifications to R. N. PEARSON, Belleisle Creek, Kings Co., N. B.

EGGS FOR HATCHING from a good laying strain of Barred Rocks, won first and second prizes in utility classes at Maritime Winter Fair last year, $2.50 per 15.—F. WARREN BLACK, R. R. No. 4, Amherst, N. S.

THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and other premises. Price $4.00 per 100 lbs. Apply by mail to "NAILS," care of Office Maritime Farmer, Sussex, N. B.

S. C. White and Barred Rocks

My S. C. White Leghorns won the championship for three years at Moncton, and carried off a silver cup. At Moncton this year, I entered nine birds and won 3 firsts, 2 seconds, 1 fourth and 2 fifths in a class of 48. First pen is headed by champion cock mated to prize hens. Eggs from this grand pen $5 per setting of 15.

I also have bred to lay Barred Rocks of the finest type. My pen of 12 pullets laid 510 leggs during the three winter months. This pen is headed by a grand cock from the O. A. C., Guelph. Eggs $2 for 15.

J. N. FERGUSON,
336 York Street, FREDERICTON, N. B.

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Last year we could not begin to fill the demand for our high class Registered Yorkshire Pigs. If you do not want to be disappointed this year, order now.

THE SOUTH TETAGOUCHE BOY BREEDERS CLUB.
Lyndsay MacIntosh, Secretary,
R. R. No. 1. WEST BATHURST, N. B.

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Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

HIGHLAND LAKE HOLSTEINS

Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.

We have young bulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows; and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yonge St. Radial) JEFFERSON, ONT

BELLEVUE STOCK FARM

Shorthorn Cattle and Shropshire Sheep

The early maturing and good doing sort—bred from Show stock in every cross. Offering thirty ewe lambs and shearling ewes to avoid crowding winter quarters. Also a few ram lambs not booked yet.

C. A. ARCHIBALD, Bellevue, Clifton, N. S.

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for salo calves of both sexes sired by Dutchland Pieterje Count. a bull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Jobona Lad, who was 101 A. R. O. daughters 4 over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice. come and see these calves or write for further particulars.

We will also book orders for young Yorkshire pigs for the next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - CANARD, N. S.

COBEQUID FARM HOLSTEINS

We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows have in turn been bred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter each in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a helfer calf or two. Get your orders in quick, they won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

Special Offering

Maple Green Farm Holsteins

On account of the great shortage in the supply of milk in our home town, we have decided (with regret) to dispose of our entire crop of Bull and heifer calves.

If taken inside of the next 30 days will price them away below their value.

The Dams of these calves are now running in the R. O. P., and the last official test conducted by the R. O. P. inspector showed an average test of 4.62% fat for the lot.

All are sired by our 32.32 lb. herd sire "King Korndyke Johanna", whose Dam is a full sister to Canada's Champion R. O. P. cow, "Jemima Johanna of Riverside". Milk in 365 days 30373; butter in 365 days, 1280 lbs.

Phone or write,

R, L. HICKS

DALHOUSIE JCT., - - - N. B.

FOR SALE

Pure Bred Registered Percheron Stallion "King Ferdinand", foaled March 16, 1916, pure black in color, broken to work, weight 1600 pounds, sired by Gresham, champion of Maritime Provinces. Dam, Lady Belle, equally undefeated.

This is a splendid opportunity to secure a horse of exceptional good breeding. Inspection of stables solicited.

For Price and particulars, apply

JOHN ALBERT FLEMMING,
BOX 234 - - - - TRURO, N. S.

Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages. Have some good cows to freshen soon. Am booking orders for ram lambs for fall delivery. Write or phone for prices and description.

J. ROBIE MacDONALD,
Shubenacadie, - - Nova Scotia
Successor to J. MacDonald & Son

Five Ayrshire Bulls for Sale!

If you want the best in Ayrshires come to Hillside. Our Stock sires are a son of the great "Jean Armour" and a son of "Gardrum White Floss", 1919 Amherst champion over all breeds.

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Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S

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SUSSEX WOOD CUTTER

They are built especially for Custom Work to handle all kinds of heavy rough wood

WE GUARANTEE SATISFACTION

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Balance Wheel 150 lbs.

LONG SWING TABLE—4 ft. 3 inches between Balance Wheel and saw.

Ask for our Special Catalogue on Wood Cutters. It will pay you
QUALITY is the first consideration in buying machinery. The BEST is the CHEAPEST.
Two second hand Little Giant Threshers on hand for quick sale. Write us today

WALLACE MACHINE WORKS, Limited, : Sussex, N. B.

Holstein Herd Averages 18812 lbs. Milk

A herd of 13 purebred Holsteins last year averaged 18812 lbs. milk and 638.57 lbs. fat.

Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in

HOLSTEIN CATTLE

send for booklets—they contain much valuable information.

Holstein-Friesian Association of Canada
W. A. CLEMONS, Secretary.
ST. GEORGE, - - ONTARIO

FOR SALE

We have to offer a nice bunch of Shorthorn bulls and heifers ages 1 to 3 years.

Also span 4 year old horses, span 5 year old horses, span of brood mares and a choice driver

For further particulars apply to

FRANK C. FAWCETT
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AYRSHIRES BULLS!

fit for service, bred from heavy producing stock.

FRED S. BLACK & SONS,
Springvale Farm,
AMHERST, - - - N. S.

Chester White Pigs for Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

Berkshire Pigs For Sale

Now is the time to have us book your order for one or more of our large English Berkshire Pigs, for later delivery. Did you see them at Fredericton and Woodstock Fair's last Fall.

We have several sows to farrow in March and April. One sow has had seven litters, and has raised seventy-seven pigs out of seventy-nine. We have other sows that promise to do fully as well. They also have size and plenty of it. We have several orders booked, but have room for more, and can furnish pairs not akin. Also can supply our old customers with the best of new blood. All stock will be registered free.

Have milking Shorthorns.

SHAW BROS.,
Highland Stock Farm,
HARTLAND, N. B. - - R. R. No. 3

FAIRVIEW FARM

Holstein and Yorkshire Swine

Calves of either sex, eight mos. of age and younger, from well bred and Tuberculin-tested Dams. Write for further particulars or come and see them.

Booking orders for Yorkshire Pigs for Spring delivery—from 1st Prize Sire and Dams at Fredericton Exhibition, Fall 1919—either sex, six weeks old. $10.00 each.

FOWLER BROS.,
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Breeder of
DUAL PURPOSE SHORTHORNS
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BRED-TO-LAY BARRED ROCKS

Eggs for Hatching from winners of P. E. I. Egg Laying Contest 1919, mated to Pedigreed Cockerels imported from Oregon Agricultural College. Price $4.00 per 15.

Eggs for Hatching from high producing Pens, $2.50 per 15.

Butter Parchment at Farmer Office

WISH-TON-WISH STOCK FARM

Have 4 good bulls fit for service, that are well grown and are extra choice individuals, and out of goid, big, heavy producing cows. Also 4 or 5 good bull calves from one to two months, as well as a few good heifers ready to breed, and some already bred to Sir Johanna Ormsby of Hickory, whose dam has a yearly official record of 22,159 lbs. milk asd 971.25 of butter in 365 days. For description and prices write, or come and see our herd.

HARDING BROS., Proprietors, WELSFORD, New Brunswick.

Firshade Farm Dual Purpose Shorthorns

P. R. L. FAIRWEATHER
Rothesay, N. B.

FOR SALE

Two yearling Gurnsey bulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

SARAH E. M. SMITH,
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AYRSHIRE CATTLE. KARAKULE-ARABI SHEEP

We are offering two Ayrshire Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

For particulars and prices write

THE EASTERN KARAKULE-ARABI SHEEP CO., LTD. WINDSOR, N. S.

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Veterinary Surgeon and Dentist,
late of Can. Army Veterinary Corps.

Graduate of University of Toronto and Ontario Veterinary College, 1910.

Treatment of diseases of all domestic animals.

WEST MARKET ST., MONCTON, N. B.
'Phones, Office 979, Residence 1079

Springbrook Farm Ayrshires!

We have to offer one bull, 24 months, 1st prize at Woodstock, Fredericton and Chatham, 1919. Six choice bulls from 8 to 20 months, sired by the prize winning bulls "Morton Mains", Amanth Imp. and Cherrybank Cicero. Also females, all ages.

McINTYRE BROS.
SUSSEX CORNER, - - N. B.

GUERNSEYS!

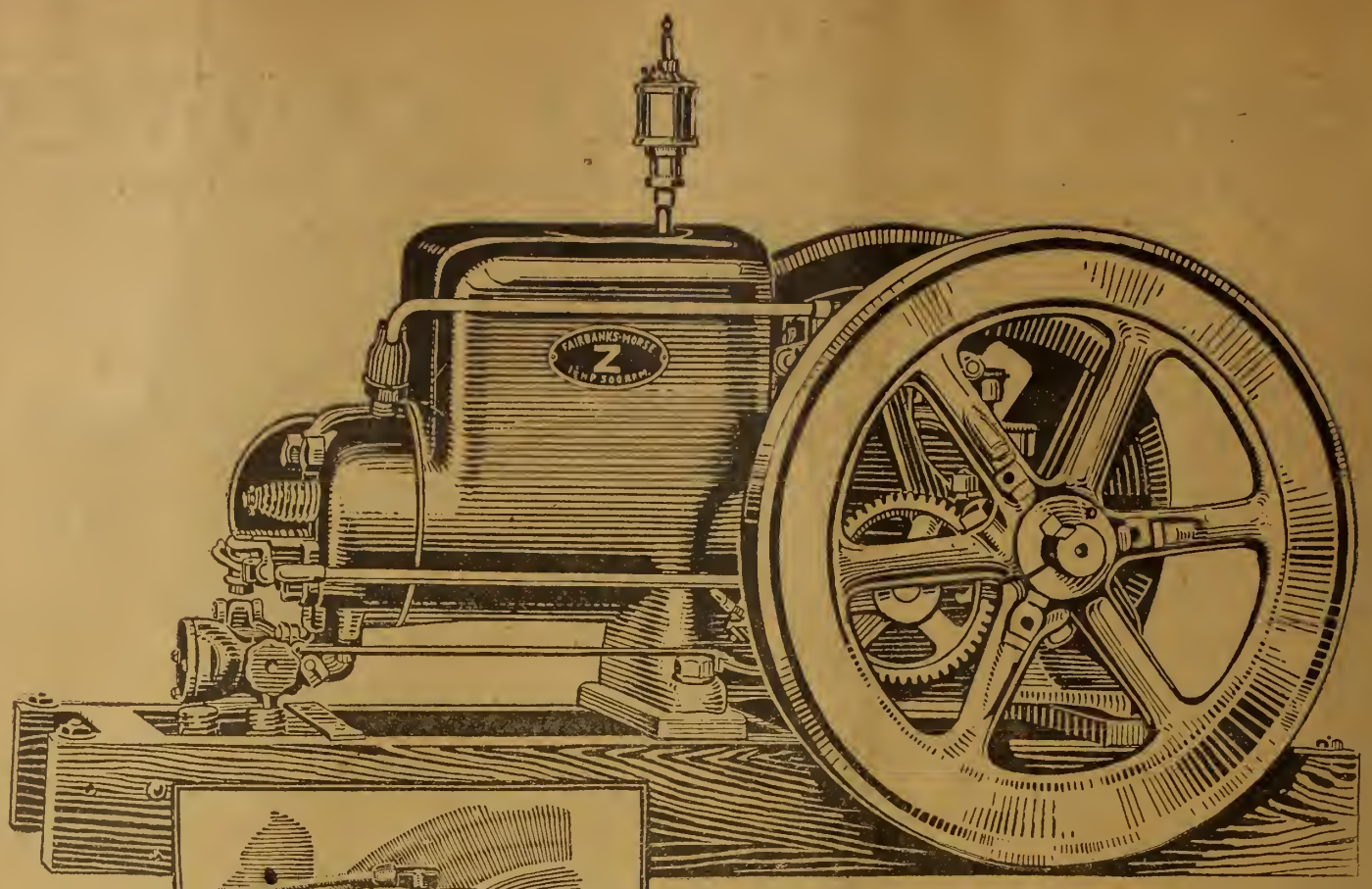
For Sale—Registered stock. Male or female.

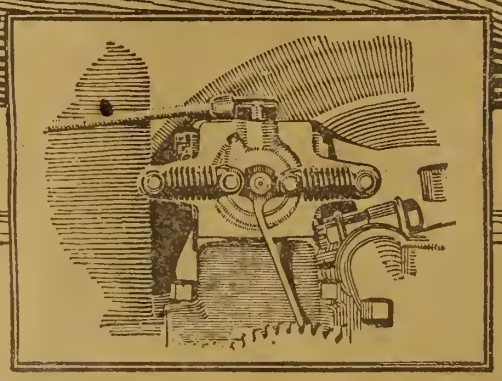
T. D. BLAIKIE,
Great Village, N. S.

Willow Glen Shorthorns!

Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes. Amherst. N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

A. N. GRIFFIN,
New Mines - - - N. S.





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TRADEMARK REGISTERED

Published Fortnightly in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., APRIL 13, 1920 No 14.

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The Farmer knows very well that the great increase in the price of the products of his farm has been largely offset by the unprecedented advance in the cost of labor, feed and the necessities of life which he himself does not produce. If he made money ten years ago to do as well now, he must make considerably more. But there is one thing to keep in mind. Just as his hired man earns twice the wage of ten years ago, SO WILL THE FARMER'S DOLLAR EARN TWICE THE WAGE.

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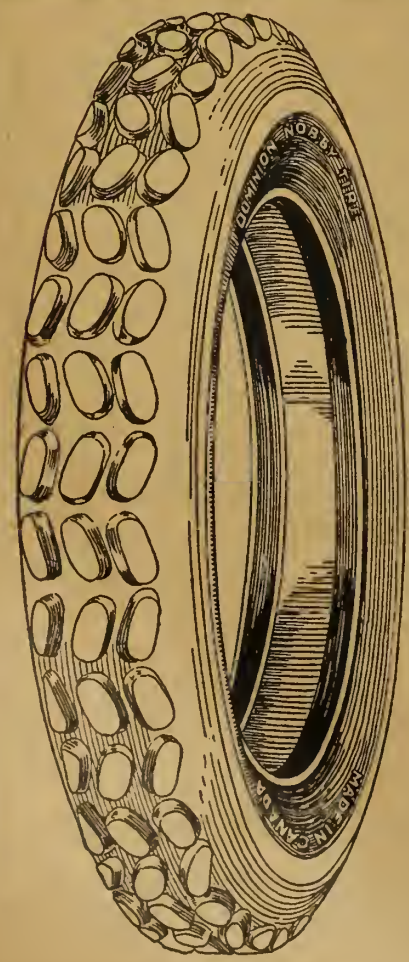

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When the Dominion 'Nobby' Tread Tire was first placed on the market, motorists were quick to recognize the exceptional hardihood of this tire.

'Nobby'—an excess mileage tire!

The Dominion 'Nobby' Tread appeals to the motorist who does not consider first cost, but regards only the final cost of a tire based on service.

And never before have the buyers of automobile tires been so critical of real economy. They have learned to distinguish between the low priced and the economical.

Royal Cords

Why?

The Best Tire at Any Price

FOR the motorist who wants the best tire made—in luxury, riding, comfort and economy—

That's why—Dominion 'Royal Cord'!

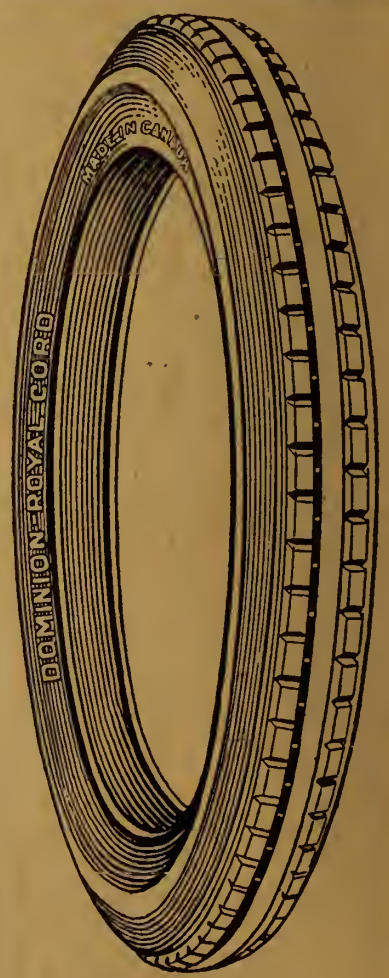
For those who require the master-creation of the tire builders' art, who look rather to ultimate economy than the amount of purchase price—Dominion 'Royal Cord' has been designed.

Known wherever good tires are recognized, as the Monarch of all Cord Tires—Dominion 'Royal Cord.'

10;20;30,000 Miles!...

Nothing exceptional in such mileage from a Dominion 'Royal Cord' Tire even though it is 30,000 miles—and more.

Dominion 'Royal Cords' are Non-Skid, and are so designed as to be equally desirable for all four wheels—their construction reduces side-slipping without impairing the ease in steering.



ROYAL CORDS

Dominion Rubber System (Maritime), Limited, - - St. John, N. B., Halifax, N. S.

Beauty, Fire-resistance, Economy combined in this Roofing

MANY costly homes have been roofed with Brantford Asphalt Slates. Architects select these slates because of the artistic beauty of the soft, harmonius shades of reddish-brown and dark green, which are the natural, unfadeable colors of the slates.

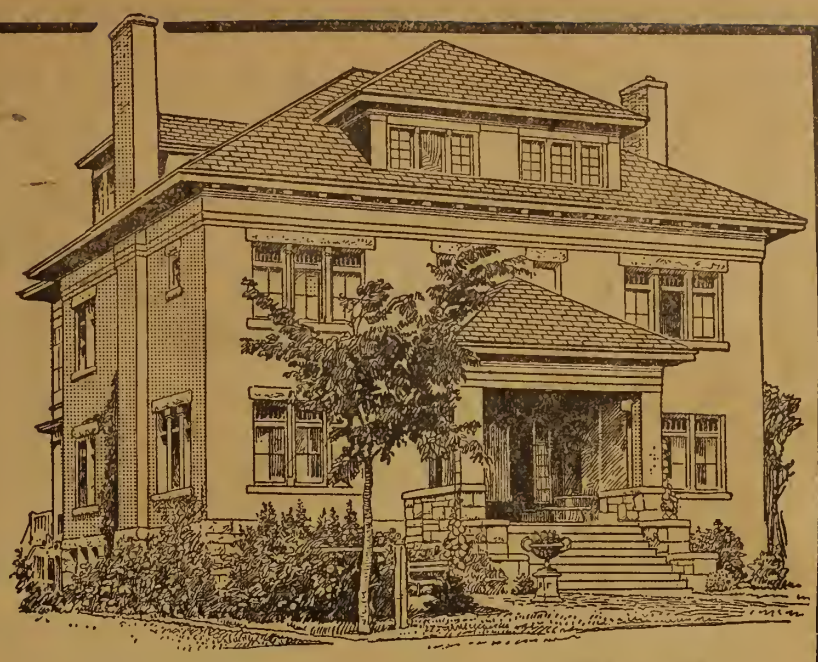
Brantford Asphalt Slates

are made from a special grade of long-fibered felt which is exceedingly absorbent, so that it will take a very heavy and thorough saturation and coating of asphalt and on top of that a surface of crushed slate. The slate is rolled into the asphalt while the asphalt is hot and becomes part and parcel of the roofing. It cannot be washed off, blown off, or even kicked off by the the heel unless you use force enough to tear part of the asphalt with it.

The regular Brantford Asphalt Roll Roofing has been on roofs for many long years and shows little or no signs of wear. Brantford Asphalt Slates have the additional slate surface and are that much heavier. They are also laid to overlap, adding still further to the wear-resistance of a roof. It seems reasonable to expect that they will last almost as long as the walls.

Non-absorbent—Do not get watersoaked

Asphalt is one of the most waterproof materials known, and Brantford Asphalt Slates being non-absorbent, do not get watersoaked and rot. Neither do they crack, break or fall off. In fact, they possess one great advantage over any other form of roofing material:— they cement together under the heat of the sun shortly after



Home in Kingston roofed with Brantford Asphalt Slates

they are laid, resulting in a solid pavement-surface on the roof under which rain or snow cannot drive and no individual slates become loose or blow off.

Brantford Asphalt Slates are wonderfully fire-resistant and are approved by the fire insurance companies, being put into the non-combustible class. Flying embers from burning buildings, sparks from threshing engines or railroad locomotives die out on Brantford Asphalt Slates. If a fire should start in an interior of a building roofed with them, the slates act as a blanket and retard the spread of the fire.

Brantford Asphalt Slates are moderate in cost, and are very rapidly laid because they are regular in size and pliable. They can be laid over ridges or curved surfaces, and every one is perfect. No knots or worm holes to look out for. No care required to avoid splitting them when nailing. And you can reroof an old building with Brantford Asphalt Slates without any extra bracing being required.

Send for illustrated booklet

Our booklet "Permanent Roofing Satisfaction" and a sample "slate" will be mailed on request. Both are worth getting if you are going to do any roofing this season.

Brantford Asphalt Slates are suitable for country homes, city homes, golf clubs, churches, garages, barns or any kind of a pitch roof where an artistic effect is desired.

Brantford Roofing Co. Limited

Head Office and Factory, Brantford, Canada
Branches at Toronto, Montreal, Halifax

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Fredericton Business College

means a great deal to a young man or woman when looking for an office position.

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General and Fruit Farms and Town and Village Homes.

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Fred E. Cox, Middleton, N.S.

Butter Parchment at Farmer Office

Advertise in the Farmer. Advertise in the Farmer

Overland

TRADE MARK REG.

The Way Bumps Look — The Way Bumps Ride

An All-Canadian Car for All Canadian Roads

OVERLAND 4 travels with such remarkable ease that rough roads seem to become level as you ride.

Its Triplex Springs, a far-reaching improvement in riding comfort, effectively ward off shock and strain from the occupants of the car and every mechanical part.

Instead of slowing down or turning back for rough roads, Overland 4 keeps on going.

The general impression among Overland 4 owners is that of continually riding on good roads.

Attached diagonally at three points Triplex Springs give Overland 4 the combined advantages of light weight, longer tire, gasoline and oil mileage, and ease of driving along with the road steadiness of the heavy long wheelbase car.

In every essential Overland 4 is high grade and complete. It has Electric starting and lighting and many other conveniences.

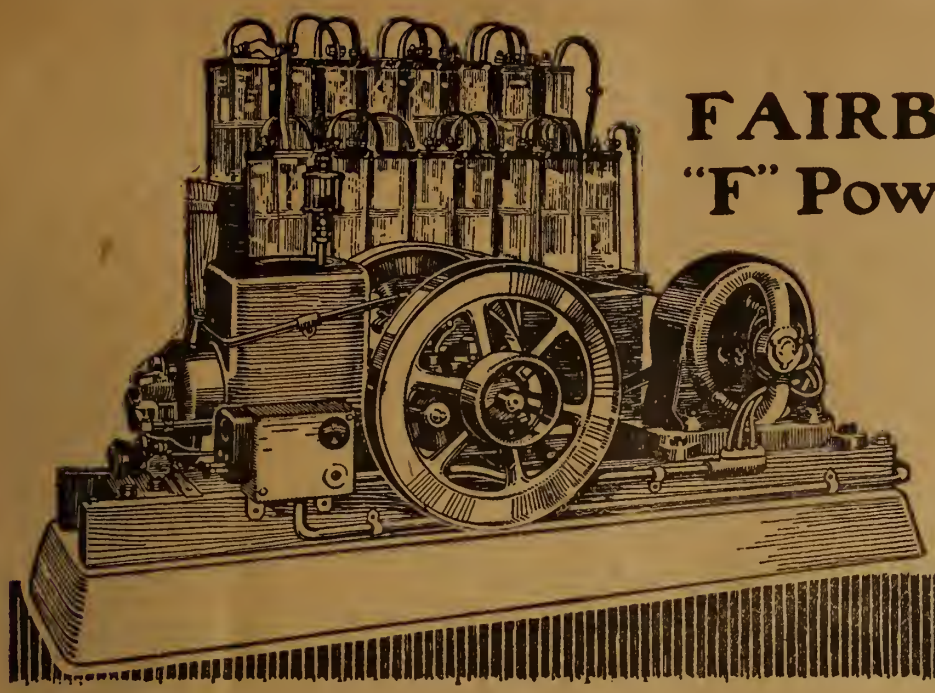
Made in one of Canada's largest manufacturing establishments, Overland 4 is giving remarkable satisfaction and smooth riding on all kinds of Canadian roads.

WILLYS-OVERLAND LIMITED

Sedans, Coupes, Touring Cars and Roadsters

Head Office and Factories, Toronto, Canada

Branches: Toronto, Montreal, Winnipeg and Regina



FAIRBANKS-MORSE
"F" Power & Light Plant

40-Light Plant

$495

F. O. B. TORONTO

Also made in 65-, 100- and 200-light sizes

The Ideal Power and Light Plant for the farm, workshop, garage and suburban mechanic

EVERY workshop and garage depends on good light to turn out first class work. Delays, and makeshift repairs invariably occur in dingy shops where feeble light results in careless use of tools. Save time, eyesight, and expense by installing a Light Plant which supplies an abundance of light, when and where you require it.

The "F" Power and Light Plant in addition to light, provides ample power for the grindstone, emery wheel, bench drill, bandsaw, small lathe, pump, or any other light machines.

Direct belted to such machinery the "F" plant engine does the work of a power plant twice its horsepower, supplying current to drive the same machines by individual electric motors. It is sturdy and simple in construction, is self-starting, and can be operated by a boy. Its utility enables every rural family to enjoy the comforts and conveniences of brilliant light, electric current, power, and running water in the house, the barns and other buildings. Considering its low price and its economy in operation it is particularly suitable for the requirements of the farmer and small machine shop and garage owner.

Send coupon to our nearest office and we will be glad to send you full particulars about the "F" Power and Light Plant.

Agents Wanted

in every district to handle this biggest and easiest selling proposition and give owners the kind of service which has built the reputation of this Company.

Made in Toronto, Canada, and guaranteed by

The Canadian Fairbanks-Morse Co. Limited

ST. JOHN QUEBEC MONTREAL OTTAWA TORONTO
HAMILTON WINDSOR WINNIPEG REGINA SASKATOON
CALGARY VANCOUVER
VICTORIA

FAIRBANKS-MORSE QUALITY F M 100%

DEALER'S COUPON

Mail this coupon with your letterhead to our nearest branch for full particulars of Fairbanks-Morse "F" Power and Light Plant Agency.

Name.....

Address.....

62 M. F.

USER'S COUPON

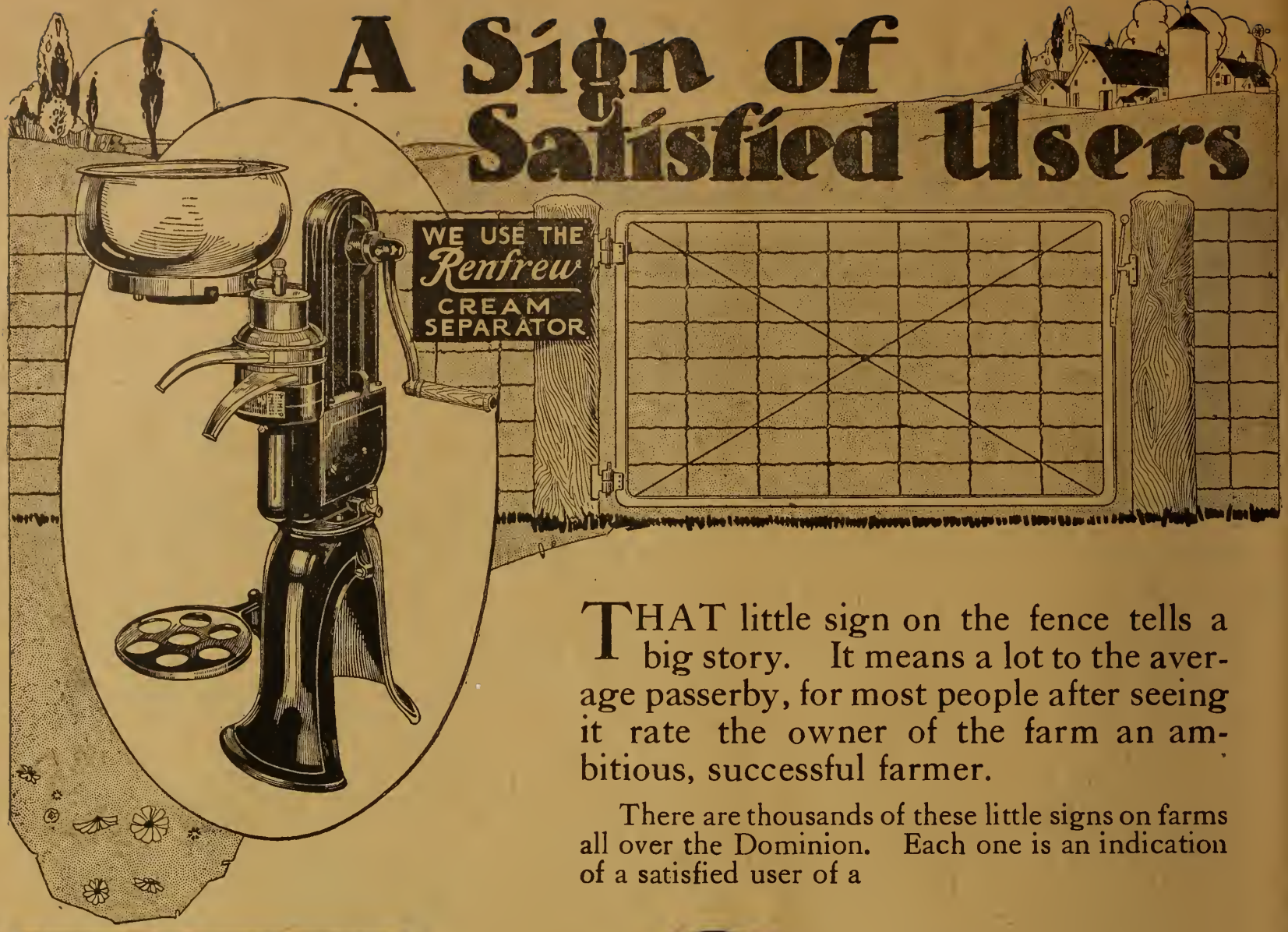
The Canadian Fairbanks-Morse Co. Limited
Please send me Catalogue of Fairbanks-Morse "F" Power and Light Plant.

Name.....

Address.....

62 M. F.

A Sign of Satisfied Users



THAT little sign on the fence tells a big story. It means a lot to the average passerby, for most people after seeing it rate the owner of the farm an ambitious, successful farmer.

There are thousands of these little signs on farms all over the Dominion. Each one is an indication of a satisfied user of a

Handsome Compliments From Some of Our Busy Agents

—"Will say I formerly sold the —— Separator, but changed to the Renfrew on account of the general absolute satisfaction that it gives to the user."

—"We have not had a single complaint of any kind on any Renfrew Separator, and believe them to be easily cared for and sanitary."

—"Three farmers I sold Renfrews to six years ago volunteered the statement that their machines are running just as easy and skimming just as close as when they bought them. In their opinion they couldn't wear out as they had not spent a cent on them except for rubber rings in all that time.—"

—"We have sold over 200 Renfrews, and have our *first* dissatisfied customer to find.—"

—"We have had some of your machines out for seven years. They have never required repairs and are skimming to-day down to .01 per cent.—just as close as when they started. We have never had any dissatisfaction, and *know there is no better separator made.*—"

(Names and addresses on request.)

Renfrew

CREAM SEPARATOR

—The Separator that on Government Dairy School tests gets 99.99 per cent. of the butter fat.

It is the separator with the interchangeable capacity. Renfrew owners are never worried about increasing their capacity. They simply order a bowl of the size they will need—450, 650, 800 or 1,000 lbs.—with attachments. We make an allowance for return to us of the smaller equipment. The cost of making this change is very moderate.

All Renfrew machines have the same size of frame, which is strong enough for the largest capacity. Thus, a separator can be changed from 450 to 1,000 lbs. capacity without increasing the strain on the machine.

It is the only separator having the perfected curved wing centre-piece that distributes milk to discs without whipping. That means *solid, better-priced butter.*

The anti-splash milk-can prevents milk splashing out on the floor, and is at a convenient low height for pouring in milk.

All working parts are enclosed in oil-tight, dust-proof housings. The Renfrew is self-oiling, and requires re-oiling only four times a year. The crank is just at the right height for comfort.

The Renfrew Cream Separator, built in Canada by Canadian workmen, and manufactured with Canadian capital—owing to its solid construction, lasts a lifetime, and costs next to nothing in repairs or replacement of parts. Renfrew users estimate that the Renfrew is a 33⅓ per cent. better investment than an ordinary separator.

Write for our catalogue and Dairy School tests of the Renfrew.

The Renfrew Machinery Co., Limited

Head Office and Works, Renfrew, Ont.

Branches: Montreal, P.Q., Sussex, N.B., Milwaukee, U.S.A.

Other Lines: Renfrew Handy Two-Wheel Truck Scale, Happy Farmer Tractor, Renfrew Oil Engine

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTESED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 25. SUSSEX, NEW BRUNSWICK, MARCH 30, 1920. Number 13.

Your Money ! No Matter How Sordid

George F. Chipman Editor of the Grain Growers' Guide Enunciates a Policy Far More Rotten Than Has Been--Farmers Proposed Victims--The Guide the Beneficiary

Recent issues of the Grain Growers' Guide, the parent of the United Farmers' Guide, of Moncton, have been indulging in hysterics. The Guide alleges that it has been systematically deprived of the advertising of Canadian manufacturers, whom it divides into two groups, the "sane manufacturers," meaning those who patronize the Guide, and the "Divine Right Protectionists," ill starred fellows, who do not pay money into the coffers of the paper.

It calls for a remedy. The suggestion is that no western farmer buy goods unless he sees them advertised in the Guide. Of course those advertised in that paper may cost them a few more dollars more or less, and at that he may get an inferior article, but he is not to worry over that. His reward is to lie in the knowledge that money is being paid into the treasury of the Guide, which in turn will pay Mr. Chipman's salary and according to that gentleman will be devoted to propaganda work among the farmers of Canada, and among other things, we suppose, help pay the salaries of the representatives of the Grain Growers of the west, who are at present busy in the Maritime Provinces working up an organization, which the Maritime Farmer again asserts will be used for the advantage of the grain grower. So at least the Guide is frank as to the source of the funds which it has been spending so lavishly in these parts. They have been supplied by the manufacturers of Canada, through the Guide's advertising columns.

Let its own words be taken down, as submitted by its editor, Mr. George F. Chipman, in its issue of February 25th. After quoting its revenue for the months of December and January it says:

"It will readily be seen that advertising revenue is necessary, in order to make the Grain Growers' Guide a successful publication, able to carry on its work in support of the policy of the organized farmers of Western Canada." You will note the **policy of the Orangized Farmers of Western Canada. Just what the Maritime Farmer has contended the Guide and its representatives have been doing. You see it speaks freely in the west for western consumption. .Its Monctno child will no doubt look after Eastern farmers under the skilled direction of the same Mr. Chipman.**

But the Guide does not propose to submit tamely to the treatment which it says has been handed out to it, and so it invites farmers to buy as suggested above and lays down these rules for their guidance, (March 17th issue):

1.—Make it a practice when reading The Guide to inspect the advertising pages also, and see what announcements they contain of interest to you.

2.—When you are buying any advertised products as far as possible buy those advertised in The Guide.

3.—When you answer an advertisement say that you saw it in The Grain Growers' Guide.

4.—When you wish to purchase some advertised product that is not advertised in The Guide write a letter to the firm and point out the value of The Guide as an advertising medium and the reason why you support The Guide advertisers. Tell your local dealer the same.

5.—If you find any advertiser in The Guide who fails to give a square deal notify The Guide immediately, giving all the facts.

These rules will maintain the organized farmers in their present position where their own paper can always be free to fight their battles without fear or favor. It will also enable The Guide to publish more frequently than once a week.

It is the purpose of The Guide to publish an up-to-date list of its advertisers from time to time for the assistance of its readers.

Note.—This list of advertisers on this page is made up to include only the issue of March 10. There are some advertisers in this issue not on the list. These will be included in the next list.

That Apparently is an Innocent Suggestion. Let us Examine it

In the first place these "Divine Righters" to which the Guide refers are men who are engaged in manufacturing in this country. They have been denounced, time and again by the Grain Growers Guide, as debauchers of legislatures, raisers of corruption funds, robbers of the farmers, men who have injured Canada and particularly the rural sections of it, indeed, they are, according to the Grain Growers' Guide a hard lot and if half be true that the paper has said of them, this land should invest in a few more penitentiaries.

But that is not all. Where the Grai nGrowers Guide leaves off Hon. Mr. Crerar and the Canadian Council of Agriculture, whose mouthpiece the Guide is, takes up the story. Here is what the New National Policy says of these alleged desperadoes:

It declares that trusts, combines and "gentlemen's agreements" are fostered in almost every line of Canadian industrial enterprise, by means of which the people of Canada—both urban and rural—have been shamefully exploited through the elimination of competition, the ruination of many of our smaller industries and the advancement of prices on practically all manufactured goods to the full extent permitted by the tariff.

And then it declares that three dollars pass into the pockets of manufacturers to every one that goes into the Canadian treasury, making the poor, poorer and the rich richer. ...

Further it says that the protective taic (and consequently the manufacturers) have been the chief corrupting influence in our National life, refers to their unjust privileges and declares that public morality has been lowered by those who have been protected by the tariff.

We want our readers to carefully note these statements as made by the Guide and the Council of Agriculture, in order that they may better grasp the proposition enunciated my Mr. George F. Chipman, editor of The Grain Growers' Guide, and the self-professed Moses, who is to lead the farmers of this country out of the wilderness of tribulation and oppression.

One would suppose that a person, breathing the lofty sentiments of the editor of the Grain Growers' Guide, and feeling that money had been wrung from the farmers of this country by such diabolical methods as described herein, would have once closed his advertising columns to these robbers of the farmer, those corruptes of legislators and lowerers of publice moality. But not so. **Not only did The Grain Growers' Guide refrain from protecting its readers from what it claimed to be persons of very doubtful probity, but as we have pointed out, It has insisted that these alleged waylayers of farmers return at once their advertisements to the columns of The Guide, in order to attract new victims from among its readers and thus put a few more three dollar bills into pockets of which The Guide professes to think so ill.**

The ethics of Mr. Chipman's suggestions rather impress their rottenness on one the longer one thinks them over. Says The Guide in effect: "Here are men who have corrupted their country, but we need their money and we want it. And we want you, Mr. Farmer, to help us get it. The Guide has established a paper in the Maritime Provinces, and we must pay for it. If we do not have advertising we can't pay, unless possibly we take our own money. So if you will follow our advice, we will soon bring those corrupters of legisaltures and the common people, and enemies of their country to time. We will advise you when these robbers of the farmer relent and advertise with us. When they do this we will recommend that you buy from them. **Remember The Guide needs the money and for that reason we ask you to overlook all the charges we have ever made against these people, disregard their reputation for crooked dealing, their extortionate charges and their shoddy product. Only remember that they are friends of The Guide and waste your money in the cause."**

What can be the mentality of a man who puts that sort of thing over and expects sane farmers to swallow it? Is that the sort of economics that the Canadian Council of Agriculture proposes to apply to Canada? The Maritime Farmer **invites every farmer in this country to sit down quietly and calmly and ask himself just what he would do provided his neighbor asked him to trade horses on the same basis.**

Apart from the purely economic murders committed by this Mr. Chipman, we doubt if ever any Canadian has suggested a more devilish immorality than this. There was a day when churches accepted money from the rumseller and the brothel keeper and eased their consciences a bit by declaring "that while the sources were polluted, the end justifies the means." But that sort of thing would not down, and public opinion long since made the acceptance of such donations impossible. And it was farmers and farmers' wives who brought the pressure to bear which put an end to this unseemly practise of compounding felonies with the Devil.

But how parallel are the suggestions of Mr. Chipman. Here is a man who professes to be the beacon of the farmers of this country. He prattles sophistries by the score and and the hundred. Yet he not only declares that it is right to accept money from men whom he accuses of the most serious crimes that could be recorded against them, but he resorts to blackmail to force these hush monies into his coffers and actually invites the farmers of this country to join him in extorting money which Mr. Chipman and his associates declare has been used again and again to the detriment of the interests of the farmers of this country and to threaten the very national life of Canada. Where the churches long ago decided not to tread, Mr. Chipman invites the farmers of western Canada to enter and assist him in his shameful and horrible proposal.

The Maritime Farmer had hoped that the great war would result in better things, so far as the public life of this country is concerned. Thousands of men and women prayed that such might be. In order to win for the world something higher and better than "might is right" and "the end justifies the means," thousands

(Continued on page 510)

Report of Superintendent of Agr. Societies for N. B.

To the Hon. J. F. Tweeddale,
Minister of Agriculture.

Sir:

I have the honor to submit my report as Superintendent of Agricultural Societies for the fiscal year ending October 31st, 1919.

The Societies

Grants were issued in 1919 to one hundred and fifty-three Agricultural Societies. This number includes, with one exception, the one hundred and fifty-one Societies that reported in 1918 and three new Societies organized during the year.

New Horton Society, No. 57, in Albert County, failed to report satisfactorily in 1918 and consequently did not participate in the 1919 grant. This Society is preparing to again qualify in 1920.

The new Societies organized are:

No. 184, Upper Magaguadavic, York County;

No. 185, Tracey Station, Sunbury County;

No. 186, St. Norbert, Kent County.

The total number of members reported is ten thousand two hundred and eighty-one, paying an aggregate of $14,285.00 as membership fees into the treasuries of their respective Societies. Westmorland County is the banner county in point of number of members and in total membership fees collected. It leads its closest competitor by 209 members and $508.50 in fees.

The Grants

One-half of the expenses of delegates attending the Annual Meeting of the New Brunswick Farmers' and Dairymen's Association in 1918 amounted to $1105.64. This was the first call on the $19,000 appropriation for Agricultural Society Grants. The balance $17894.36 was apportioned according to regulations and figured out at the rate of $58.50 per Society plus $0.6261 per dollar subscribed.

The above table shows an increase since 1916 of twenty-eight new Societies, 2140 members and $3059.42 in membership fees collected. This increase necessitates a reduction in the grants issued to each Society, as will be seen in this table.

It is therefore absolutely necessary that the total government appropriation be materially increased in order that the efficiency of the Societies may be maintained.

Reports show that the officials of the various Societies are working for an increased membership and several new Societies are being organized.

Among the Societies

Monthly Meetings.—I am pleased to report that the plan of holding monthly meetings is meeting with general approval. Societies that adopted this plan as a war-time emergency feature in 1917, as well as the Societies that have followed this practice for a longer period, are continuing this desirable system. These Societies find their members take a keener interest in the affairs of their organization and their community than was their wont before regular monthly meetings were held. The Societies find that in this way they can keep in closer touch with the local and Federal Departments of Agriculture and the various lines of work that is being conducted in their behalf by the respective Divisions of these departments.

The Block System—During the year, I visited a large number of the Societies. In cases where monthly meetings were held, I received the assuranec that the plan would be continued. In every Society visited, where heretofore monthly meetings were not held, the plan was adopted. In order to facilitate the work of visitation and reduce to the minimum the expense of such visitation by any member of the Staff of your Department, I inaugurated a plan whereby five or six adjoining Societies agree to hold their meetings on consecutive evenings. In this way a member of your Staff may visit and deliver his message to one society after another in a county, without the waste of time and money that obtains where a "block system" of this kind is not in operation. This system has the added advantage, that it eliminates the necessity for calling special meetings only when absolutely necessary. The officials and members of the Societies are quick to recognize the merits and efficiency of this "block system" and I have found every evidence of a willingness to co-operate in putting it into effect.

Reconstruction.—In this period of reconstruction there must be considerable of work done along reorganization lines in Simplicity, Sincerity and Service. The holding of monthly meetings on stated evenings simplifies the work of the officers, the members and officials are more sincere in their respective spheres of duty, and the Society as a whole renders more efficient service to its members in particular and the community in general. All governments, all classes and all creeds recognize the necessity for reconstruction and readjustment as post war measures. As the Agricultural Societies were the channels through which the governments kept in touch with and encouraged the masses of producers in the dark days of war, so must the Agricultural Societies continue to be weapons for Constructive work along Agricultural lines in time of peace.

Leadership.—Our societies have passed through strenuous times. There are still strenuous times ahead if we are to reconstruct on a safe and sane foundation that the storms and floods of radicalism cannot destroy. Much responsibility rests upon the officers of our Agricultural Societies. Each and every member has a wonderful opportunity for the development of all that goes to make a greater New Brunswick. Many of our farm boys are back home again with a renewed interest in leadership, and it is pleasing to note the interest they are taking in community affairs. They recognize that their Agricultural Society is a unit in the Province as a whole, and as the units advance, so advances the Province. Every action of a Society should tend to the effect that each tomorrow finds us further than today. If this feature is to be kept in the foreground, every Society in the Province of New Brunswick will have to be a progressive one, with every one in it a live member.

Every progressive Society must have live, progressive leadership. The world is crying for efficient leadership and that idea of qualified leadership applies with particular force at this time of reconstruction to all the officers of our Agricultural organizations. All personal and other considerations are being set aside and none but active, enthusiastic, level headed workers are being considered in making choice.

It may be that in carrying on lines of progress in a community the interests of a few people may receive a jolt. "The greatest good to the greatest number" must rule in matters of this kind. The society that does not give a jolt of this kind once in a while is not doing much.

I find a growing tendency on the part of the members of Agricultural Societies to encourage the younger men to take the more active offices. Some of the older members have done nobly and well in the past, and their sage council may well be relied upon by the younger men who are now taking over the leadership. I have visited many societies during the year where the old adage "Old men for council and young men for war" is being admirably put into effect. Leadership is an honorable position, but the honor of the position does not count. It is only the willing, efficient worker that counts.

The Accounts

The Accounts for the most part were submitted in a satisfactory manner. I wish, however, to here state that Societies that were somewhat slow in submitting their accounts this year, may find the lines drawn just a little tighter in 1920. Consequently, they will be well advised to mail their reports to this office not later than December 10th. Delays are unnecessary, annoying and wasteful of valuable time, which might be used to good advantage in promoting Agricultural Society efficiency.

The Membership Lists

There is no longer any excuse for withholding reports until the membership fees are all collected. With your permission, Sir, the time for completing the membership lists have been extended to May 1st. This affords the officials of each Society every opportunity to get as large and complete a paid up membership list as possible. This concession was particularly needed in sections where many of the members are employed in the lumber woods during the Fall and Winter months. A paid in advance member-

Year	Number Society	No. Members	Membership Fees	Grant	How Apportioned Per Society	Per $ Subscribed	Remarks
1909	76	5685	$8282.50	$9578.23	$63.50	.61	
1910	87	6447	8573.18	12455.00	68.00	.72	Exps. Del. + N.B.F. & D.A.
1911	97	6749	8482.00	12700.00	67.00	.75	"
1912	104	6905	9140.00	13947.00	53.00	.71	"
1913	106	6911	9131.92	16000.00	72.00	.84	"
1914	112	7106	8914.50	16450.00	71.00	.87	"
1915	115	7127	9299.00	16875.00	71.00	.87	"
1916	125	8141	9662.25	17000.00	66.00	.80	"
1917	136	8508	11225.58	18000.00	63.35	.77	"
1918	151	9873	13250.00	19000.00	60.10	.685	"
1919	153	10281	14285.00	19000.00	58.50	.6261	"

Report of Nova Scotia Cheese Factories and Creameries From

County	Reg. No.	Cheese Factory or Creamery	Prop., Pres., or Sec'y.	Mgr. Cheese or Butter maker	P. O. Address	No. Patrons	Total lbs. Milk Recd.	Total lbs. Cream Recd.
Annapolis	1	Lawrencetown C. & B. Co. Ltd.	J. B. Jefferson	A. W. Clarke	Lawrencetown	110		160,000
Antigonish	2	South River Creamery Co. Ltd	J. A. McKinnon	Robt. Cousins	Loch Katrine	150		150,414
"	3	Milburn Creamery Co. Ltd.	J. A. McDonald	J. A. McNeil	Malignant Cove	166		135,076
"	23	Antigonish Dairy Co. Ltd.	J. R. Thompson	J. E. Falt	Antigonish	230	27,141	317,965
"	24	Intercolonial Creamery Co. Ltd.	Edward Deon	Alex. Cameron	South River Sta.	290	26,166	237,700
Colchester	4	Brookfield Creamery	R. B. McLennan	W. L. Brenton	Brookfield	159	204,172	486,547
"		Crystal Spring Creamery	T. D. Blaikie	Earle Weir	Little Bass River	48		60,495
"	7	Great Village Creamery	T. D. Blaikie	Fred Murray	Great Village	90	46,891	286,663
Cumberland	8	Cumberland Co-Operative Creamery Co. Ltd.	W. A. Landels	R. L. Rutherford	River Hebert	145		263,349
"	20	Malagash C. & B. Co. Ltd.	W. A. McKenzie	Fred Myers	Malagash, R. R. 1	35	504,923	
"		Biden's Limited	H. D. Biden	H. M. Aitken	Amherst	185		270,000
Digby	9	Clare Creamery Co. Ltd.	S. C Deveau	L. C. LeBlanc	Meteghan River	80		46,796
"	10	LaSociete d'Industrie Laitiere Meteghan Ltd.	Louis L. Robichaud	Andre Robichaud	Meteghan	75	320,164	
Halifax		Model Creamery	H. A. Beck	Edw. L. Blaikie	Md. Musquodoboit	213		362,220
Hants	11	Bayview Creamery Co. Ltd.	A. M. Anthony	J. D. Neil	Selma	165		305,000
Inverness	22	Margaree Creamery	N. S. Dept. Agri.	H. A. McDonald	Margaree Forks	216		162,333
Kings	13	Acadia Dairy Ltd.	C. R. H. Starr	A. M. Wheaton	Wolfville	325		635,000
"	15	Fairview Creamery	Illsley Bros	F. A. Illsley	Berwick	40		
Lunenburg	12	LaHave Creamery Co. Ltd.	C. R. DeLong	J. D. McKenzie	Bridgewater	550		666,249½
Pictou	16	Scotsburn Creamery Co. Ltd.	J. G. Proudfoot	Robt. Stewart	Scotsburn	700		1,248,367
"	17	Pictou Co. Dairy Co. Ltd.	Daniel McDonald	Harold Falconer	Stellarton	248		348,593
Victoria	18	Baddeck Creamery	N. S. Dept. Agri.	G. W. Parker	Baddeck	155		184,903
Yarmouth	19	Yarmouth Creamery Co.	Lewis Chipman K.C	F. E. Porter	Dayton	400		711,079
						4775	1,129,457	6,988,749½

ship is the only kind of membership that counts in apportioning the grants.

What the Secretaries Reports Show

Live Stock Improvement.—A perusal of the reports submitted by the Secretaries of the various Societies show that exceptionally good results are being obtained in the improvement of livestock, through the introduction of good pure bred sires. This is made possible by the monetary assistance given by the Department of Agriculture through the channels of grants and bonuses. One of the most promising features along the lines of stock improvement is the fact that no longer are our Societies content to purchase a pure bred sire, just because he has a recorded pedigree, but because his ancestry show merits along production lines, that gives the buyers a reasonable assurance that he will be prepotent enough to transmit to his get the qualities of improvement that the progressive breeders and feeders seek.

The pure bred scrub no longer has a place in the machinery of our Agricultural Societies. Breeders who have animals of this description for sale will have to look elsewhere for a market. In this connection permit me to say, sir, that the inspection system inaugurated by your department in regard to the purchase of bulls has been the means of frustrating unscrupulous breeders and dealers in palming off pure bred scrubs on a credulous populace.

Not a few Societies complain that their efforts to breed up are being frustrated by the prevalence of scrub bulls, running at large. It is true that there is an act governing such matters, but it is claimed that as the Act reads at present, it resolves itself down to a question between neighbor and neighbor. Consequently many farmers who would be progressive have to suffer in silence rather than run the risk of creating ill feeling in their community.

The scrub bull is a menace to the dairy industry. He is more responsible for the high cost of producing milk than any other factor. He is a disgrace to the farm upon which he is maintained and reflects upon the integrity and good intentions of the community in which he is allowed to live and stamp his worthlessness.

Breeders of pure bred cattle and others interested in grading up their herds cannot maintain a standard of value of production, of quality or of dairy farm operation so long as the scrub bull helps to make up the average of those used for breeding purposes.

The pure-bred sire and his allies good feeding and careful selection are the salvation of the man with a herd of poor producing cows. Recognizing this, it is a pleasure to note in many of the reports such expression as "We have the scrub bull on the run." More power to such societies. Of them, the latter portion of the following adage can truly be said: "Some people get results if kindly encouraged, but give me the man who can do things in spite of hell." May their example be followed by many other districts until the very last scrub bull is so curtailed that he can no longer be a public menace. The men who are breeding the highest types of live stock are the men who are doing the best work for their country and themselves. The scrub bull should not be allowed to retard their progress.

Several societies report the adoption of progressive measures re the care of their pure bred sires. This much needed improvement is being largely brought about by the timely advice of the various Agricultural Representatives, who are doing splendid work by getting in close touch with the rank and file of our farmers.

Potato Blight

The prevalence of Potato Blight and consequent rot is referred to in at least ninety-five per cent of the reports, with losses estimated at from 25 per cent to 60 per cent. of the entire crop. This shows how wide spread was the devastation and the urgent necessity for a full and free educational campaign re potato spraying.

During the season, 1919, I organized and attended, with your assent, a number of spraying meetings in the Counties of Sunbury, Carleton, and Victoria which were addressed by Mr. George E. Sanders of the Dominion Entomological Laboratory, Annapolis Royal, N. S. Mr. Sanders is one of the foremost authorities in Canada on the subject of sprays and spraying—a born investigator who has been the means of saving thousands of dollars for the fruit and potato growers of the Maritime Provinces by his timely investigations and advice. His meetings in this province evoked keen interest, even among men who had been spraying for many years, and will undoubtedly mean a more wide spread and more efficient campaign against Potato Blight and injurious insects in 1920.

Mr. Sanders has agreed to come to New Brunswick to attend the 1920 Annual meeting of the Farmers and Dairymen's Association and to help stage some spraying propaganda in cooperation with the Agricultural Societies this coming season.

Ground Lime Stone

The reports also show that the Department's campaign for a more general use of Ground Limestone is bearing fruit. The whole province seems to be looking forward with hopeful expectancy for a great impetus to agriculture through the extensive use of this commodity as soon as it is available at prices within reach of the average farmer. Many instances of the very splendid results that have been obtained by the use of ground lime stone are quoted. The accounts show that despite the fairly high prices and prevailing high freight rates, large quantities of lime were purchased cooperatively and used by members of Agricultural Societies in 1919. There is probably no other matter in regard to which I have received more inquiries, both through the mail and while attending meetings, than in regard to lime and its use in agriculture and where supplies may be procured.

Quite a few farmers have already benefited very materially by the advice given by Mr. E. M. Taylor, while employed by your department, in making a soil survey in the province. His findings, where communicated to the land owners and where suggested remedies were followed out, have in every case proved beneficial.

The outcome of your representations to the railway authorities re the procuring of a cheaper rate for transporting ground lime stone is being eagerly watched. The proposal to erect a large central plant for the grinding of lime stone is meeting with general approval, as with cheaper freight rates in sight and the sale of the product ex mill at a figure not much in excess of the cost of production, it is felt that this is one of the best moves in the interest of increased production that was ever attempted in this province.

Several farmers in the county of Albert are planning to install a small plant for the grinding of their own requirements. Mr. Frank Edwards, Lower Millstream, has also installed a small plant for lime stone pulverizing.

Co-Operation

The co-operation purchase of fertilizer ingredients by Societies through the agency of the New Brunswick Agricultural Societies United, is still gaining well deserved popularity and proving a boon in results as well as in a financial saving to the participants.

The co-operative purchase of millfeeds and farm seeds is also gaining ground and here too the results are most encouraging.

The discussions at the monthly meetings are the means of getting the disinterested changed to the interested class.

Several localities report the purchase of good fanning mills, and a greater attention to seed grading and the treatment of seed grain for smut and seed potatoes for scab prior to the seeding operations. Several other districts report the purchase of dipping tanks to enable them to better care for their sheep flocks. One or two Societies report the purchase of a spraying outfit. In these latter features, I can see the footprints of my co-laborers, Mr. Hicks of the Soils and Crops Division, Mr. Walsh of the Live Stock Division and Mr. Turney, Provincial Horticulturist.

As a free lance among the Societies, I have many opportunities to hear very commendatory remarks re the splendid work that is being done, Sir, by your Department and its ever willing staff of efficient workers.

The Seed Fairs

A Provincial Seed Fair was held at Fredericton and County Seed Fairs were held at Florenceville, Perth, St. Hilaire, Bathurst, Chatham, Rexton, Port Elgin, Sussex and Fredericton. These county fairs are generally held under the auspices of some local Agricultural Societies, and as such come under the jurisdiction of my Division. The Seed Fairs as a rule were well attended and the exhibits were for the most part quite creditable. The seed Fairs are doing a considerable lot of good, both as educational features and as incentives to excel in the growing and selection of Seed.

The Fall Fairs and Exhibitions

Inter-provincial exhibitions were held during the months of September and October at Woodstock, St. Stephen, Fredericton and Chatham, all of which, Sir, received generous grants from your Department. The grants given for exhibition purposes are monies well spent. These grants make it possible for the general rank and file of our farmers and their boys, who do not have a great deal of spare time or cash for travel to see at their nearest exhibition such magnificent ideals in live stock lines as was exhibited by Snowball, the Hardings, the Dickeys, the Kings, the McIntyres, Goodwin, the Lairds, the Boswells and many other prominent breeders, not excepting the good showing in the Swine and Poultry classes by the Boys Pig Clubs and the Boys and Girls Poultry Clubs, organized by the Livestock and Poultry Divisions of your Department.

Port Elgin, St. John and Centreville held County Fairs to which you awarded some financial assistance.

Not a few agricultural societies held fairs, the prizes for which were paid out of the funds of the respective societies holding the fairs, augmented by donations from public spirited citizens.

I have attended the district fairs where the stock was being brought in at a late hour in the forenoon, and at 4 p. m. the cattle were being driven out of the gates. No time was given for visitors to examine carefully the prize winners. The whole show savored of an effort to secure the prize money and get home as quickly as possible. Officials of such fairs will be well advised to offset this tendency as their funds could be used to better adavntage along other lines of endeavor.

Agricultural Society No. 41, Woodstock, has erected during the year, one of the finest exhibition plants east of Toronto and which for location and arrangement cannot be excelled. The citizens of Woodstock responded nobly and well and the efforts they have made to erect and equip such a splendid plant deserves the hearty co-operation of every farmer in the prosperous and progressive county of Carleton.

Agricultural Society No. 88, St. Stephen, in the County of Charlotte, deserves special commendation for the progress there made in exhibition matters. This plucky organization carries on annually whether assisted by Government grants or not and as a rule, given fair weather, comes out with a balance on the right side of the ledger.

The Field Crop Competitions

Field Crop Competitions were held as in the preceding years. A full statement of the scores and awards will be found on other pages of this report. The sum of $75.00 for prizes on each of four crops, wheat, oats, potatoes and turnips was available for each oCunty in the Province. These monies were awarded in proportion to the scores made. Each and every field scoring 80 points or over participated in the awards. The amount of money available for any crop in a county was governed by a sliding scale of entries as follows: 5 entries $20.00, 6 to 10 entries $40.00, 11 to 15 entries $60.00, over 15 entries $75.00. The required acreage was wheat, 1 acre; oats, 2 acres; potatoes, 1 acre; turnips, 1 acre.

Of these crops the latter does not come under the ruling of the Seed Division, Ottawa, and consequently it is only on the other three crops, that we receive the Federal subvention. The competition in turnip growing is financed entirely by Provincial funds. This competition tends to produce a greater tonnage per acre and thus helps very materially the feed situation which is such an important ally in live stock development. Field Crops Competitions in the case of grains and potatoes have not been or-

(Continued on page 513)

Dec. 1st, 1918 to Nov. 30th, 1919

Total lbs. Cheese made	Total lbs. Butter made	Qts. Ice C. sold	Qts. Sweet C. sold	Valu of Bus. done	Spent in Improvements
	47,000			26,320.00	
	52,010			30,687.60	
	39,732			18,400.00	66.00
	73,209		32,433	57,081.22	260.00
	74,431			48,064.03	1,000.00
	87,642	742	133,321	106,335.27	2,745.00
	21,124			11,318.00	120.00
	57,856		31,630	45,869.47	2,540.00
	79,849		1,962	45,461.76	200.00
47,360				13,055.73	265.00
	40,000			24,000.00	2,000.00
	15,301			7,180.00	
	17,993		94	9,955.36	150.00
	130,172			77,935.58	1,680.00
	101,359			55,000.00	1,500.00
	52,977			28,604.55	105.32
	155,000	2,000	6,000	87,250.00	1,600.00
	20,000			11,000.00	1,000.00
	198,287	51,384	1,711	126,965.70	
	446,171			243,235.18	1,617.00
	113,443		3,080	75,729.31	
	59,443		208	32,973.74	121.00
	210,805½		9,962	121,164.53	1,500.00
47,360	2,093,804½	54,126	220,392	1,303,587.03	18,469.32

Notes From the Nova Scotia Agricultural College

FIRST NOVA SCOTIA EGG LAYING CONTEST

An interim report, summarizing the results of the First Nova Scotia Egg-Laying Contest, from November 1st to March 20th, gives some interesting facts. It will be borne in mind that the average Nova Scotia hen, according to the last census, lays 80 eggs per year. The average production per hen in the pen which holds the record in this Contest to date is 84.4 for less than five months. This period, with the general poultry flock is the most barren of the year. January and February of this year were unusually severe months, and egg production over the country generally was very light. To birds in the contest reached the hundred mark, in fact, went slightly over it.

We are not pretending to predict what results will be shown during the remaining months, but it is safe to say that there is good prospect of at least doubling the average egg production of the country in the majority of the pens in this contest.

Here is another illustration of what can be done with good breeding, good feeding, good housing and some care. The value of eggs now produced in Nova Scotia probably runs up to $2,-500,000 per year. With the present hen population, which could very profitable be doubled, the income from eggs might easily be $4,000,000. The records of the contest up to date indicates that in the farm flock there is the same opportunity as in other agricultural activities for greatly increased profits.

The management at the College are to be congratulated on the success and promise of their undertaking. The records are the highest reached in any equal period of Egg Laying Contests so far held. The health of the birds has been excellent, only one dying up to March 20th. The following paragraph picks up some of the outstanding points set forth on the accompanying sheet of figures.

Largest production by pens: Pen 27, 422 eggs; pen 3, 331 eggs; pen 18, 314 eggs; pen 25, 293 eggs; pen 21, 278 eggs; pen 5, 273 eggs; pen 17, 268 eggs; pen 29, 242 eggs; pen 8, 233 eggs; pen 9, 231 eggs.

Individual hen records are as follows: Hen No. 132, in pen 27, 103 eggs; hen No. 90, in pen 18, 101 eggs; hen No. 135, in pen 27, 92 eggs; hen No. 69, in pen 14, 85 eggs; hen No. 12, in pen 3, 82 eggs; hen No. 25, in pen 5, 81 eggs; hen No. 121, in pen 25, 81 eggs, hen No. 88, in pen 18, 80 eggs; hen No. 131, in pen 27, 79 eggs, and hen No. 5, in pen No. 1, 79 eggs.

In looking over the individual records it must be remembered that a large number of eggs are laid on the floors of the pens, and therefore can be credited only to the pen as a whole.

A PENNY WISE POLICY

The Dairymen's Association of Nova Scotia, New Brunswick and Prince Edward Island have unitedly asked the three Provinces to furnish a total sum of about $60,000 for the erection of a suitable Dairy Schoool. The reply of the authorities in all three is: "We cannot afford it." The question being asked, however, by the people is: "How long can be afford the present policy of starving one of our basic and vital industries?"

Here is a little story by way of illustration. Some five years ago a young farmer purchased for $25 a cow which had been condemned to the block by a neighbor. By virtue of reading, attending agricultural meetings, native shrewdness and industry he had picked up some of the great principles of progress in dairying. Applying these to this particular cow, not a very promising one, he got the following results:

Average milk production, 8,186 lbs. per year.

Average fat production, 334.7 lbs. per year.

Value of fat at 44.4c. per lb., $177.50 per year.

Compare this with the record of the average Nova Scotia cow.

Average milk production 3,500 lbs. per year.

Average fat production 140 lbs. per year.

Value of fat $69.16 per year.

A difference of $108.34 per year. The cow population of Nova Scotia is about 150,000. If the average production of these could be brought up by such superior methods as this man practiced, and there is no reason why it could not, it would mean a gain to Nova Scotia alone of $16,251,000 per year, and a gain of nearly three times this amount in the three Provinces.

A Dairy School, established on adequate lines, would go a long way to make popular such progressive measures, and, what the Dairymen's Associations are asking figures out at about one eighth of one per cent. of the loss sustained by this one Province through unprogressive methods on the part of the great majority. A parsimonious policy in matters of this kind is simply suicidal, and the time is at hand when the dairy interests will be compelled by whatever means are at hand to see that their rights are considered.

GORDON SHARP JUST INSINUATES

Woodstock, N. B., March 29, 1920
Mr. James D. McKenna,
Sussex, N. B.
Dear Mr. McKenna:—

Your letter of March 19, which was addressed to Pembroke, Ont., reached us today. In reply I wish to say that at the Farmers and Dairyman's Convention in Fredericton, I told the Convention of my knowledge of a fund which had been solicited from the Manufacturers throughout Canada, with which to fight the Farmers movement in Canada. The one soliciting this fund stated that it would be used principally for buying advertising space in the papers of Canada, particularly editorial space. I left the delegates to draw their own conclusions as to whether or not your paper was receiving any of this fund.

Why you have been making the statements which you have about the United Farmers movement, is not just clear to us. If you had wished to inform the Farmers of the Maritime Provinces of the true situation, you should have written the facts of the situation as they are, instead of the article which was a tissue of falsehoods. I think it will not be worth while spending my valuable time to write letters to your paper.

Sincerely,
The United Farmers of New Brunswick
Per (Sgd) C. Gordon Sharpe,
Secretary.

The columns of the Maritime Farmer are open to any New Brunswick resident, to discuss New Brunswick problems from the farm standpoint. Mr. Sharpe should screw up his courage a bit. The Maritime Farmer has not .“insinuated”, it has made statements, for which it is prepared to assume full responsibility. It's again up to Mr. Sharpe.

ANOTHER CHALLENGE FOR MR. SHARPE

April 3rd, 1920.

Gordon Sharpe, Esq.,
United Farmers,
Woodstock, N. B.
Dear Sir:—

Replying to yours of the 29th ult., I note your reply to my request for an explanation of your statement at Fredericton.

May I again ask that you do not leave anybody to infer what you are saying, but kindly make a definite statement concerning the matter of either myself or the Maritime Farmer accepting money for services to the Canadian Manufacturers. I again invite you to do so.

Apparently you are not only willing to lie to representatives of 10,000 New Brunswick farmers, but you are also willing to hide behind insinuations. As the organizer of the United Farmers of New Brunswick, don't you think this leaves you in a rather awkward and unenviable position? We again invite you to use the columns of the Maritime Farmer to substantiate anything you have to say against this paper.

If you will display a little more courage, we will be very glad to discuss the matter more fully with you.

Yours very truly,
Jas. D. McKenna.

JDM JAC.

PRIVATE CORPORATION OUTBIDS COLLEGE

Mr. J. G. Archibald, assistant chemist at the Agricultural College, has received and accepted an offer of a position as Agricultural Chemist with the International Nickel Co., near Sudbury, Ont. The salary is over $1,000 higher than that paid him at the College. Mr. Archibald is a son of the late Rev. W. P. Archibald, D.D., is a graduate of the N. S. A. C., and of the Ontario Agricultural College, Guelph. He has given splendid service during the four years of his employment with the N. S. Department of Agriculture, and it is with regret that he is being released. However, these are times when the private corporation seems to appreciate the services osf professionally trained men even more than the institutions at which they were trained. The best wishes of his colleagues accompany Mr. Archibald to his new sphere of work.

RESOLUTION AND PETITION

We, the undersigned students of the Short Course in Dairying appreciate the instruction received, but believe conditions might be greatly improved by adding some necessary improvements, which we would recommend as follows:

1st.—Larger building; we are too much hampered for room. One room should be devoted entirely to Butter Making, everything being stationary and ideal, and one room to Cheese Making and on convenient and well equipped room to Testing where all the different tests could be carried out, also a room where Ice Cream Making might be adopted. We would suggest that this be a Maritime School, operated and owned by the three provinces.

Signed: C. M. Cox, Neil J. McNeil, Henry P. Bourgeois, Earl Weir, Colin F. McLellan, Joseph J. Morrison, Dimock Davis, Stanley Moore, Willie Fraser, Wesley Matheson, J. Mac. Burgess, Windsor R. McNeil, C. E. Gamble, Neil McDonald, Baden P. Owen, William E. Wright, C. M. Johnson, F. E. Hicks, H. V. McPhee, F. J. Nause.

STUDENTS ATTENDING THE MARITIME DAIRY SCHOOL

Creamery Course

Wesley Mateson, Baddeck, N. S.; Fred E. Hicks, Wheaton Mills, N. B.; Dimock R. Davis, Petitcodiac, N. B.; George Thimins, Sussex, N. B.; Neil J. McNeil, Sydney, N. S.; J. Mac. Burgess, Crapaud, P. E. I.; F. J. Nause, Mahone, N. S.; C. M. Cox, Charlottetown, P. E. I.; Windsor McNeil, Cardigan, P. E. I.; Henry P. Bourgeois, Moncton, N. B.; Wm. Fraser, Antigonish, N. S.; John A. McNeil, Malignant Cove, N. S.; H. A. McDonald, Margaree Forks, N. S.; Wm. Wright, Truro, N. S.; Hope V. McPhee, West Gore, N. S.; Colin McLennan, South Harbor; Neil McDonald, O'Leary, P. E. I.; C. M. Johnson, Bedeque, P.E.I.; John L. Cameron, Lock Katrine, N.S.; Joseph Morrison, Launching, P. E. I.; Baden P. Owen, Scotsburn, N. S.; C. E. Gamble, Victoria, P. E. I.; Stanley Moore, Northam, P. E. I.; G. W. Parker, Baddeck, N. S.; R. L. Rutherford, River Hebert, N. S.; Earl Weir, Little Bass ,River, N. S.; R. T. Stewart Scotsburn, N. S.; J. D. McKenzie, Bridgewater, N. S.; H. D. Biden, Amherst, N. S.; Archie Brown, Corn Hill, N. B.

Cheesemakers Course

Neil J. McNeil, Sydney, N. S.; Stanley Moore, Northam, P. E. I.; Archie Brown, Corn Hill, N. B.; Fred E. Hicks, Wheaton Mills, N. S.; Victor Mason, Head of Millstream, N. B.; Wm. Wright, Truro, N. S.; C. M. Cox, Charlottetown, P. E. I.; Windsor McNeil, Cardigan, P. E. I.; J. C. Barrett, Belmon, Lot 16, P. E. I.

Milk Testers Course

F. J. Nause, Mahone, N. S.; John N. Beatty, Nash's Creek, N. B.; F. F. Fowlie, Little Branch, N. B.; E. R. Gourley, Stewiacke, N. S.; Robert Melanson, St. Paul, Kings Co., N. B.

NEW STOCK AT THE COLLEGE

Premier Fashion, a new Cyldesdale stallion, has recently arrived at the College, Truro. He is a son of Baron's Pride, one of the most famous Cyldesdale horses ever bred in Scotland. He is also related to this famous horse through his dam, so that he is as strong in Baron's Pride in blood as he can well be, and yet avoid all danger of inbreeding taint.

The new horse will be three years old in June. He is of magnificent build, and when fully grown will weigh a good ton. He should prove a very valuable addition to the heavy horse breeding stock of Nova Scotia.

NEW HOLSTEIN BULL

A new bull has recently been added to the College herd at Truro. He is 15 months old and a finely developed animal. His dam, Trenton Keyes Hermes, No. 46203, has a record as a three-year-old of 573 lbs. milk and of 30.09 lbs. butter, in a seven days' test. She is now in her fourth year, and will probably exceed this by a considerable amount.

TROPHY AT THE N. S. A. C.

A handsome silver shield on a mahogany backgrond adorns one of the pillars in the main hall of the College. The inscription is as follows:

CANADIAN AYRSHIRE BREEDERS ASSOCIATION

Sweepstake prize for the highest score over all breeds in the Dairy Test at the Maritime Winter Fair, Amherst, N. S.
won by
Gardum White Floss 45352
with 198.1 lbs. milk, 8.74 lbs. fat, scoring 270.97 pints.
Owned by Nova Scotia Agricultural College, Truro, N. S.

Gleanings of Agricultural Progress in New Brunswick

THE N. B. DEPARTMENT OF AGRICULTURE WILL ENCOURAGE STANDING FIELD CROP COMPETITIONS IN 1920

The subventions on account of Standing Field Crop Competitions to encourage seed production by bona-fide growers in the various counties of the province for the season 1920 are available under two forms:

A.—One for the small grower in which the area is limited to one or two acres of crop.

B.—The other adapted more especially to the large grower who will grow for sale a considerable quantity of his crop whether of potatoes, wheat, oats, barley, or clover.

A.—The minimum number of entries necessary to constitute a competition in any crop in a county shall be ten. No prize money will be awarded any contestant who does not not score as high as eighty-five points of a possible one hundred. The amount of prize money available for each crop will be seventy-five dollars to be divided into ten prizes. "To make an eligible entry a grower must give the name of the variety of any crop and the origin of the stock seed used. The seed must be practically pure and of a standard variety."

B.—The minimum number of entries necessary to constitute a combined seed crop and cleaned seed competition shall be fifteen.

The prizes will be based: 35 percent on the awards of the judge for the Standing Seed Crop, and sixty-five per cent on the awards of the judge of the Cleaned Seed; the latter to be judged either in the sack on the premises of the competitor, or at a warehouse or Seed Fair to which the growers bring the specified quantity of seed by March of the following year.

The seed will be officially graded in accordance with existing commercial standards by an officer of the Seed Branch, who will return his awards to the Provincial Department of Agriculture, which will determine the final awards and issue the prize money.

The awards on the Standing Crop will be based upon the scores given the fields by the Inspector, who will judge the crop from the standpoint of its suitability for seed purposes considering: purity of the variety, freedom from weeds, freedom from disease or insect injury, uniformity of maturity and probable yield.

To make an eligible entry a grower must give the name of the variety of any crop and the origin of the stock seed used. The seed must be practically pure and of a standard variety.

The minimum quantities of cleaned seed that competitors must be prepared to submit to the judges in order to qualify for awards are as follows:

Wheat, 150 bushels; Barley, 100 bushels; Oats, 200 bushels; Potatoes, 150 bushels; Clover, 15 bushels.

A detailed description of the various forms of assistance for Seed Fairs, Seed Exhibitions and Field Crop Competitions rendered by the Department of Agriculture, will be published in these columns and will also be mailed to the officers of all Agricultural Societies in the Province, so that the members can secure further information from the Secretary, or apply to the Department of Agriculture, Fredericton, N. B.

LARGE AMOUNT OF WOOL WIIL BE MARKETED COOPERATIVELY THIS YEAR

Last year 547 sheep raisers in New Brunswick sold 55,840 pounds of wool cooperatively. This wool was handled under the supervision of the New Brunswick Department of Agriculture, who acted as provincial agents for tbe Canadian Cooperative Wool Growers. This company is a co-operative company of wool growers and sheep men from all the provinces of the Dominion are shareholders. Last year over 4,000,000 pounds of wool was handled by this company.

Realizing the benefits derived from this progressive method of marketing wool, the New Brunswick Department of Agriculture are again supervising the work in connection with this co-operative marketing for 1920. The wool will be assembled and graded in the Exhibition Building, Fredericton. Large wool sacks, paper twine and special tags are supplied to those marketing their wool in this manner. To distribute these, the province is divided into four sections as follows:

Northumberland—Jas. Bremner, Jr., Agricultural Representative, Chatham.

Restigouche and Gloucester—J. K. King, Maritime Representative Sheep and Goat Division, 347 St. George St., Moncton, N. B.

Kent, Westmorland, Albert and Kings—J. H. King, Agricultural Representative, Moncton, N. B.

St. John, Charlotte, Queens, Sunbury, York, Carleton, Victoria and Madawaska—F. W. Walsh, Asst. Supt. for Livestock, Dept. Agriculture, Fredericton.

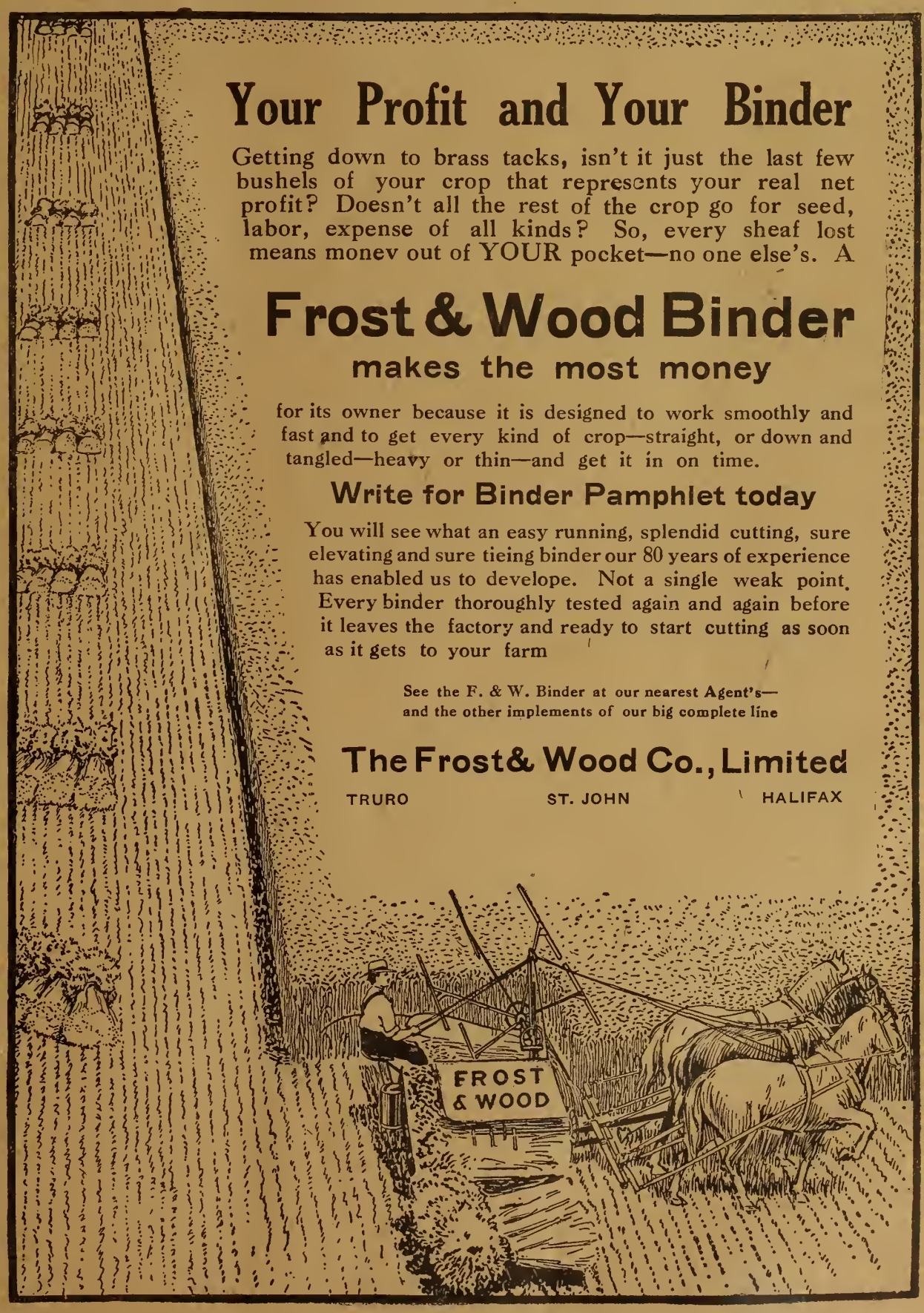
For further information sheep raisers should write to the officer in charge of his county.

LAYING CONTEST REPORTS

The Dominion Experimental Farms are conducting Laying Contests at six of their branch farms in the various provinces as well as at the Central Experimental Farm, Otawa. No contest is held in New Brunswick but breeders from this province have entered eight pens at the Experimental Farm, Nappan, N. S.

Contest began Nov. 1st, 1919. At the end of the 12th week (last summary available) the average production per pen at Nappan was greater than any other of the branch farms, its nearest competitor being Brandon, Man. It was, however, considerably lower than the average production at the Ottawa contest. But if the average of the eight New Bruns-

(Continued on page 511)



Your Profit and Your Binder

Getting down to brass tacks, isn't it just the last few bushels of your crop that represents your real net profit? Doesn't all the rest of the crop go for seed, labor, expense of all kinds? So, every sheaf lost means monev out of YOUR pocket—no one else's. A

Frost & Wood Binder

makes the most money

for its owner because it is designed to work smoothly and fast and to get every kind of crop—straight, or down and tangled—heavy or thin—and get it in on time.

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THE MARITIME FARMER

And Co-operative Dairyman
Registered Trade Mark
Fortnightly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

Subscription price $1.00 per year. This paper is sent to subscribers unless a definite order for discontinuance is given,

The date after your name on the little green label on front page, is in every case the time to which your subscription is paid.

OUR GUARANTEE—With each subscriber to the MARITIME FARMER, we positively guarantee, while his subscription lasts, that no advertisement is allowed in our columns unless we believe that any subscriber can safely do business with the advertiser, and we agree to make good any loss which any such subscriber may sustain by trusting any such advertiser who may prove to be a deliberate swindler; but we do not undertake to adjust trifling differences between subscribers and responsible advertisers. To take advantage of this guarantee, written complaint must be made to the publisher within one week from the date of any unsatisfactory transaction, with proof of the swindle and loss, and within one month from the date when the advertisement appeared, and the subscriber must prove that in writing to the advertiser he said:—"I saw" your adv. in the MARITIME FARMER.

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Sussex, N. B.

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RECEIPTS FOR FARMER SUBSCRIPTIONS

The Maritime Farmer, instead of giving you one receipt in the year for a paid subscription, sends you 24, or one every two weeks. You will find it on the GREEN COLORED LABEL on which your address appears. The date printed thereon is that on which your subscription terminates. If on payment of your subscription the date is not changed within two weeks, please notify us. No other receipt will be sent.

DATES OF ISSUE.

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June	8—22
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APRIL 13, 1920

SOAKING ONTARIO FARMERS

We have heard a good deal about what the United Farmers have been doing for the farmers of Ontario. If the instance which the Maritime Farmer cites herewith, is to be taken as a sample, there should be more said about what the United Farmer Co-operative Company of Toronto, is DOING TO THE FARMERS OF ONTARIO. The Farmers Sun, the official organ of the United Farmers of Ontario, in its March 13th issue, advertised seeds in behalf of the United Farmers' Coo-perative Company, Limited, 130 King Street East, Toronto. This so-called "co-operative" concern quoted the following prices on grass seeds:

No. 1 Red Clover	$47.00 per. bus.
No. 1. Alsike	41.00 per bus.
No. 2. Timothy	9.75 per bus.

The Maritime Farmer, acting for a number of Agricultural Societies and branches of the UNITED FARMERS of New Brunswick, bought all three classes of seeds and, after paying the freight from Toronto to Sussex, sold them to the organizations for these prices:

No. 1 Red Clover	$38.10 per bus.
No. 1 Alsike	33.90 per bus.
No. 2 Timothy	7.56 per bus.
No. 1 Timothy	8.56 per bus.

Just think what that means? We paid the freight from Toronto, reimbursed ourselves for the cost of handling the seeds and we sold clover, after paying $170 freight on a fifteen ton car, FOUR THOUSAND, FOUR HUNDRED AND FIFTY DOLLARS CHEAPER TO THE FARMERS OF THE MARITIME PROVINCES THAN CHARGED ONTARIO FAMERS BY THE UNITED FARMERS CO-OPERATIVE COMPANY, LIMITED, TORONTO. We sold Alsike clover just THREE THOUSAND FIVE HUNDRED AND FIFTY DOLLARS PER CAR CHEAPER THAN DID THIS PRETENDING FRIEND OF THE FAMER.. We sold No. 1 Timothy $1.35 per bushel cheaper than the United Farmers sold No. 2 seed in Toronto, AND MARK YOU, WE HAD TO PAY THE FREIGHT FROM TORONTO TO SUSSEX, and we sold No. 2 Timothy just THIRTEEN HUNDRED AND SIXTY-FIVE DOLLARS PER CAR LESS THAN THE UNITED FARMERS CO.OPERATIVE COMPANY of 130 King Street East, Toronto, undertook on March 13th last, to supply Ontario farmers with seed.

We ask the farmers of the Maritime Provinces what they think of this kind of co-operation? The Maritime Farmer publishes these facts, with the full knowledge that if they are not true the United Farmers Co-operative Company, Limited, of 130 King Street East, Toronto, may sue this paper for damages and recover. So you see, we are willing to back our opinions. We say that any concern professing to sell on a co-operative basis, and with far better facilities for buying than has the Maritime Farmer, who would charge an excess of four thousand four hundred and fifty dollars, plus freight from Toronto to Sussex, is so far departing from its professions of assiting the Ontario Farmer, that language fails this paper to express its opinion of those engaged in the game. If ever there was a concern caught red-handed in profiteering, surely it is the United Farmers Co-operative Company of Toronto. The Grain Growers have piled up a reserve of $2,500,000, which they took co-operatively from the farmers of the west. How long will it be before Ontario catches up, at the rate we have indicated.

Let us again repeat that never has a bigger fake been attempted in Canada than the present campaign which is being conducted among farmers. By that we do not mean the farmers themselves, but those self-appointed leaders who profess friendship and at the same time lose no opportunity to make big money out of their victims.

IS MANAGED AND BOOSTED FROM WINNIPEG

The statement made by the Maritime Farmer to the effect that the United Farmers' Guide is controlled, lock, stock and barrel in Winnipeg and that it will be run from there, is being more clearly established every day. Not only is the paper to be directed by Mr. George Chipman, but all literature calling for subscriptions, etc is being mailed from Winnipeg. Already the attention of the Maritime Farmer has been called to this by many farmers who have received requests for subscriptions. The new paper is intended to advance the interests of the grain growers. It is being financed by them for their own benefit and the idea is to tie up the farmers of the Maritime Provinces, so that there may be as little opposition as possible to any proposals which the west may from time to time advance. The interests of the farmers of the Maritime Provnces are not those of western Canada. There is little in common between the farm owners of the two sections. The idea is not to benefit the farmers of these provinces, but to win political control for men whose whole interests lie in the disposal of wheat, which sells on quite a different basis from the produce of our farms. All the denials possible will not down the charge of the Maritime Farmer, that the new journal is as it was intended to be, a paper to advocate western ideals.

KEEP RECORDS

It is not the keeping of records on the farm that counts. Their great value lies in reviewing these records to see what they mean and then in knowing how to apply their teachings. From farm records may be determined cost; they may indicate waste and lost motion; they may point out mistakes; they may tell the story of a man's management of his business, but if they are not interpreted, and if the lessons they may teach do not lead to imporvement of the man and his farm, then they have failed of their purpose.

SPEAK UP FOR YOUR INDUSTRY

The time is now here when it is the duty of every farmer to speak up for his interests and those of his industry. He must recognize leaders to be sure, but he must not permit these leaders to lead him astray. He must voice his convictions and refuse to follow blindly after those who may perhaps have selfish purposes in view. With farmers' organizations becoming more numerous it is especially important that farmers know and speak their own minds.

ED. NOTES

Flour is to be given another boost as a result of the recent increase in wheat prices to the wheat growers of Manitoba, Alberta and Saskatchewan (no other wheat growers were included.) And the Maritime Province farmers will get another dose of "no east, no west, but Canada for all." We notice, however, that the west is getting the money and the east is paying it.

* * * *

Just to show how much of an enemy it is to United Farmer organizations, the Maritime Farmer has been selling them seeds thousands of dollars per car less than the United Farmers' Co-operative Company, Limited, Toronto. May we ask in all seriousness which kind of friendship the rank and file of the United Farmers of New Brunswick want?

* * * *

The United Farmer movement is one apparently designed to see just how much money it can separate for its shareholders from the farmers of this country. A few thousand dollars on a car of seeds is a trifle. Is that the kind of co-operation the farmers of eastern Canada are looking for.

* * * *

It is up to the United Farmers' Co-operative Company of Toronto to defend its action in charging farmers of Ontario the prices quoted by it for grass seed in the Farmers' Sun, in its issue of March 13th, 1920. The best method of doing this is to enter action against the Maritime Farmer, and allow a jury of good, clean Kings County farmers, to say whether a profit of four thousand, four hundred and fifty dollars, plus freight from Toronto to Sussex, N. B., on one car of clover seed does not constitute something akin to highway robbery. Either that or the buyers of the U. F. O. must be dead ones or utterly incapable of buying for anybody.

* * * *

Those who wait until the last minute to order their seeds are going to wish they had followed the example of their more alert neighbors.

* * * *

The prosperity of the country depends upon the success of the farmer. From the farms come the food for the nations of the world. Those who till the soil and raise livestock have great responsibilities. Let them have every opportunity.

* * *

Did it ever occur to you that a good ad in your home paper would sell that calf, cow, or bull, or that unused machine, or those seed potatoes? It would. And you would not have to take time from your work to find a buyer. Try it.

Sheep Breeders Organize

New Brunswick Association Formed at Sussex, With Strong Executive---The Objects of the Association Set Forth

The New Brunswick Sheep Breeders Association was successfully launched at a meeting at Sussex, on Wednesday, March 31st. Burder Goodwin occupied the chair.

After fully discussing the need for such an organization the following constitution was adopted:

Constitution

This Association shall be known as "The New Brunswick Sheep Breeders' Association.

Objects.—The object of this Association shall be to encourage a general and constant improvement in sheep breeding and a better organization of breeders of sheep throughout the Province:

(1)—By co-operating with the Department of Agriculture.

(2)—By holding meetings to discuss matters of importance to the sheep industry of the Province.

(3)—By co-operating with the Exhibitions and Live Stock Associations and Societies to advance the interest of the sheep industry.

(4)—By holding or assisting to hold competitive exhibitions and educational meetings.

(5)—By contact with Market Intelligence and Market Specialists to keep sheep breeders in the Province posted on markets for sheep products and to facilitate marketing of these products to the best advantage.

Membership. — The membership shall consist of any resident of the Province of New Brunswick who is a sheep owner and upon application of membership fee which shall be fixed by the Directors of the New Brunswick Sheep Breeders' Association.

Revenue—From fees.

Meetings. — The annual meeting shall be held at such time and place as the Executive may decide.

Special meetings of the Association may be called by the Executive.

Representatives to Exhibition Associations, when such are to be appointed, shall be elected at the annual meeting. These representatives shall carry out such instructions as may be given by this Association.

No person, other than a member of this Association shall be entitled to vote or take part at any meeting of this Association.

Officers.—The following Directors shall be appointed at the Annual Meeting of the Association, one from each of the following districts:

One—Restigoche, Gloucester and Northumberland.

One—Kent and Westmorland.

One—Albert and Kings.

One—St. John, Queens, Sunbury and Charlotte.

One—York, Carleton, Victoria and Madawaska.

And two general Directors.

The President and Vice-President shall be elected at the annual meeting. An auditor or auditors shall be appoited for the current year by the Directors.

The Secretary-Treasurer shall be appointed from among the Directors of the Association and shall hold office for one year.

The Executive Committee shall be appointed to consist of the President, Vice-President, the Secretary and two other Directors to be elected as the first meeting of the Board following the annual meeting. The Directors may also elect such other committees as may be necessary.

The actual and necessary travelling expenses may be paid of members of the Board of Directors attending Board Meetings, and of members of duly appointed committees when performing the duties in connection with their office.

When practicable, the business of the Board or of any committee may be conducted by correspondence.

A letter was read from E. P. Bradt, secretary of agriculture, regretting his inability to be present and assuring the organization of the co-operation of the provincial department. A resolution was later passed thanking the department for assistance already given the sheep industry.

The fees as fixed at two dollars per annum.

Mr. J. H. King, representative of the sheep branch of the live stock division, Ottawa, spoke as follows:

"I regret very much that Mr. Bradt is unable to attend this meeting due to pressure of work at Fredericton. Mr. Bradt was to speak of this Resolution and it is certainly our loss that he is not here to do so. Therefore it has fallen to my lot to bring before you some of the points that point to the great need of a Provincial Association.

"Are you aware that every Province in the Dominion with the exception of one has a Sheep Breeders' Association? If the sheepmen in the other Provinces find this advisable why should it not apply to New Brunswick?

"The sheep industry is coming to the front and demanding more attention than practically any other line of Agriculture, and rightly so, when one considers the natural advantage that the Province has to offer for the production of a good class of sheep.

"I would like to bring before you a few figures to show the marked in-

(Continued on page 516)

Clip a Clean Crop Clean

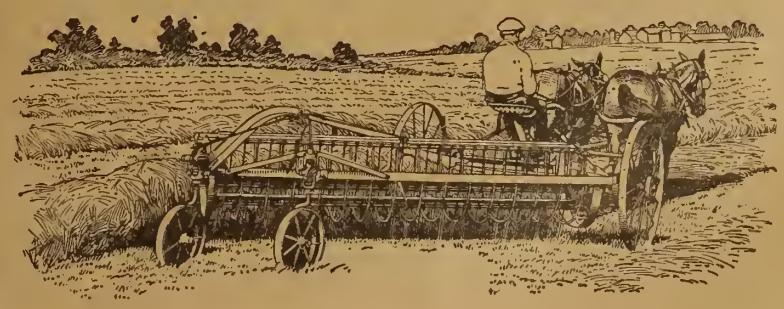
A CLEAN crop of hay represents good profits—when it is clipped clean. Every ragged spot where the mower fails to follow the ground (rough places) represents lost hay—less profit—because the grass is not clipped clean.

McCormick and Deering Mowers

work so that the cutter bar follows the ground whether it is smooth or rough. The sickle dips down into the hollows, and with equal facility skims over the knolls, with the cutter bar close to the ground its full length—and clips the grass clean.

This is possible because of the triangular design of the drag bar which gives the cutter bar the necessary flexibility—a floating action that conforms to the ground surface. Result: No lost hay through ragged clipping, lost traction of drive wheels, or clogging of sickle.

Many such superior features in **McCormick and Deering mowers and rakes,** and in **International combination side-delivery rakes and tedders, loaders, sweep rakes, stackers,** etc., recommend these hay tools to every discriminating farmer. All these are of the same high standard of quality and efficiency. Write us about any of them. And see your nearby International agent.



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HORTICULTURE.

SMUTS OF CEREALS AND THEIR CONTROL

(Experimental Farms Note)

The grain smuts cause serious losses in Canada. There is little doubt that the total loss each year exceeds twenty millions of dollars. The greater part of this loss can be easily prevented.

The smuts of grain that cause serious losses in Canada are the following: The loose smut of wheat; the stinking smut of wheat or bunt; the loose and covered sumts of oats, and the loose and covered smuts of barley.

The loose smut of wheat can be easily recognized by the dusty black heads that appear about the time of blossoming. The black masses of spores are soon scattered by the wind. The bunt or stinking smut is not so easily recognized in the field as the loose smut. The smutted kernels in the stinking smut of wheat are dark, but they do not break up readily and in the growing grain are more or less concealed by the chac. These dark kernels can be crushed easily, when they will be seen to consist of a mass of ill smelling black powder, the spores of the smut. At threshing time these smutted kernels or spore balls as they are often called, are broken up and the spores lodge on the sound wheat grains and give the wheat the well known smutty odor.

The oat smuts are much alike, but the chaff is usually destroyed in the loose smut, while in the covered smut the chaff usually remains enclosing the smutted parts. The spore masses of both are soon scattered by the wind.

In the covered smut of barley the smut masses are dull black in color and are at first enclosed in a thin covering. The spores are scattered about the time of the maturity of the grain. In the loose smut of barley the whole head is destroyed, and the smut masses have a greenish shade and are dispersed by the wind about the time of flowering.

All of these smuts except the loose smut of wheat and the loose smut of barley can be easily controlled by seed treatment with a solution of formaldehyde (sometimes sold as formalin). It is the safest and most effective treatment for use on the farm. It is easily applied and the cost is low. The object of the treatment is to kill the smut spores that may be lodged on the seed and thus prevent the smut being carried over to the season's crop. For this reason it is important that the solution reaches every grain of the seed treated.

The sprinkling method is commonly used for the treatment of the seed grain. One pound of formaldehyde is mixed with 40 gallons of water. While a stronger solution may be used it should not exceed the strength of one pint of formaldehyde to 30 gallons of water. Too strong a solution may seriously injure the germination of the seed. The grain to be treated may be placed in a wagon box or on a clean floor and sprinkled with this solution, using about one gallon to each bushel of grain, shovelling over the grain at the same time so each grain may become wet. The pile of grain should then be covered with canvas or sacks for two hours or more until the solution has had time to kill the spores of the smut. The grain should then be spread out to dry. Seeding should not be delayed long after treatment.

Instead of the sprinkling the dipping method may be used. It is more convenient for small quantities of seed. The grain to be treated is placed in coarse sacks through which the solution can readily pass and is then immersed in a barrel of formaldehyde solution (1 pound formalin to 40 Imperial gallons of water) for five mintes. The sack should be moved about so that the solution will penetrate thoroughly. The grain is then removed and allowed to drain and then piled in a convenient place and covered as in the sprinkling method. In the case of wheat affected with stinking smut it is best to pour the grain into a box or cask of the solution and stir until all the smutted kernels have risen to the surface. The smut balls should then be skimmed off. The solution cannot penetrate into the spore balls.

Care must be taken that the treated grain does not become reinfected from containers that have held smutted grain. The spores on sacks can be killed by soaking them in the solution used for treating the seed and boxes can be sprinkled with the solution.

Another method of seed treatment has recently been introduced for the treatment of seed oats. In this method a strong solution of formaldehyde is used. One pint of formaldehyde is mixed with a pint of water and the grain is sprayed with this solution while it is being shovelled over and then covered for a few hours as in the sprinkling method. Only a quart of the solution is used for 50 bushels of grain. Experiments have shown that this method is safe and effective for oats if properly used and has the advantage of not wetting the grain. It must be used with care as too much of the solution will seriously injure the germination of seed. The solution must be sprayed on the grain not sprinkled. It is unsafe to use this strong solution for treating other grains especially wheat as it often seriousl yinjured the germination and does not always prevent smut.

There are some good smut machines for treating seed on the market. The best of these treat the seed in a satisfactory mannner. They can be used profitably on the larger farms.

The loose smut of wheat and the loose smut of barley cannot be controlled by the formaldehyde treatment of the seed. If these smuts are troublesome, seed should be obtained from fields in which they are not present or from which the smutted heads have been removed before the spores are dispersed. These smuts can be controlled by treatment with hot water but it is not recommended for general use on the farm.

Summary and Recommendations

Good seed should be used that has been thoroughly fanned to remove all light and shrivelled grains and smut balls. Light kernels are liable to contin the spores of other grain diseases.

Treat the seed with a solution of formalin by the dipping or sprinkling

Sixty-one Dollars Made $560 Possible

Two acres of stump land—$54 for stumping powder, fuse and caps—$7 for a helper, and J. V. Bradley blew out 78 stumps ranging from 16 to 35 inches in diameter. This is one of many things

C.X.L. Stumping Powder

will make possible on your farm. That $54 worth of stumping powder gave Mr. Bradley $40 worth of fuel, and the two acres produced a crop worth $520. It will do the same for you. It will make your waste land profitable at the lowest cost.

There is money to be made in agricultural blasting. Ask about it to-day.

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"Explosives for the Farm" tells what C.X.L. Stumping will do in your orchard. Write Dept. C for free copy to-day.

2

Fruit Packages

We Manufacture Strawberry Boxes and Crates for same, 6 qt. Baskets, Apple Boxes, Box Shooks, Apple Graders, Wheelbarrows. Now is the time to lay in a supply of Fruit Packages for the coming season. We have a good stock on hand, order early and ensure prompt shipment. Price on application to

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Insist on getting

DICKINSON'S SEEDS FOR BETTER CROPS

Timothy, Clover, Alfalfa, and other Field Seeds

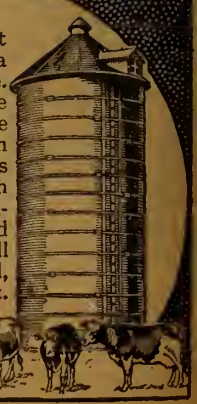
If your dealer cannot supply them, write

THE ALBERT DICKINSON CO.

MINNEAPOLIS CHICAGO

Bissell Silos

A Silo is almost as necessary on a farm as a pasture. It gives cattle green feed in the winter and when drought dries up the meadows in the summer. A Silo filled with green feed while it is fresh and succulent preserves it and improves it and it gives cattle an appetizing and stimulating ration. Bissell Silos are of pine or spruce staves preserved in creosote oil, steel splined, steel hoops, doors and staves are air-tight. Made in popular sizes. Prices have been made attractive. Consult us freely as to your requirements. Illustrated folders on request.



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J. C. Bordeaux Mixtures, powdered and paste, are *chemically accurate* and *physically perfect.* Very finely precipitated, thus ensuring maximum covering power.

Dependable because of unvarying quality.

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Guaranteed analysis on every package.

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method. This treatment will also kill the spores of many other diseases that injure grain.

Care should be taken that the moist grain is not allowed to freeze. If the grain is sown when it is still damp and swollen the seeder or drill should be set to make allowances for the swelling. Usually one-half bushel more of barley or wheat and three-quarters of busel of oats will be required than of dry grain.—W. P. Fraser, Laboratory of Plant Pathology, Saskatoon, Sask.

SEEDING TO CLOVER IN P. E. ISLAND

Clover is one of our most important crops in P. E. Island. It not only supplies the stock with their most valuable winter food but it greatly improves the texture of the soil, for the crops that follow it adds humus and nitrogen that are so necessary if we would increase the fertility of our farms. Many of our farmers have lost hope of securing a uniform stand of clover in their new meadows. They have had their clover killed out so frequently that they believe the securing of a crop is largely chance depending upon the kind of winter and the early spring conditions that may occur which are beyond their control. The problem is difficult and while the weather conditions are uncertain, yet clover is being grown regularly and successfully. This indicates that most of the factors that make for success are within our reach. A brief outline of some of the things that enabled the Experimental Station at Charlottetown to secure crops of clover in new meadows is given in this article.

Clover Seed

Secure the best seed obtainable. It cannot be too good. Home grown seed of equal grade or quality is always better than imported seed because natural selection destroys the weaker type of plants or those not suited here. You are also more likely to get fresh seed. The Old English red clover did well in this Province because in some respects our climatic condition are similar. Secure plump, fresh colored, mature seed that is uniform in appearance.

Preparation of Seed Bed for Clover

When seeding out to clover prepare your seed bed for that crop and the nurse crop sown with it will be able to take care of itself. A seed bed that is good for clover is good for all cereal crop sexcept rye . Rye being the cereal crop that will do well in acid soil. When your soil is acid or you have been applying good dressings of manure give it a dressing of some form of lime. Oyster shell mud, where obtainable, is best for land that has not been mudded. Ground limestone is equally safe and more easily handled when it can be obtained at a reasonable price. These are both of greater service to the clover crop if applied the previous year. When the land is wet, drain it, either with surface or tile drains. Clover is an upland crop. Common sense is the best guide in preparing a a field for seeding out. After working the soil into good tilth so you could count on getting a good crop of grain, go at it again and give it an extra work for the crop of clover that is to follow. Clover seed is small requiring a finely worked seed bed.

Seeding

If you want to insure success, sow clover with every grain crop. Arrange your farm rotation so that there is never a break of more than one year between having nitrogen gathering bacteria on your clover roots and the starting of young clover plants in the soil again. A good stock farm rotation would be. Barley or mixed grain, seeded down with clover to plow under; Roots, Oats seeded down with clover and grass seed, Clover hay pasture. It is a satisfactory five year rotation. When seeding with a grass seed attachment on a grain drill turn the grass sprouts back so that the seed will fall behind the implement. Then cover the clover seed with the smoothing harrow. One scrape is usually quite enough as small seeds should not be covered deeply. The same method should be adopted when using the grass seed attachment with the combined seeder and spring tooth cultivator. When seeding out with a broadcast seeder it is better to sow the clover and grass seed just before the finishing scrape and after the grain has been worked into the land.

Amount of Seed

The amount of seed necessary depends upon the quality of the seed but it is always better to err on the side of heavy seeding. Under favorable conditions 4 pounds of red clover seed in conjunction with grass seed has given satifactory crops. The thicker the seeding the finer the quality of the clover hay and the better the prospects of securing a catch. The usual seeding at the Charlottetown Station is 12 pounds of timothy, 10 pounds of red clover and 2 pounds of alsike per acre. The extra seed grows the year it is sown and returns to the soil many times its cost in humus and nitrogen.

Nurse Crops

Experiments have shown that wheat is the best nurse crop for clover, barley is second best and oats third. Good crops of clover can be grown with any of these, however, provided they are not sown thick. The rates of seeding nurse crops recommended are: Wheat 1 bus. and 3 pecks, barley 2 bushels and oats 2 bushels and 2 pecks per acre.

Winter and Spring Protection

The grain crop should be cut high enough so that stubble will hold a blanket of snow over the new meadow during the winter. Hedges or any fence that will prevent the snow from blowing off the field are a great help. The rolling of new meadows in the early spring with a heavy roller just as soon as the land will carry the horses is a real life saver for the clover. It presses down the plants that have been lifted and at the same time virtually transplanting them. Many good crops of clover hay have been cut from fields that would have been bare if the plants lifted by the frost had been allowed to dry out and die.—Experimental Station, Charlottetown, P. E. I., H. Clark, Supt.

FERNS IN THE HOME

There are many reason why ferns do not grow in many homes. Lack of air moisture is one of the reasons. A very common mistake in growing ferns or any other plant is to paint the pots or to plant in tubs or cans, thereby making it impossible for the roots to get air, which is absolutely necessary. It will be noticed that clay pots are very porous and that the majority of roots will find their way to the sides for air, which they cannot get if the pots are painted, or planted in tubs or cans. In the case of the latter, the roots will find their way to the top of the soil, the result being that the first inch or two is all that the plant has to sustain it and the remainder of the soil becomes sour; the plant makes weak and deformed growth, and leaves soon turn yellow and die.

A Potato Planter that Plants 100 per cent Correct

The wish of every grower to have every hill planted to a seed is ful lled by the

OK CANADIAN Potato Planters

Dial Potato Planter

Experience and tests during the past five seasons have proven that this machine will plant absolutely 100 per cent. correct.

The seed dropping device employed consists of the endless cup system which is recognized as the most accurate method of distribution.

The seed is picked up and deposited in the pockets of the dial plate where any corrections can be made, thereby ensuring one seed piece to every hill.

The seed hopper has a capacity of two bushels and can be furnished plain or with fertilizer attachment. The two shoes for making the furrow are so adjusted as to keep the fertilizer from direct contact with the seed when the hill is covered in.

The O-K Canadian Dial Planter is durable in construction, simple in operation and gives satisfaction wherever it is used.

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56 STONE ROAD, GALT, ONTARIO

We also make O-K-Spra—Two-Row and Four-Row O-K Canadian Sprayers—and O-K Diggers.

6

GROW STRAWBERRIES

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We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

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DAIRYING.

TREAT COWS KINDLY AT MILKING TIME

Many a dairyman after he has obtained a good breed of cows and provided them with good warm shelter and nutritious feed, thinks that all has been done towards making his dairy profitable. But often after these big steps towards success have been taken, the cows are ruined by improper handling at milking time. It is a fact that the big things gained through breeds and feeds are many times lost through mistreatment.

The cow is by nature a docile creature. Her whole duty in life is really just an elaboration of the mother instinct. She has only to be taught what is wanted of her, which should be kindly done, and she will yield a cheerful obedience. And if in training she does not develop a gentle, docile disposition, the fault is almost invariably with the trainer. If any vicious traits are shown, they have come from ignorant or unkind treatment given at some period in her life. As at milking time man and cow must come into most intimate contact, the mistreatment usually occurs then.

Some when milking seem to think that a cow's teats are made of rubber, and are destitute of feeling. They think it is necessary to grip and pull with all their might to bring the milk profusely. Then when the painful grip causes the cow to writhe and raise her foot in injured protest, the unfeeling or thoughtless milker yells at her in a voice fit to terrify even a human, and often this is followed with a kick or blow.

The teats are extremely sensitive, especially when the cow is quite young, and always when she comes into milking. Besides, it is a great and terrible loss for a few days to be deprived of the calf. In her poor, dumb grief, she is extremely nervous and irritable, and human instinct should elicit for her gentleness and forbearance. If the teats are gently stroked and softly pressed, then with the proper arrangement of the hand and fingers, pressure applied beginning at the udder and continuing down the teat, the milk will readily flow. The tendency of the milk is to the orifice of the teat, and the sensation given by the gentle pressure of the hand increases that tendency and really gives pleasure to the cow.

The cow naturally wants to get rid of the milk, and will stand quietly to have it drawn, unless some careless milker gets hold of her, hurts and scolds her, and does not understand cow nature. Then trouble begins.

The correct adjustment of the hand in milking is quite important. After gently rubbing the udder and all the teats take a teat in each hand, begin contracting the upper fingers against the teats, then the others in succession, then slacken them reversely, and then repeat the downward pressure. This contraction and relaxation rapidly yet firmly done, forces the milk out in a continuous stream. The work of milking is done more easily, as well as rapidly by using both hands. And the more rapidly, yet with gentleness, the milk is drawn, the greater the quantity, the richer the quality, and the fuller and the longer the flow.

This thing of proper methods and treatment at milking time cannot be over-emphasized. A cow accustomed to quiet, kindly treatment can have her milk flow reduced 25 per cent. just through harshness. That is a big price to pay for ignorance and ill-nature. It is too big a price for any dairyman today if he expects to make a profit off his cows and to stay in the business.

Just a simple law of nature

AN apple falling from a tree awoke Sir Isaac Newton and supplied to Science the law of gravitation. The jumping of a tea kettle lid showed James Watt the power in boiling water and gave the world the steam engine.

The intense centrifugal force generated by a revolving tubular bowl was what P. M. Sharples put into a machine for the complete separation of butterfat from milk. Later he made his greatest improvement by utilizing the vacuum generated by the same centrifugal force to lift milk into the bowl in the exact quantities that the speed of the bowl will skim absolutely clean.

The Sharples Suction-feed Separator, therefore is only an adaption of one of Nature's laws. The intense centrifugal force and the suction-feed principle in the Sharples tubular bowl guarantee perfectly clean skimming at any speed.

The Sharples discovery is protected by United States patents. No other separator is a suction-feed separator. No other maker of separators can make use of the principle.

Suction-feed makes possible the knee-low supply tank, doing away with lifting. The oiling system needs little attention. The one piece bowl—no discs—is easy to clean.

Milk is vital to the welfare of the American people. Its production should be raised to the highest point of efficiency by the use of time and labor-saving machines.
(Signed)
P. M. SHARPLES
"There are no substitutes for dairy foods."

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If you do not advertise your herd how do you expect the world to know what you are doing? The first point is to do a thing and the next is to publish your success abroad. Advertising is as necessary as achievement.

The most encouraging fact in farm life today is not the material benefit that discovery and invention have brought us, but it is the serious and wide-spread recognition by farmers of their duty to look after their own interests and to help create a real democracy.

BREEDING DAIRY STOCK ON THE FARM

There is a great deal said about getting rid of scrub cattle and plans

are just now being made to put some practical measures of eradication into shape, but this alone is not sufficient to keep the live stock industry progressive. Breeding must be continued or the dairy, as well as other forms of the live stock industry will perish. But mere breeding, without regard to what is bred or how it is bred, will not gain the desired end, nor will it be profitable. Increased numbers is important, but it is far from being all for which we should strive. We need the right kind, as well as a sufficient number of animals. If this demand is to be met, breeders must have an ideal, to the realization of which their efforts must be directed. Professional breeders recognize this fact and act upon it. Failure to follow their example in this respect has been a weak point in much of the breeding on the farm. There has been too little study of the subject, and too much mating of animals for breeding purposes has been done without a clear comprehension of the special qualities desired in their offspring.

It is evident that if better results are wanted there must be a change of methods. What has been good in the past should be made better in the future. Errors of the past must be corrected. The aim should be more definite. Details should receive closer attention. Of course, only pure-bred bulls and either pure-bred or high-grade cows, which are worthy specimens of the class of animals that are to be kept on the farm, will be used for breeding. If good judgment is used in the mating, the offspring should possess considerable merit. In addition to seeking general excellence there should be an effort to secure certain definite characteristics. Of those which should be sought some are of vital importance, others, though not so essential, are quite desirable. Just a few of these will be noted in the present article.

Vigor

The first item to be considered is vigor. If this is low the animals may multiply but they will neither be good producers nor valuable for any other purpose. What is worse, their descendants will, in all probability be less desirable than themselves. Breeding from such stock is highly objectionable, for weakness and defects are more surely transmitted than good qualities and they become intensified with each generation through which they are handed down. As a matter of fact, weakness is one of the very heavy handicaps of a breeding animal. If a vigorous creature proves unproductive or unsatisfactory from any other cause, it can be turned into meat, but a weakling is not of much use for that or any other purpose. The quality of vigor can be developed and and feeding, but it is largely a matter of inheritance. It is to be perpetuated by breeding from strong animals.

Size

Size is another qualification that should be taken into account when breeding animals for the dairy. It is, however, a relative term and is always to be considered with reference to the breed to which the individual belongs. What a casual observer would rate as a large cow might truly answer that description when measured by the standard of a Jersey and yet fall short of it when tested by the size of an average Holstein. In breeding for size, an effort should be made to keep within the bounds of the accepted standard of the breed that is represented. Within these limits a large animal is preferred to a small one. This, in the case of sires, is because of the influence which their size will exert upon that of their descendants. For cows, a large size is desirable because it will carry a probability that their calves will be larger than those of smaller cows; a fact that will increase the value of all that are disposed of for veal. Then, too, because of the different proportions of food required for their maintenance it is believed that the large cows are more economical milk producers than smaller ones. To secure a good size, and maintain it in the herd for successive generations, it will be necessary to breed from animals of this type.

As a safeguard against decline, very early breeding must be avoided. This deserves special emphasis in the case of heifers. Such breeding will retard their growth, and if it is followed by frequent breeding they will not reach the fullest bodily development of which they are capable. Whether this results entirely from bearing too young, too early in life, or is largely due to the strain of producing milk while too immature, is a matter regarding which there is a difference of opinion. It is probable that both of these causes are operative. The use of young bulls for breeding does not appear to be so injurious, though too early and especially too frequent service will be harmful to themselves and to their descendants.

Productiveness

The last item to be noted in this article is productiveness. This is of vital importance, and should be given great prominence in the ideal of the breeder of dairy stock. But when it comes to practice, we find that this cannot be separated from but is closely connected with, other desirable characteristics. If cows are to be good producers they must be vigorous and well developed, and must have the other qualities of excellent animals. Great stress should also be put upon their inheritance. Common sense, experience and observation unite to indicate that if the heifer calves we raise are ever to become good milkers they must be obtained from cows which have shown good milking capacity. Breeding from low-producing cows, or from sires whose dams failed to make good records will perpetuate a race of unprofitable dairy animals. The only reasonable hope of securing the quality of productiveness in the coming generation is to mate cows that have this characteristic with bulls from good milking families.—J. E. R.

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For three years past, notwithstanding the constantly increased production, it has not been possible to make nearly enough De Laval machines to meet the demand. We shall make 25,000 more machines in 1920 than in any prior year, but are already behind deliveries in some sizes. Hence the importance of getting in your order early.

Superior as De Laval Cream Separators have always been to other separators, they are better still in 1920.

If you have milk to separate you can't afford to waste quantity or quality of product, time and convenience, through the use of any other means of separating than a De Laval machine.

An improved De Laval Separator will surely save its cost in a few months, and will go on doing so every few months for many years.

De Laval Separators speak for themselves. Their appearance and performance best demonstrate their superiority. Be sure you see and try one before buying any other or deciding to go on using an inferior or half-worn-out separator another year.

Your De Laval local agent will be glad to afford you the opportunity to do this. If you don't know him simply address the nearest De Laval main office, as below.

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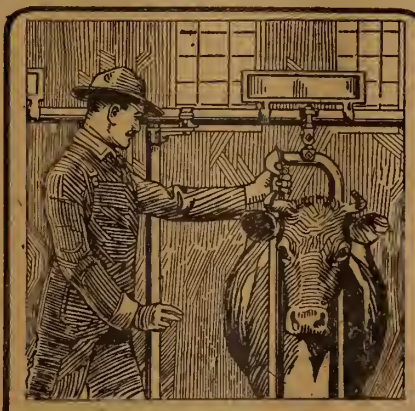

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3. At the bottom, the BT Stanchion is held by a clevice which allows the bottom of the stanchion to swing forward as the animal rises. This prevents bruised shoulders. Send in the Coupon below and get full particulars of the BT Stanchion. It will pay you.

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LIVE STOCK.

REARING THE DAIRY CALF

The farmer who begins to think about the welfare of the calf only after the cow has dropped it into his charge, has already lost several laps in the race to succeed in the cattle breeding game. The time to begin to think and act in behalf of the welfare of the calf is very soon after the cow is found safely in calf.

Special attention should be given her care and feed with the idea of keeping her in good physical condition and providing sufficient nourishment to assure a strong, well developed offspring. The idea maintained by some breeders that a cow during the dry or rest period does not require any grain is absolutely wrong, and the ultimate result will be a weakened constitution on the part of the dam, or a frail, poorly developed calf.

It is a short sighted policy to withhold the concentrated ration from the cow, when her milk flow is decreasing, and to stop it altogether when is dry. If it pays the dairyman in increased milk to give his cow one pound of concentrated feed to every four pounds of milk yield, it will pay in increased health and growthiness of the calf, if he will feed the cow some ground oats, bran and oil meal in her rest period. The amount will vary according to the cow's state of flesh. This ration will prove a valuable aid in keeping the bowels in good condition, thus eliminating one possibility of difficult labor.

The New Born Calf

At birth the bowels of the calf are packed with a heavy tenacious substance, for the discharge of which nature has produced a laxative in the colostrum, or first milk of the dam. For the first two or three days the calf should get the cow's first milk, to allow the bowels to be thoroughly cleaned out, and in condition to perform their natural functions. If this were not essential, nature would never have provided the dam with colostrum. It is often possible and advisable to assist nature but, when man attempts to improve on her laws, he is attempting something which he can never accomplish.

Very little trouble will be experienced in teaching the calf to drink. A small amount of milk given three times a day is preferable to the same amount given at two feedings, until the calf is a month old. One regular feeding schedule is one and one-half quarts new milk, morning, noon, and night for the first few days, gradually increasing the amount as the calf develops and the bowels indicate that the food is being properly assimilated. When skimmed milk is fed, the amount of new milk may be gradually reduced, and a small amount of calf meal should be added until at the end of three weeks the new milk may be entirely dropped.

Two of the most essential things in feeding are regular feeding hours and a uniform temperature of the milk. Neglect of either of these will surely lead to trouble. Very often when milk is taken direct from the separator and fed to a numebr of calves, the first few may receive it at a very nearly normal temperature but a considerable cooling will occur before the last ones are fed, especially if the weather is cold. This trouble can be easily overcome by the addition of a small amount of hot water. It is not necessary to try the milk with a thermometer each time, since a skillful feeder can tell very accurately by inserting his fingers in the milk.

Beglnnning the Calf with Grain Ration

If possible, each calf should be provided with a separate drinking bucket, kept absolutely clean, sterilized, and hung on a rack out of doors when not in use. To facilitate cleanliness, seamless metal buckets are preferable. The writer has found from experience that it is a good plan, as soon as the calf has finished drinking, to put a handful of grain, consisting of bran, ground oats and oil meal, into a small box and place it in the pen. This attracts the calf's attention for a few minutes and has a tendency to eliminate the habit of sucking the pen or the ears and rudiments of other calves when two or more are confined in the same pen. In our opinion the calf-sucking practice has much to do with the number of poorly shaped udders when the animals reach maturity.

Calves should be turned out of doors in pleasant weather for two or three hours to give them the necessary exercise. Keep a small amount of hay before them; it is wonderful the quantity of fresh clover hay that a healthy young calf will consume. It is a great preventative of scours, and it is also conducive to the development of a well-rounded frame and a good depth of body, so essential to high production in the matured animal. The conformation can be started and developed with very little difficulty before the animal is one year of age, but it is practically impossible to change the animal's shape if the calf has been neglected before reaching this age.

Feeding Calves Without Whole Milk

On farms selling whole milk it may be found advantageous to raise the calves for the dairy herd on calf meal instead of whole milk. Calves must receive whole milk until they are two weeks old. For the next week the quantity of milk can be reduced and a pound of calf meal gruel added. In the fourth week the calves on the average will require each nine pounds of milk, three pounds of gruel, a little grain and some coarse hay or alfalfa. This is a plan adopted by those successful in rearing calves without whole milk which is as follows: From 30 days to six weeks the ration consists of 6 pounds each of milk and gruel together and the calves receive 12 pounds of gruel, a half pound of grain and a small amount of alfalfa hay. At two months of age the calves are getting 14 pounds of gruel, one pound of grain and have free access to alfalfa hay. The gruel is discontinued after the fourth month, and the grain is gradually increased until by six months the calves are getting 4½ pounds of grain and all the alfalfa hay they will eat.

Gruel feeding may be continued after the fourth month if desirable, or it may be discontinued at three months of age and the calf be put on a hay and grain ration.

Remember that calves will probably be less fat and smooth when fed on calf meals than when fed on milk. However, they should be of practically the same size and in a good, thrifty condition. Milk is preferable as a feed and at equal costs should be given in preference to substitutes. The use of calf meal is valuable only when the selling price of milk makes the use of milk prohibitive.

All of the precautions to be followed in feeding whole or skim milk must be observed when using calf meals.

Here are a few worth dotting down in your dairy:

1. Do not overfeed.
2. Give feed in a clean, wholesome condition.
3. Have all utensils scrupulously clean.
4. Feed regularly and in small quantities.
5. Always feed at a temperature of 95 to 100 degrees F. Use a thermometer—do not use your finger.
6. Give the calf water to drink.
7. Be regular in everything.
8. Give the calves exercise in the open air during good weather, but do not expose them during cold, rainy weather.
9. Provide clean, well-lighted pens with plenty of bedding.
10. Whenever possible give each calf a separate pen and limit the feed of each animal. If a separate pen is not possible, stanchions must be used. Especially is this true when raising calves without skim milk.

RAISE ALL YOUR CALVES

If you are a butter maker or sell your cream you can still raise the very best of calves as a ton of skim or separated milk can be made fully equal to new whole milk for calves by adding 4 lbs. of Herbageum and there will be no trouble with scours or indigestion.

If your milk supply goes to the cheese factory or for town or city use then you must have a substitute, and the following formula will make a calf meal the equal or superior of anything on the market and at less cost and no danger of foul seeds or of any noxious matter. Take 100 lbs. oil cake meal, 100 lbs. feed flour, 200 lbs. wheat middlings, 1 lb. of fine salt and 4 lbs. of Herbageum. Mix thoroughly, stir about two cupfuls in a gallon of scalding water and feed warm. However it is not always easy to get the oil cake or feed flour and sometimes difficult to get good wheat middlings. In such case instead of the various meals use 400 lbs. of ground oats and results will be in every way satisfactory and economically obtained.

It should be noted that when feeding fresh whey to pigs the addition of Herbageum makes a wonderful difference in results. Herbageum given regularly to pigs will ensure as good bacon weights at six months as at eight months without it and the pork will be firmer and sweeter.

If you do not know where to buy Herbageum write the Beaver Mfg. Co., Ltd., of Galt, Ont. and they will send by registered parcel post a 4-lb. package for $1.40 to any address in Canada or will deliver freight prepaid to any railway station 50 lbs. for $12, or 100 lbs. for $23.00 In all cases cash with order. It would be an advantage also if you mentioned your nearest town or village as rural route addresses do not always indicate the nearest business point.—Advt.

GROFAST CALF MEAL

The meal that most successfully takes the place of new milk for raising calves. Farmers and breeders throughout the whole of Canada are using International Grofast Calf Meal with the greatest measure of success. Read what Mr. Archer of Ingersoll, Ont., has to say:—

"I have used Grofast Calf Meal for the past three years. It is just as good as whole milk. After my calves are three days old they get nothing but skim milk and your Calf Meal. I raise equally as good calves as I ever did on fresh milk and the cost is only a fraction of what the cost would be raising them on milk."

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A complete milk-substitute weaning and growing feed.
Helps the little pigs just when help is needed.
A safe and gradual change from the sow to ordinary feed without the use of valuable cows milk.

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Summer Packs
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You can't enjoy farm labor with tired, aching feet. So slip your feet into Palmer's Summer Packs. Made from durable yet soft, pliable, oil-tanned, Skowhegan waterproof leather—the ideal farm shoe for comfort and wear.
Easy to put on and take off. Large eyelets, quickly laced. Solid leather heel, sole and insoles. Bellows tongues.
Ask your dealer to show you "Moose Head Brand."
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TRAINING THE CALF

Few farmers ever consider it necessary to train the male calf that is to stand at the head of the herd, or the heifer that is to become the dairy cow. No elaborate rule can be laid out for the training of the bull. Experience finds that bulls are just as different in their personality, as the men who look after them. The result is that each bull may require to be handled differently. Some bulls will remain kind and gentle simply by handling them much as other cattle are handled. If these same bulls were confined in small pens or enclosures, and treated as if one were afraid of them, they would more than likely become vicious. This is one way quiet bulls are made dangerous.

There are bulls, however, that require to be watched and these can easily be detected in calfhood, and the training will have to be in accordance with their temperament. Though all those who have to look after bulls should be prepared at all times to be on the defensive with proper equipment, it is especially so with the youngster that exhibits the least sign of a defiant temper. One point worth remembering is not to let the bull get the idea that the person in charge has the slightest fear of him. In handling the calf that is to become the head of a herd it is the wisest course to adopt the methods that fit the animal, so long as it is safe to do so, but he should be handled with the same absence of fear and fuss as any other domestic animal. There must be no fooling with the young bull even in calfhood, and the early training with the nose ring should be done without showing any temper or harshness. Firmness with kindness is the rule with the bull calf as with the young colt.

Some training is also necessary for the heifer calf, as confidence has to be restored to the naturally nervous. Handle the udder frequently, and take every chance to train her to docility and tameness either in field or stall. She should also be halter-broken in her calfhood, as it will be found an advantage in many incidents of her life. Every cow should be trained to lead and it becomes an easy matter on cow and stockman if she has got her training when in the calf and heifer stage.

HOW TO TELL AGE OF CATTLE

How do you know the age of cattle from the growth and decay of the teeth?—W. M.

Cattle have eight incisor teeth, all in the lower jaw. In the calf at birth, two or more of temporary or first incisor teeth are present. By the end of the first month, the entire eight have appeared.

When the animal is over a year old the centre pair of temporary incisors fall out and are replaced by the permanent pincers, which, at two years, attain full development.

At three years of age the second pair of permanent teeth are fully developed, and at four years the third pair, or laterals as they are termed, ae developed. At five years the animal has the full complement of incisors.

From five to six years there is a leveling of the permanent pincers, which is usually completed at six, and both pairs of intermediates are partially levelled and the corner incisors showing wear.

The pincers are noticeably worn from seven to eight years; from eight to nine the middle pairs are worn and by ten years the corner teeth.

After six years, the arch loses its rounded contour and by the twelfth year it has become nearly straight. In the meantime the teeth have gradually become triangular in shape, distinctly separated, and show the progressive wearing to stubs.

PINK EYE

What is the cause of pink eye? Can anything be done to cure or stop it? Is it a germ disease?—W. T. H.

We infer that you refer to "pink eye" of cattle, technically termed contagious opthalmia. It is caused by a specific germ and usually is contracted from affected cattle or cars, pens or yards which they have occupied. It may also be contracted on low wet pastures; at least it seems most prevalent in such places. As a rule attacks quickly subside, if the affected animals are at once placed in a darkened stable, put upon a light laxative ration and treated as follows: Night and morning bathe the eyes with a saturated solution of boric acid. That means boiling water containing all of the boric acid it will dissolve and used when cold. In addition dust the affected eyeballs on alternate days with a mixture of equal quantities of finely powdered boric acid and calomel or iodoform. In obstinate cases, where the eyeball becomes pearl-gray in ncolor and bulges outward, it often is necessary to apply once daily with a soft camel's hair brush a little of a solution of 2 grains of nitrate of silver and 1 ounce of distilled water, to be kept in a blue-glass bottle. If ulcers form, a solution of twice this strength may be applied every other day, and once daily a few drops of a 15 per cent. solution of argyrol applied with a medicine dropper or brush.

SHEEP AND PIGS IN THE TRAINING

Sheep and pigs are as susceptible to training as horses and cattle, and regularity in feeding, comfort in housing, freedom from parasites, constitute the chief mediums in the training. Their love of home, their confidence in their caretaker, is entirely a matter for the shepherd or whoever is in charge to generate. These characteristics in sheep and pigs tend comparatively more to the thrift of these classes of farm animals than in any other.

The attitude of most farmers towards domestication of animals and their early training, in the past has been that it is only for those who care to specialize in these things. But it is the duty of every farmer to himself and to his interest in the industry that he carry on the campaign of live stock domestication. Inconsiderate neglect and rough usuage of farm animals are food wasters; animals always respond well to feeding and treatment that is tempered by kindness.

At a consignment sale of Gloucestershire Spot pigs at Winterbourne, England, last week, 46 head from one herd belonging to Mr. Matthews, realized $15,000. Six of Mr. Bridgman's, all belonging to the same litter and born in February, realized the extraordinary total of $5,540, an average of $920, believed to be a record.

THE IDEAL GREEN FEED SILO

is the ideal investment for 1920

It provides succulent feed during the entire year, enabling the cows to give 25% more milk than if they were fed on a dry feed ration.

The silage ration is considerably cheaper than a dry ration with hay and other feed at the present high prices.

Every farmer who decided last season to get along another year without a silo is now saying: "I wish I had a silo." At the present high prices of milk, the Ideal Green Feed Silo pays for itself in a short time. It makes better silage, is better built, made of better material, and will last much longer than inferior silos. Thousands of Canadian cow owners have proved this to their own satisfaction.

Write to nearest office for catalogue, which describes the Ideal Green Feed Silo and gives valuable information about silage

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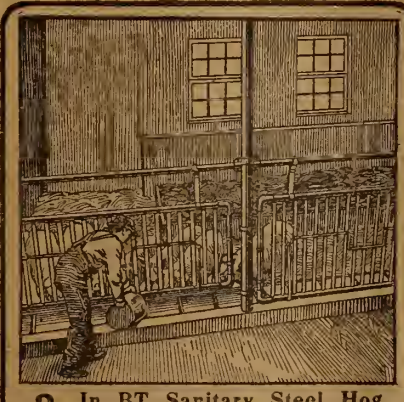

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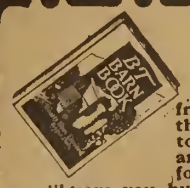
3. Send in the coupon for full particulars. You don't want to waste feed. Nor do you want Hog Cholera to get a start. If your hogs had to be burnt for hog cholera, it would cost you many times more than the sanitary equipment.



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prevents friction in the hub. As the mica flakes work into the pores of the axle and hub, the rough surfaces are smoothed with a hard filling of mica. The grease on the glassy surface insures thorough lubrication. Sold in sizes from a one pound tin to a barrel.

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Sold in pint, quart, half-gallon, gallon and four-gallon sealed cans, half-barrels and barrels.

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IMPERIAL OIL LIMITED

POWER-HEAT-LIGHT-LUBRICATION

BRANCHES IN ALL CITIES

THE HORSE

P. E. I. PROVINCIAL HORSE SHOW

The Provincial Horse Show held at Charlottetown, P. E. I., last month, was a great success.

The attendance was very good considering the weather and roads and the fact that there had eben a delay in the time of holding the show due to the non-arrival of the judges the day before.

The principal showing was in the Clydesdales of which there was a very creditable lot of animals displayed.

The grade mares also made a good show reflecting credit upon their owners.

Mr. Scharfe, the judge of the Clydesdales stated that the animals in this class shown were very good specimens but in some cases they lacked fit, as was often the case at this time of year.

Keen interest was exhibited in the standard bred class, the exhibitors including Geo. H. Reddin, W. S. McKie; P. S. Brown, Wm. Bateman, City and Roy Moreside, North Milton.

In the Hackney or Coach class there was but one entry, that of Mr. David Reid of Victoria Cross, who showed a very fine stallion.

Of grade carriage mares there was an exceptionally fine showing. Among the exhibitors in this class are A. McBeath, Marshfield; W. A. Wright, City; H. J. Kennedy, Southport; Rev. J. B. McIntyre, Tracadie; Wm. MacPherson, City; Cecil H. Stewart, Hampshire; John Crabbe, Milton; Geo. Chandler, City; M. J. Kelly, Elliotvale.

There was also a fine show of roadsters. Among the exhibitors in this class were: Henry Jones, Hazelbrook; D. N. McDonald, Springton; Keith Boswell, Victoria; E. C. White, City; B. C. Hardy, Union Road; Harry Jenkins, Hazelbrook; Frank McKay, City; W. H. Aitken, City; Gordon Hughes, City; Ernest Leonard, Cornwall; Herbert Lewis, York.

Only one Percheron was shown, that of Mr. Boswell, of French Fort.

At the Provincial Horse Show just closed the management, with commendable forethought, reserved the best until the last and when announcer Lea called for carriage mares or geldings, shown in harness, a field of horses faced Judge Gregg, which for quality and fit seldom graces a Maritime Show ring containing as it did among others a number of animals that have been winners both at home and abroad, but had never previously happened to face each other in one ring, and even when the final awards were made there were animals outside the money that had never been below first before. After a careful examination, that flashy grey owned by A. A. McBeth, Marshfield, was placed first, her superior action and manners winning her the coveted red ribbon. A handsome bay mare owned by Mr. Francis McKay, city, was second and that breedy looking grey gelding of Mr. Wright's, city, was third.

The way this large class of horses was handled in so small a ring was greatly admired and Mr. McBeth is to be congratulated on possessing such a classy piece of horse-flesh.

Clydesdales

Aged stallion—1, Roper Bros., Royalty; 2, W. H. Godfrey, Marshfield; 3, Edmond Vickerson, North River; 4, H. J. Burgoyne, Bradalbane.

Clyde Stallion, foaled 1916.—1, J. H. Crosby, Marshfield;

Clydesdale Stallion, foaled 1917.—1, Wm. McRae, Wheatley River.

Clydesdale Stallion, foaled 1918—1, A. H. Boswell, York; 2, W. W. Crosby, Cornwall.

Clydesdale colt, foaled 1919—1, J. Heber Crosby, Marshfield; 2, Wm. M. McRae, Wheatley River; 3, J. Walter Jones.

Clydesdale mare, aged—1, Brentos Younker, North River; 2, Garfield Warren, North River; 3, Wm. M. McRae, Wheatley River; 4, J. H. Crosby, Marshfield.

Clydesdale mare, foaled 1917—1, Experimental-Farm; 2, John R. Munn; 3, J. Heber Crosby.

In the above the Experimental Farm's mare was merely placed. Mr. Munn being awarded first prize money.

Clydesdale mare, 1918—1, Louis Roper, Royalty.

Clydesdale filly 1919—1, Garfield Warren, North River; 2, W. H. Godfrey, Marshfield.

Clydesdale stallion, special price—1, Roper Bros., Royalty.

Percherons

Mare, any age—1, Albert Boswell, French Fort.

Drafts

Grade Draft mare—1, Edison Mutch, 2 Russell Hyde, Cornwall; 3 and 4, Horne Bros., Winsloe Station.

Mare foaled 1917—John B. Matheson, Highfield.

Special prize—Best three, get of one registered stallion—1, Roper Bros; 2, J. H. Crosby.

Special pri e given by Clydesdale Association of Canada to best Clydesdale stallion, any age—1, Roper Bros.; 2, J. Heber Crosby.

Special prize by same for best Clydesdale mare, any age—1, Garfield

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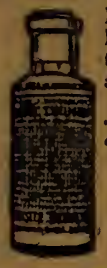

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Sold by all Druggists and General Stores.

Prepared by
Frasier, Thornton & Co. Limited
COOKSHIRE, Que. 101

Warren, North River; 2, Brenton Younker.

Standard Bred

Registered-aged Stallion—1, Hammond Kelly; 2, Horne Bros.; 3, J. H. G. Murphy.

Aged mare—1, W. S. McKie; 2, J. Stanley Wedlock; 3, P. S. Brown.

Hackney

Stallion—1, David Reid, Victoria Cross.

Grade Carriage mare—1, Horne Bros.; 2, W. A. Wright; 3, A. M. McBeth.

Grade mare, foaled in 1917—1, J. B. McIntyre, Tracadie; 2, Cecil Stewart, Hampshire; 3, H. F. Kennedy, Southport.

You Can't Break This Hame Strap

"The Horsepower"

Made from Chrome tanned leather. Tanning is of special merit. A strap of unequalled strength and durability. It remains soft and pliable under all conditions. More than twice as strong as ordinary harness leather.

IMPORTANT—To make sure that you are getting all these qualities, do not fail to look for the name Griffith "Griffith" stamped on every strap. It is your guarantee of satisfaction.

If your dealer doesn't sell the famous Griffith Chrome Leather Harness Specialties, send 35c for sample of 1 inch "Horsepower" Hame strap (40c in the West). For lumbering or very heavy teaming we recommend the 1¼" strap at 45 cents (50c in West).

54

G. L. GRIFFITH & SON
64 Waterloo Street, Stratford, Ontario.

Grade filly foaled in 1918—1, Horne Bros.; 2, Mr. J. Kelly, Elliotsvale; 3, George Chandler, City.

Best three animals under three years old, the get of one registered carriage stallion—1, Hammond Kelly; 2, J. W. G. Murphy.

Roadster mare or gelding, shown in harness—1, Keith Boswell, Victoria; 2, E. C. White, City; 3, A. McBeth, Marshfield.

Carriage mare or gelding shown in harness—1, A. MacBeth, Marshfield; 2, Frank McKay, City; 3, W. A. Wright.

Draft mare or gelding shown in harness—1, Herbert Lewis, York.

HOW TO CLEAN FARM HARNESS

The oftener the harness is cleaned and greased the better. It should be cleaned and greased just before starting spring work, as you suggest. Take every piece of the harness apart that will come away by unbuckling.

The best way to wash it is to take one piece of soap and dissolve it in three quarts of hot water, to which add one quart of coal oil, which should be whipped in the soap and water so that it mixes thoroughly with the soapy water. Then add enough cold water to make the whole solution lukewarm, and wash the harness with this solution until you can easily brush off all dirt with a hard bristle brush. When thoroughly washed in this way it should be hung up and dried in a shady place. It should not be allowed to dry thoroughly before applying the grease, as the grease should be applied when the harness is still damp; the grease will go in better than when the harness is dry, and thus make the harness more flexible.

Good harness oil should be used, and this should be applied with a soft brush and thoroughly rubbed in with a rag. After a few hours the surplus oil wihch will not go in should be rubbed off with a rag, as the surplus grease tends only to make the harness sticky and collect dust very easily. Harness should never be kept in damp places, as the nickel parts will rust, the leather become moldy, and will finally rot off. All defective parts of harness should be repaired immediately, or should be replaced by a new part.

Every horse should have his separate harness. Much can be saved by properly caring for the harness, to say nothisg of the annoyance and trouble and delay which one has when something breaks at an unexpected time. A good harness should last for about eighteen or twenty years.

HORSES HAVE SPASMODIC COLIC

I have a horse 10 years old that takes periodical sickness, that lasts about an hour or so. While the attack is on he seems troubled with gas in the stomach and intestines. The other horse that works with him is also affected in the same way. They are hungry all the time, and their feed consists of alsike clover, mixed with a little timothy. Feed about half a gallon of oats at a feed. They pass short, thread-like worms about two inches long. J. J. McK.

Your horses suffer from spasmodic colic, and the causes for this trouble are many. Improper food, sudden change of diet, exhaustion from overwork, drinking cold water when heated or exhausted, constipation and worms, have all undoubtedly one cause for the colic gripes in your animals. The craving for food that your horses have and their getting thinner all the time, is a sure sign that worms are taking away all the nutriment of the food the horses consume. The thread-like worms have their abode in the anus, and the treatment should be by injections up the rectum. The following mixture is used for this purpose: Oil of turpentine, two drachms; linseed oil, one pint; mix and inject every morning for a week. A good colic draught is laudanum and sweet spirits of nitre, one to two ounces each, mixed with one pint of linseed oil and given for a drench. Be very careful aobut the feed you are giving your horses. Seeing that both animals are going the same way, it is certain that the cause in the one is the same in the other. Hay or grain that has not been well harvested or that is mouldy would be enough to give rise to the conditions you describe in your horses. Add some bran mashes per week to your ration and a daily handful or two of linseed seed meal to the oat feed. A few mangels or turnips should be provided in summer for horse feed in winter. They relish them and they act well on a horse's system.

Not so with a NEPONSET ROOF

THIS is a portion of an illustration recently used to demonstrate the superiority of metal over wood shingles as a protection against the elements.

It shows the wind ripping great holes in the wood-shingled roof. No such comparison could be made as between a metal roof and a Neponset Paroid roof.

NEPONSET PAROID

is impervious to rain, sun, wind or hail, and gives assured protection to farm buildings. There are many instances in which a Neponset Paroid roof has stood the test of every variety of weather condition for more than twenty years and is still water-tight.

If you consider roofing, don't experiment, don't waste your money—start right in the commencement and use a roofing material that relieves you of all future cares and worries—specify Neponset Paroid and be sure you receive Neponset—the name that spells honest roofing satisfaction.

The base of Neponset Paroid is a high-grade rag felt thoroughly impregnated with asphalt, making it positively waterproof and fire-resisting.

It is further reinforced with a talc surface, grey in color; or with a permanent slate surface, red or green in color.

EASY TO LAY—With every roll of Neponset Paroid is supplied sufficient nails and cement with full directions.

There is a Neponset dealer in your district. Write us for his name and a copy of our illustrated booklet "Roofing Canada."

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BIRD & SON, LIMITED, Hamilton, Ont.

"Canadian money, Canadian made, should be spent in Canada for Canadian trade."

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NEPONSET ROOFS

"Save the surface and you save all"—Paint & Varnish

RAMSAY'S PAINT AND VARNISH

Time-tried and honest products that have withstood all tests and proven their superiority for 78 years.

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Money Loose is Money Spent

If you hope to rise above the dependance on daily earnings, you must learn to save money. Saved money means capital, and capital means ability to take advantage of opportunities offering, until some day you become independent.

The Bank of Nova Scotia will welcome your Savings Account and give you every possible service and attention.

Capital . . . $ 9,700,000
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54A

POULTRY.

HATCH YOUR CHICKS EARLY

A. C. McCulloch.

Early hatching of chicks is one of the fundamentals of successful poultry raising in New Brunswick, and yet is a point most frequently neglected by the average farmer poultryman. This condition will always prevail unless a greater interest in poultry is aroused because of the fact that natural climatic conditions are not conducive to early broodiness.

Incubators Preferable to Hens

New Brunswick winters are cold and unless poultry receives reasonably good care and are bred and handled properly, laying stock is not likely to lay heavily until the approach of the natural hatching and brooding or reproductive season. The laws of nature have so decreed that a certain variable length of productiveness must precede the desire of the female bird to brood or incubate. This desire is increased by an increase in temperature. It therefore follows that the flock which does not lay well in winter is not likely to contain a great number of early broody hens, and if these are relied upon for incubation, our hatching season is likely to be delayed beyond the time at which chicks should be hatched for good results. Though natural climatic conditions are relatively antagonistic to best returns in winter egg production, careful attention to details and a good understanding of the general principles of feeding and management will make a properly bred flock very profitable.

Artificial incubation, speaking generally, is essential to early hatching, early hatching is essential to early maturity, early maturity is essential to high winter production, high winter production is essential to maximum financial returns from the flock. It therefore follows that artificial incubation, or the use of incubators, is one of the perquisites to the most remunerative conduct of the poultry business, even on a small scale.

Many rural poultry raisers, in fact amateur poultry raisers in general, are averse to the use of incubators. This aversion is entirely unwarranted. The operation of an incubator by many persons is undertaken by either too great a "fear and trembling" or too much of a "cock-sureness", a happy medium is most desirable. A certain amount of faith in ones ability as well as a realization that "there is still something to learn" characterize every successful incubator. Good judgment is all important and anyone possessing this quality combined with a general knowledge of heating, ventilation, etc., can successfully operate a good incubator under favorable conditions.

Use Only Good Dependable Incubators

The tendency among New Brunswick farmers to buy old worn out incubators cannot be too strongly criticised. Many of these incubators were put on the market when the principles of incubation and incubator manufacture were not nearly as well understood as at present, and such machines are very rarely satisfactory. Some of the better makes differ very little in construction to a decade ago, and if they have been well cared for may still be entirely dependable. The fact remains, however, many cheap worthless makes have been put on the market and widely sold, and are still "at large" and ready to "take in" the unsuspecting "sucker", of which it is said one is born every minute. Do not be too prone to believe all the claims for the hatching efficiency of these relics of antiquity.

A good incubator is a good investment, a poor one is a delusion and a snare. The Buckeye Incubator is one of the best on the market, is reasonable in price and readily available, being handled by various agencies in New Brunswick, e.g.

W. H. Thorne Co., St. John,
Sumner Co., Moncton.
T. Eaton Co., Moncton.

The modern Prairie State and Cyphers are also popular machines, and as a rule thoroughly reliable, but not so low in price nor so readily available.

Directions for operating the incubator are always furnished with the machine, and in most cases these should be followed very closely and will give good results.

Time for Hatching

Under New Brunswick conditions, chicks of the general purpose varieties such as Plymouth Rocks, Wyandottes and Rhode Island Reds should be hatched during the latter half of April. Leghorns and Anconas may be hatched a couple of weeks later. It may also be possible to hatch Plymouth Rocks, etc., even as late as May 15th or 20th, and still have them mature and ready to lay by Nov. 1st, but it is better to hatch them soon enough that they will not need to be forced to mature in time. Forcing birds during he growing season frequently makes them mature without sufficient growth and may reduce their egg production, size of eggs, etc., later.

Hovers and Colony House

A hover or brooder should be provided for at least the first hatch from the incubator. The portable hover made of galvanized iron and heated by a kerosene lamp are the best brooding appliances for the average farmer or small poultry raiser. This should be placed in a small colony house about 8 feet wide, 6 feet deep from front to back, 6 feet high in front, and 4 feet high in rear. It should be built on skids, 4 inches square, or round cedar poles, should have a matched lumber floor, be single

I Will Lay For You Next Winter
If you feed me right and protect me against disease with
Pratts Buttermilk BABY CHICK FOOD
Canada needs 75 million laying hens this year to take care of the overwhelming demand.
You can save every well born chick if you feed Pratts Baby Chick Food, for the critical first 3 weeks. Many use it for 5 and 6 weeks.
Mrs. F. Blakeman, Dundas, Ont., writes: "My dealer being out of your Baby Chick Food, sent me a substitute, and in consequence I have lost seven chicks at 3 weeks old in three days. I charged my dealer with it, and told him I have raised 50 chicks on Pratts Baby Chick Food and never lost a chick, and cannot account for it any other way but the wrong food."
Try it just once at our risk.
MONEY BACK IF NOT SATISFIED.
At your dealer's in popular priced pkgs., also in money-saving 50-lb. and 100-lb. bags.
Write for Pratts New Baby Chick Book. It's FREE.
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THE Enterprise Range was looked upon as perfect. And still, year after year, we have been able to make improvements. The
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to-day is bang up-to-the minute. It has all the real conveniences, fuel and labor saving devices of recent years, and —as ever—it is the most dependable baking stove that you can buy. See your dealer and write today for our free illustrated booklet.
The Enterprise Foundry Co., Limited, Sackville, N. B.
Makers of the well-known lines of Enterprise Stoves, Ranges and Furnaces.
11
Enterprise Ranges

SIMONDS SAWS
A Simonds buck saw cuts faster and with less effort. Frames are rigid and blades the keenest.
SIMONDS CANADA SAW CO., LIMITED,
St. Remi Street and Acorn Avenue,
MONTREAL, Que.
VANCOUVER, B. C.
ST. JOHN, N. B.
S-28-2

boarded all round and the cracks battened. In the centre of the front should be a door of wire netting and set in this frame another to which thin cotton (about 20c per yard) is tacked. On each side of the door is a window the bottom of which is about one foot from the floor. Window frames should be hinged to the corner stud so they will swing back against the end of the house and be out of the way. A house of this description is very simple and can be built by any farmer at a very moderate price. Being on skids it can be drawn to a new location as frequently as desired.

The second hatch from the incubator may in many cases be brooded by hens, but it is advisable to have another hover in readiness if there is danger of not having a sufficient number of broody hens at hatching time. It is poor business to hatch chicks and run the risk of losing them due to lack of brooding equipment. A dozen good chicks when grown will pay for another hover. Also with eggs at present prices, it is not advisable to allow hens the time required for raising chicks.

SELECTING BREEDING BIRDS

The winter season is an unnatural laying season, and unless birds are specially bred for egg production at this time and are given good care and management, they will not likely produce many eggs until about March 1st during the average season. It is the ability to lay during this season which specially distinguishes the heavy laying or bred-to-lay strains from the average class of poultry. Even among bred-to-lay strains there is a remarkable variation in the egg producing ability of individual birds and this variation makes the selection of breeding birds essential, since high winter egg production is an inherited character and should be bred for just as seriously as any other desirable character.

Identifying the Layers

Speaking generally the laying hen is more active, has a brighter head, redder better developed comb, and sings and appears more lively than the non producer. Not all bright, active and vigorous birds however are producing eggs. A much more reliable test is the distance apart of the pelvic bones, the development of the abdomen and the color of the vent. The pelvic bones are more or less sharp bones pointing toward the rear and may be felt at either side of the vent. In a bird which has not begun to approach laying condition these bones are frequently only about three-quarters of an inch or about the width of a finger apart. As laying condition approaches they spread until they are the width of perhaps three or four inches apart.

In the non laying bird the abdomen (part between the pelvic bones and the rear of the keel or breast bone) is shrivelled up and relatively dry and hard. There is also less distance between the pelvic bones and the rear of the keel bone.

The vent of the non-layer is small, shrivelled, dry and yellow in color, with yellow skinned varieties, e. g. Plymouth Rocks, Wyandottes, Rhode Island Reds, Leghorns and Anconas. A combination of the three tests will indicate the layers practically without fail.

Selecting the Best Layers

A flock of birds of the varieties named may be very accurately graded as to the number of eggs laid by each up to the present time. It is a commonly observed fact that such birds frequently get white beaks and even white legs late in the spring or during the summer months. The explanation lies in the fact that the hen takes the yellow coloring matter from her skin and uses it in the manufacture of egg-yolks. The yellow color in the skin is observed most easily in the vent, the eye-ring (skin surrounding the eye), the beak, and the legs. In Leghorns and Anconas it is seen also in the ear-lobes which are white or yellowish. The more eggs a hen lays the more of the coloring matter is used and the nearer white the parts become.

Vent

Color disappears first from the parts where the blood circulation is fastest

(Continued on page 512)

Mother Meant What She Said

"What do you think of my bread, Mother?"

"Why, these loaves look perfectly lovely. Since you have a home of your own you have become a wonderful cook. I'm getting envious, Edna. Why, I believe I like your bread and biscuits better than my own!"

"Mother, you old flatterer!"

"No! I mean it. I've really never eaten better bread than yours."

"Well now, I refuse to take *all* the credit. I'll let you in on the secret, Mother. I use

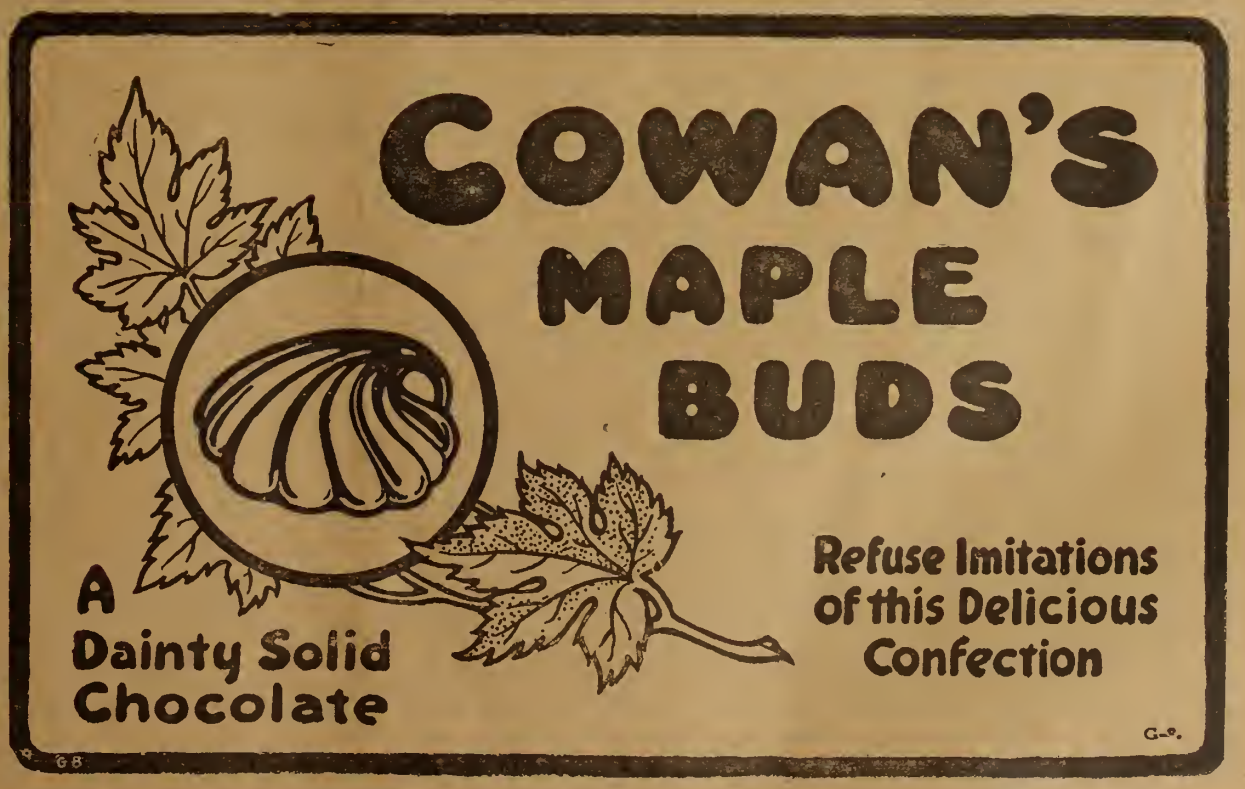
Cream of the West Flour

the hard wheat flour that is guaranteed for bread

Maple Leaf Milling Co., Limited

Toronto, - - Canada

10



FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Shbjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N. B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

SERVICE

Work on, however small your sphere may be.
Know this: True service is the best of life.
And, though the path from thorns be never free,
The thought of duty done with pcace is rife.

The seed you sow today may help to feed
The hungry, though its harvest others reap.
The fabric that you weave may stay the need
Of some poor shivering being in God's keep.

The stone you lay may help to raise the wall
That will a flood of insurrection quell.
The word you trace, however poor and small,
May help the tide of human thought to swell.

In the white glory of some infinite day,
You may, with mind made great to comprehend,
Gauge the full meaning of this interplay
Of many forces working toward one end.

And even though you never grasp it all
Still be content to do the best you can,
Trusting that whatsoever may befall
Is but a part of the eternal plan.

—J. E. DOLSEN.

WHEN LOVE CAME PEGGY LOU

(By May A. Feehan.)

John Charles Arnott was thinking. He sat on the top one of the steps leading onto the verandah, idly twisting a long stick back and forth across the verandah floor. It was very hot; the hottest, drowsiest hour of a southern, small town, summer afternoon. The leaves on the shrubs and trees hung heavy like the big weights in the tall clock in the hall, weights which Jonh Charles did not remember ever to have seen moving. Perhaps the leaves were taking their afternoon nap as John Charles should have been doing; but the bed sheets had been so very hot that after Mammy Turner had taken off his rompers and left the room, he had risen quietly, tiptoed in his bare feet down the wide hall, slid quietly down the broad rail of the stairway, and now sat, a chubby little figure in undergarments—thinking.

A big fly floated lazily past him and he hit at it listlessly with his stick, but the fly, wearing no clothes, apparently was possessed of more energy than folks would suppose, for he suddenly shot away, losing himself in the sunshine.

Old Doctor Thomas jogged past, brushing his whip across the back of Julius Caesar, driving off horse flies. Doctor Thomas waved his hand, and Julius Caesar flicked his ears in sign of recognition. John Charles feebly waved back; then, with his hands on his knees, he suddenly leaned far forward and watched them out of sight for—one the seat beside old Doctor Thomas was a white bundle! John Charles knew. Doctor Thomas was delivering a baby. God sent the babies, and Doctor Thomas stopped at different houses and left them; that was all there was to it. The very thing John Charles had been thinking of—a baby! Strange that Doctor Thomas should pass just at that moment. Perhaps the people he was going to see would refuse the baby, and Doctor Thomas would come driving back. John Charles lost no time. He changed his sitting position to that of kneeling, bending his small figure far over in his earnestness, thus presenting to the view of a chance passerby, a small fat back from which two very black soles protruded.

"Dear God," he prayed, "send me a baby sister, quick! If you haven't any white ones left, send a black one —only hurry!"

John Charles got up and ruefully surveyed his bare knees; then, hearing Mammy Turner's plodding footsteps coming down the hall, he hastily spit on his handkerchief and attempted to wipe off the smudges.

"You John Charles Arnott, what you doin' out of bed? Ain't you 'shamed, yo' mammy sick and all, and you a big boy five years old! Go 'long!"

John Charles sped up the stairway with the horrible feeling that a none-too-gentle spank might propel him onward, but he reached his bed safely and lay there listening for Julius Casar's returning hoofbeats until he fell asleep.

But Doctor Thomas did not stop that day nor the next, and the faith of John Charles swavered accordingingly, until one evening, returning form a glorious day spent at his Aunt Helen's where there were two boy cousins and thre girl ones, John Charles' father met him at the front door; he was very much excited.

"I have something to show you upstairs, John Charles," he said, something you want—a baby sister!"

John Charles was breathless. Then "Does mother know?" he demanded, and reassured on this point, stopped to think, for a fear smote him; his prayer was answered, but, like all mortals, once the seemingly unattainable is reached, he wanted a perfect gift, a gift with no reservations.

"What color is she, Daddy?" he asked anxiously.

His father laughed. "Wait until you see her. She isn't a blonde like you, she's the cutest little black thing you ever saw."

John Charles grasped the bannister for support, while his short fat legs almost refused to carry him up the stairway. "A little black thing." Then his faith returned. God had actually sent a baby sister; now He could turn her white; so all the way up stairs, clutching his father's hand in his excitement John Charles prayed, "Turn her white, God, turn her, turn her—"

The opening door of his mother's room interrupted the prayer, and John Charles ran to the bed to be seized and smothered with kisses.

"Isn't she sweet?" his mother said as she turned back the covers.

John Charles experienced a dreadful sinking sensation in his stomach as a crop of black hair met his gaze; he looked a second time, and his spirits rose a little.

"She's rather red, mother dear?" he questioned doubtfully, and amazed his mother and father by indulging in loud alughter, unusual for serious little John Charles, at his mother's explanation of the fact that the baby would soon be white. Of course; how foolish of him. God hadn't had time to turn her completely in the short, few minutes it had taken John Charles to get upstairs; perhaps her feet were still bl—. John Charles used diplomacy.

I'd like to see her toes, if I may," he begged the nurse. Again his spirits rose; the turning had been thorough, her feet were red, too; she was red all over. John Charles hugged the secret of his prayer, but he smiled pityingly on the ladies who called to see his mother and remarked on the baby sister's black hair. "When you, Mary have auburn hair and John Charles, senior, is such a blond." John Charles sometimes had to put his hand over his mouth so that they would not see him laugh. He knew, but he would not tell; no, never!

Thereafter John Charles was possessed of the faith that moves mountains, and like all neophytes, longed to convert others.

Swinging on the gate one morning, he watched an old mammy approach, trundling a baby carriage from which a grinning black picaninny showed two very white teeth to the world. John Charles called to the mammy in his soft southern drawl:

"I reckon you'd like to turn him, Auntie," he piped persuasively.

"Turn 'im chile, what you mean, honey?"

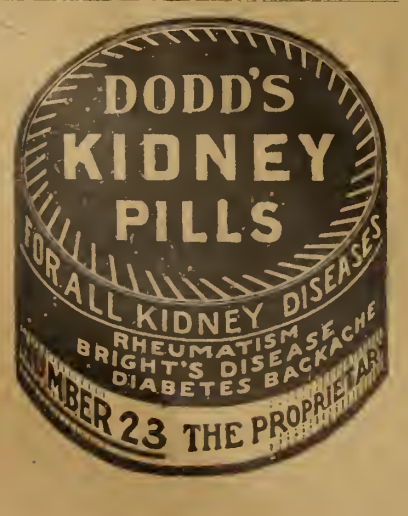
"Turn him white, Auntie. You just pray: 'Turn him white, God, turn him white,' an first he'll turn red and then be white, likke my baby sister."

John Charles clambered down off the gate and beat a hasty retreat, followed by an irate mammy's angry expostulations.

"I goin' tell yo' papa, John Charles Arnott. The idea of insinuatin' scandal about a 'spectable married colored lady. Turn 'im white, indeed. I takes mine black, I does."

Then the usual darky humor getting the best of her anger, she rocked to and fro with wild laughter which frightened John Charles all the more, and caused him to force his fat legs to their highest speed.

No baby was ever loved and petted, admired and adored as was Peggy Lou Arnott. She was christened Margaret Louise, for her mother, but, while that name suited mild, sweet, old-fashioned Mrs. Arnott perfectly, it was a misnomer for the black-haired black-eyed, vivacious bit of feminity who turned the Arnott household upside down by a mere crook of her finger. The Judge and Mrs. Arnott were "absolutely silly," so an unkind neighbor said; John Charles was Peggy Lou's adoring slave, and his admiration was so infectious that Peggy Lou's daily pilgrimage with Mammy Turner wheeling her perambulator an John Charles clinging to the handle, was a triumphal procession. Passing Aunt Helen's gate was a signal for an avalanche, the two boy cousins and the three girl ones descending in a body. The shopkeep-



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Lotions and ointments may allay the trouble for a while, but seldom if ever cure.

You have to get under the skin; get at the blood which is the cause of the trouble.

Burdock Blood Bitters goes direct to the root of the disease and restores healthy, normal action to the different organs, and cleanses the blood of all its impurities.

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ers joined the worshipers, even old Mr. Haley who sold newspapers from a stand on Main Street, and who was never known to smile, called "Hello, sister," and waved as they passed. John Charles accepted all this as a matter of course; Peggy Lou was a different sort of baby; didn't John Charles know? There were times, particularly when passing a colored baby, when John Charles shuddered at the thought of the dire fate he had so nearly visited on his baby sister. But Peggy Lou was perfectly white; her cheeks were a lovely soft pink, her hair was beginning to curl in little soft ringlets. John Charles loved her hair, and her big, black eyes smiled at everyone.

But when Peggy Lou was sixteen a sad thing happened; she fell very ill with typhoid fever. Old Doctor Thomas called many times every day; trained nurses were sent for to Louisville and Doctor Thomas insisted on specialists from the city for consultation, though his home town people said that Doctor Thomas knew more than all other doctors put together. Poor Mrs. Arnott seldom left the sick room except to telephone the Judge, or John Charles, who now was a partner in his father's law firm.

Pegg Lou recovered from the fever but her heart was affected and the verdict was that Peggy Lou would never be strong again. She was in bed for a year; then one happy day a very weak and wan Peggy Lou was carried down stairs by John Charles. It was not long before she was able to remain down all day. A corner of the veranda was furnished for her, and here John Charles carried her every morning, and here she held court every day, until he carried her upstairs again at night. People still loved Pegg Lou. Her illness had given an etheral touch to her beauty, but beyond a delicate pallor, the year of suffering had only made her lovlier, if possible.

Peggy Lou's corner became a rendezvous; the girls flocked there, making the veranda ring with soft laughter and informing an eager Peggy Lou of all the hapepnings of their small world in the sleepy little town. Love affairs were confided to a sympathetic Peggy Lou and more than one unhappy tangle unraveled by her adroit arrangement. The boys stopped by often. Peggy Lou had been a good sport; it would be a shame to turn her down now. And the visits were no hardship, Mammy Turner saw to that. From nurse she had graduated to abject slave. Her "honey chile" would not get lonesome through fault of hers, and the visitors were treated to cakes and iced drinks, so that they came back again and again. Peggy Lou's corner became as famous as "The Cheshire Cheese."

"Have you been to Peggy Lou's corner?" was the first question asked the visiting girl or man, and the bewildered guest was forthwith started up Maple Street. Fully expecting to be shown an historic corner where Kentucky feudists had held the posse at bay, or at least, a corner where the latest lynching had taken place, the surprise was great to come suddenly on a big, rambling, white house with tall pillars; to be ushered on to a veranda, a fairy land of flowers, dainty cushions, and low, comfortable wicker chairs; to hear the tinkle of ice against tall thin glasses at one's elbow, and eats, but not least to meet Peggy Lou herself, a vision of fluff and lovliness in pink georgette negligee or pale yellow house gown. John Charles was responsible for these; he was becoming very much of a lawyer for one so young and he saw to it that Peggy Lou, who could not know the joy of pretty clothes like other girls, should, at least have the prettiest negligees to be found in the New York shops. Yes, it was a pleasant surprise, to find an unusually pretty girl holding court on a flower-decked veranda; an exceptional girl too, one whose enforced quiet life had made of her a great reader. one who could discuss all subjects, the latest books, the tariff, who was up on law, unspoiled, apparently, in spite of the adoration surrounding her. Mrs. Arnott, flitting in and out like a tiny humming bird, beseeching to know Peggy Lou's slightest whim; John Charles hanging over the back of her chair, settling cushions, lifting her from the chair to the couch when she tired of sitting up. It was a pity!

And son one expressed one's self to one's guide on the homeward walk.

It is a pity, the guide agreed, for Peggy Lou is an unusual girl, destined for big things in the world, I believe, had she her health. Yes, the doctors used to come down from Louisville, but ther's nothing to be done. We all try to help Peggy bear her enforced invalidism. The fruit man puts aside the best for Peggy when the fruit comes in, the butcher

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Note the Difference in These Two Boots.

It is very slight—in style and height of heel and in the toe—this reveals the subtle differences between the thirty-five to forty lines that this type of boot covers in our stocks.

Including high, low and medium heels; broad, medium and recede toes, soles of Leather or Neolin. Leathers include Patent, Vici Kid, Calf, Colored Calf and Side Leathers. Colors are in Tan, Mahogany, Grey and Black. Goodyear and McKay welts.

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LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

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If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.

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keeps the choicest cuts of meat for her, and so on. That has been going on for four years now. It's remarkable when you think of it but, then, Peggy Lou's a remarkable girl."

The speaker was Stewart Blackman, son of old Colonel Blackman. It was whispered that he loved Peggy Lou. Two afternoons each week he read to her, and together they discussed the books or the article. Stewart spent many evenings in Peggy Lou's corner also. It was a pity poor Peggy Lou could never marry, for Stewart was a fine young man. There was Johnson Bridges, too. Stewart's afternoons were so arranged as not to conflict with those of Johnson Bridges. Johnson was a bachelor, a man well on toward fifty. In his youth he had loved someone very dearly, but she died the week before the wedding, and he had remained faithful to her memory. Now unkind gossips hinted that he was forgetting his early sweetheart, but Johnson scorned gossip and paid no heed to reports that reached him. He enjoyed Peggy Lou. "She talks sense," he said, "not a lot of chatter like most of these silly women."

Peggy Lou talked sense to those who liked it, and chatter to those whose minds ran on chattering lines —she was a wise Peggy. Apparently she was happy; if she sometimes longed for a different life she kept such thoughts to herself. Everyone was so good to her, it would be wrong to complain. Even John Charles, showing her the newest dance steps to the tune of the latest dance record on the victrola; or describing to her the foootball games in Louisville; or the championship baseball games in Chicago where he had run up to see the White Sox and the Giants open the World Series; even John Charles did not know that after carrying her upstairs to bed and leaving her to the tender care of his mother and Mammy Turner, that, after they had left her, she sometimes shed a few tears because she could not be like other girls; could not have a real beau, go to dances, nor stroll at night under the big, spreading trees. To be sure she did not know with whom she would care to stroll—she usually ended by deciding ono John Charles; then called herself a wicked girl, and fell to sleep.

And so matters ran on for four years. Peggy Lou was twenty-one, John Charles was within four years of thirty and turning an interesting grey at the temples. Peggy Lou deplored the grey hairs, but not so the town girls. "He's adorable, Peggy Lou, so interesting and unusual, he looks as though he had a tragic love affair, his sweetheart died the day of the wedding, or something romantic of that sort." Susie McAllister shook her three little curls, carefully pinned toward the back of her head, and fixed her child-like eyes on John Charles as he swung up Maple Street.

"Hasn't he ever been in love?" Judy D'Arcy whispered as John Charles turned in at the gate.

"How could John Charles fall in love, Judy?" Susie demanded and added pityingly under her breath, "Poor John Charles!

A retort on Peggy Lou's lips was cut short by the object of the discussion swinging himself over the rail of the veranda and depositing himself at her feet. He did not look especially sad or romantic, he was just a big, tall, good-looking young man with a wonderful crop of light brown hair which should not have been turning gray at the temples. Peggy Lou looked at John Charles with new eyes. John Charles in love? Surely not with frivolous little Susie talking up at him, her face very close to his. There had been that northern girl, Mary Cleveland—Peggy Lou stopped.

The girls took a noisy departure, their laughter floating back long after their white dresses disappeared down Maple Street. Peggy Lou's eyes rested again on John Charles. Why couldn't he fall in love? Of course she had caught Susie's meaning. Susie was rather given to unkind remarks of that kind, but surely John Charles would not let Peggy Lou stand in the way of his happiness. She decided to investigate, diplomatically of course.

"I have a letter here from Mary Cleveland. Would you like to hear it?" she asked watching John Charles anxiously.

"Fire away," he answered absently. He did not look like a man in love, nor one whose promised bride had died on the wedding day, it was a little disconcerting.

Peggy Lou read the letter through, then prepared a course of action.

"I am glad she is coming to Terella again. I liked her immensely, didn't you, John Charles?"

"Um-um," was John Charles' dreamy answer. But Peggy Lou was determined.

"I am thinking of asking her to visit me; she seemed to like me and I believe she would come. Don't you think we could give her a good time? You could entertain her in the evenings, and all the boys and girls would help, I know."

"Of course she'll accept your invitation, and of course she like syou," John Charles reassured her, still refusing to look broken-hearted. "Write her at once, I promise you I shall do my part."

There was a long silence during which Peggy Lou watched John Charles. Everything was quiet and over John Charles' face a reminiscent smile slowly spread.

"Have you ever been in love, John Charles?" Peggy Lou shot her thunderbolt.

John Charles, roused from his reverie, jumped as if shot, while a dark flush mounted up his face and lost itself in the grey hair at his temples.

"Of course I am in love! I'm in love with a black-haired, black-eyed beauty whose name is Peggy Lou Arnott," he said rumpling the beauty's hair. But Pegg Lou seized his hand and clung to it."

"O, John Charles, you are so good to me, sometimes I am afraid. Promise me that you never will lose your chance of happiness because of me; promise me that if you want to marry—"

"Who has been putting foolish notions in your head?" John Charles interrupted. "I shall marry when you do, Pegg Lou, we'll have a double wedding." Then he went whistling into the house, but Peggy Lou sat wistfully looking after him. That tell-tale flush had told her something. John Charles could pretend indifference, could scoff at the probability of a love affair where he was concerned, but he could not deceive Peggy Lou, and the letter that was mailed to Mary Cleveland that night was so sweet and appealing that Mary, with a vivid recollection of happy hours spent in Peggy Lou's corner, cut short her visit in Frankfort and wired to expect her that very week.

It was about this time that old Doctor Thomas ,to the grief of the town, suffered his first stroke of paralysis, and sent for his nephew, Dr. Gordon, to come to Tereila and look after his practice.

Philip Gordon was a man of thirty-one, a man of independent means, but possessed with a love of the medical profession inherited from a long line of Gordons on his father's side, and handed down to him by his mother's people, the Thomases. He worked among the poor in Louisville, lived down in one of the most wretched parts of the city, and was thoroughly angry and amused at people who looked on him in the light of a hero.

"I've been blessed with plenty of money," he explained simplf. "I love my profession, and for variety of practice I can find no better place than this; so please stop this hero business; I am fortunate that these people let me serve them, that's all." And a reporter who approached him with a view to writing him up, with photographs, for the Sunday Supplement, was roughly handled, then taken back into the office and so royally treated that he left Dr. Gordon's office his friend for life. But he did not write him up.

Dr. Gordon was devoted to old Dr. Thomas, really pulled him through his stroke by his devotion, then acted his right-hand man so diplomatically that the old doctor was spared much of that feeling of usefulness which follows in such illness. Soon sufficiently recovered to drive about, it was with great pride that he introduced, "My nephew, Dr. Gordon."

"He's promised to stay with me until I tire of him," he'd say with his hand restiny as though affectionately, but in reality for support, on the young man's shoulder. "He's put a younng cub in his place in Louisville, a lazy beggar of great possibilities, but going bad for lack of ambition. Philip will run up there from time to time to keep an eye on him; the boy actually is afraid of Phil, but he's doing the right thing now and, Philip says, will be a big man some day."

One of the first visits, of course,

THE BANK'S POSITION

As at 30th November, 1919.

Cash and Bank Balances	$ 90,757,510
Other Quick Assets - -	129,154,213
Loans - - - - -	283,870,274
Deposits - - - -	393,605,156
Total Assets - - -	479,644,205

501

THE CANADIAN BANK OF COMMERCE

PAID-UP CAPITAL - -	$15,000,000
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was to Peggy Lou's corner where Dr. oGrdon said little, but watched Peggy Lou and appraised her family. The little mother, with her humming-bird ways, complacently delighted in her self-imposed martyrdom; Judge Arnott, harkening to Peggy Lou's least whim, John Charles forestalling any exertion, almost of thought, on his sister's part; even that visiting girl, Miss Cleveland, and whom the brother seemed to like, deferring to Peggy Lou in all discussions; and Mammy Turner, bustling out every few moments, "jes to see if ma honey chile wants somefin." And Peggy Lou herself, a queen surrounded by courtiers. Dr. Gordon absorbed all this, and surprised his uncle as they let Julius Caesar turn corners and look out for passing vehicles without so much as a touch on the reins—that would have been an insult to Julius Casear.

"She is a fine little girl," Dr. Gordon said in answer to the time-honored question, "but those people are stifling her; she hasn't the ghost of a chance."

But she's very delicate—" Dr. Thomas began.

"Yes, and that fact has been dingdonged into her for so long, that the girl soon won't be able to think for herself."

Dr. Thomas bristled up. Wasn't Pegg Lou one of his babies? The first touch of anything but admiration for his nephew assailed him. But Dr. Gordon was not finished.

"How long since you have examined her heart?" he demanded.

"The last time the specialists were here was two years ago. Peggy Lou appeared to be better and one of them advised her to walk. It was dreadful. Peggy Lou fainted—"

"And never tried it again, I suppose," Dr. Gordon mumbled under his breath.

"But how long since you examined her yourself?" he persisted.

"It's some time," Dr. Thomas evaded. "I left it to these specialist chaps; they know more than I do."

"Nothing of the sort," Dr. Gordon defended warmly. "I wish you had kept it up."

"The family rather resent it I think, so I no longer suggest specialists or myself. It upsets Peggy Lou, and, of course, now I can do nothing."

"You'll soon be dancing the tango," his nephew reassured him, giving his arm a squeeze. The conversation ended, and Dr. Thomas decided that Philip had forgotten the incident; but some days later, watching John Charles and Mary Cleveland stroll past the house, Dr. Gordon looked after them. "I'd surely like to have a try at Peggy Lou," he said.

(To be continued)

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PILES TREATED AT HOME

I promise to send you a FREE trial of the new absorption treatment, and references from your own locality if you will but write and ask. I assure you of immediate relief. Send no money, but tell others of this offer.
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FIFTEENTH ANNUAL MEETING OF N. B. FRUIT GROWERS' ASSOCIATION

The fifteenth annual meeting of the New Brunswick Fruit Growers' Association was held in the Council Chamber, City Hall, Fredericton, on March 31st. Fifty-five registered throughout the day and forty were present when the meeting opened at 10.30 with President O. W. Wetmore, of Clifton, in the chair.

In his address, President Wetmore expressed appreciation of the honor conferred upon him in his election to office and complimented the organization upon having the services of such an energetic secretary as A. G. Turney, Provincial Horticulturist. In discussing the outlook for New Brunswick apples, he referred to the fact that "our apples have gained such a reputation and found such a good market right near home in Montreal." He expressed the opinion that for some years to come Montreal "might take quite a share of our output," and declared the growers had received a good return last year with one of the largest crops in history.

"Our New Brunswick strawberries proved themselves about the best that are shipped from anywhere to Montreal and other large cities," declared President Wetmore in referring to the small fruits, and he quoted prices received as 35 cents a box by the crate, which netted 29 cents f. o. b. at the shipping station—"a record price and never netting below 20 cents." He advocated growing more raspberries and blackberries, for which there was a good market, adding: "It seems that for some time prices will be good on small fruits as the large preserving concerns have about exhausted their output and there is a good paying demand from them for an almost unlimited quantity."

Mr. A. G. Turney then read his annual report as Secretary Treasurer of the Association. This report reviewed at length the various activities of the Association and the present and prospective conditions surrounding the apple and small fruit industry throughout Canada and the United States. It contains much information of interest to Maritime fruit growers, and will be published in full in our next issue. Summarised for the present, it reported the past year as the most active, useful and promising one in the history of the Association, with a membership of 174 compared with the previous high mark of 150 in 1917. The volume of the supply business showed a 35% increase over that of 1918 and Mr. Turney urged the members, in their purchase of supplies, to stick to the old firm and support their own organization,—the one that was giving them this service long before others entered the field. The competition introduced by the Association had forced other sources of supply to lower their prices.

The Secretary reported that in accordance with the resolution passed at the last annual meeting requesting that the Association be incorporated under special charter of the Legislature, the Honourable J. F. Tweeddale, Minister of Agriculture, had introduced and secured the passage of a bill incorporating the New Brunswick Fruit Growers' Association, at the last session of the legislature, and also appropriated for it a grant of two hundred dollars. The immediate and favorable action of the Honourable Mr. Tweeddale in this matter was much appreciated by the fruit growing interests of the province.

Other matters referred to in the Secretary's report were the "Summer Field Day" or Orchard Picnic; the barrel situation; the making of berry boxes and crates in New Brunswick; subscribing to the Canadian Horticulturist; the appointment of Mr. C. W. Baxter as Dominion Fruit Commissioner; the prospects for apple growing in Canada and the United States—the favorable wintering of New Brunswick

(Continued on page 514)

The Fence That's Locked Together

It's close enough to keep small fowl in and strong enough to keep large animals out. Securely locked together at each intersection of the wires. It's many times heavier and stronger than poultry netting, and being well galvanized, will last many years longer. Top and bottom wires are extra heavy. No top and bottom boards required. PEERLESS Poultry Fence is built so strong and heavy, that but half the ordinary number of posts are required. It gives you real fence service.

MADE IN CANADA

Note the extra close spacing at bottom, no base boards required. Turns the small chicks, keeps small animals in or out.

The Peerless Lock holds the intersecting wires in a firm grip that is non-slippable. Compare it with any other poultry fence. The Peerless fence is built to stand any test. It is durable.

Send for our catalog—it's free.

THE BANWELL-HOXIE WIRE FENCE CO., Limited
Winnipeg, Man. Hamilton, Ont.

PEERLESS THE ALL AROUND FENCE

Cord or Fabric.

"A well shod horse travels surest and farthest"

THE car equipped with Partridge Tires runs almost free from the delays and inconveniences caused by tire troubles. Partridge Tires have so unquestionably proved their dependability and economy that they are to-day recognized as "the most service for your money" tires.

115A

PARTRIDGE TIRES

Game as Their Name

DO NOT DISMISS
CONSTIPATION
AS A TRIFLE. IT IS NOT.

Half the ills of life are caused by allowing the bowels to become constipated.

When the bowels become constipated the stomach gets out of order, the liver does not work properly, and then follows the violent sick and bilious headaches, sourness of the stomach, biliousness, heartburn, water brash, or the painful, irritating internal bleeding or protruding piles.

Keep your bowels regular with Milburn's Laxa-Liver Pills and you need never be constipated.

Mrs. C. Henderson, Trail, B.C., writes:—"I have been troubled with sick headaches and constipation most all my life. Have not now been troubled for a long time. I have great faith in Milburn's Laxa-Liver Pills since using them."

Milburn's Laxa-Liver Pills are 25c. a vial at all dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited. Toronto. Ont.

SPRING TOUCHES IN THE COUNTRY HOME

Housecleaning stands for different things in different households. In some it means a sort of general upheaval, an internal revolution and a general skirmish all along the line. In other families it is done quietly and easily. and the general renovation and brightening up of the whole house after the smoke and grime of six months of closed doors and windows is a real satisfaction to the whole family. The house must be cleaned for health and comfort, and though the hard work may not appeal, the cleanliness and comfort do.

It is always wise to let nature do her own housecleaning before the housewife begins hers.

Let the cleansing rains and her strong, high winds get in their work of cleaning up the out of door world and then one may safely begin indoor renovation. There is always a good many chilly days in early spring when fire is needed, and it is not a good plan to take down the stoves too early in the spring. But, of course, the cellar can be thoroughly cleaned and whitewashed, and the closets cleaned and many other odd jobs done before the general onslaught begins. No one woman can be a law unto another as to methods of housecleaning.

One reason why the average woman enjoys the spring renovation is because of the changes and improvements she can make in her household. The woman who stays much at home get deadly tired of things as they are and the little artistic touches the new furnishings and household conveniences that she may at this time add are a source of real pleasure and satisfaction.

All are so influenced in health and spirits by our home surroundings that it is the part of wisdom to make homes as bright and cheerful as possible. And so, instead of getting into a rut and staying there, it is a good plan to make the changes and add to the furnishings and household conveniences just as far as our means will allow. Walls covered with old faded and cracked paper are depressing, and if new paper is impossible the walls maye be gone over with a thin coat of calcimine, which will leave the figures in the paper showing through a delicate outline that is very dainty and pleasing. The color scheme of the room may be changed entirely in the selection of the shade of calcimine used. Faded window shades may also be renewed by going over them with a thin paint, and any capable woman can go over her woodwork with two coats of paint, if no painter is available, just for the satisfaction of the improvement it will make in her home atmosphere.

So much of the comfort and enjoymet of the whole family depends upon the capable management of the housemother, and so much responsibility for the love of home in the hearts of her children rests upon her, that every woman should determine that her home shall be just as comfortable and home like, and also just as pleasant and attractive indoors and out as means will allow. This is a time of unusual prosperity among farm people, and there is no reason why this prosperity should not be in evidence inside the farm home as well as out of doors.

THE ROYAL BANK OF CANADA

begs to advise that it has for rental

SAFETY DEPOSIT BOXES

for the protection of valuable business or private documents, jewelry, Victory Bonds, &c.

The Manager will be glad to furnish particulars on application

Write for Booklet to-day interesting —FREE.

Maxwell

"Home" Washer

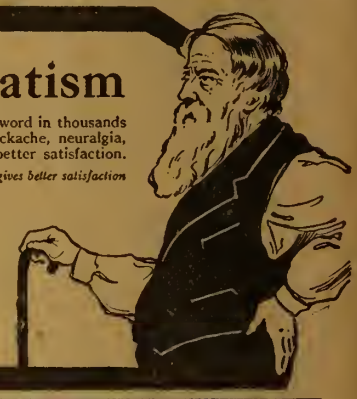
—the washer that not only washes the clothes mechanically, but does it better than they can be washed by hand. There's no "skimping" by the "Home" Washer—light or heavy articles are cleaned with equal thoroughness. There's no tearing of delicate fabrics, either And it does the work in half the time! No more long-drawn-out, backbreaking washdays anywhere there's a Maxwell "Home" Washer; Just put the clothes in, and the rest is hardly work at all—because the "Home" Washer is so light, noiseless, and easy-running. Enclosed gears make it absolutely safe: "springs" make cover lift easily. Made of best quality cypress, handsomely finished Runs by hand-power or water-motor. See it at your dealer's.

MAXWELLS LIMITED, Dept. X St Marys, Ont. 34

Backache—Rheumatism

For over 50 years Minard's Liniment has been a household word in thousands of homes all over Canada. It quickly relieves rheumatism, backache, neuralgia, sciatica, sprains or bruises and pain of any kind. None give better satisfaction.

MRS. J. D. MORIN, LANIOUREAU, ALBERTA.—*There is no liniment that gives better satisfaction than Minard's in bad cases of backache, rheumatism, and sore throat.*



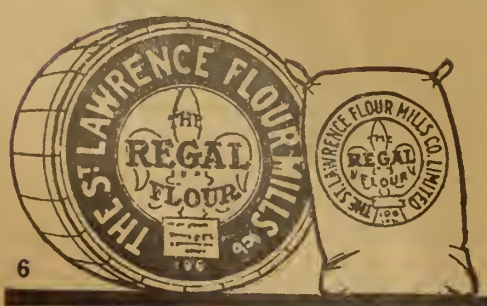
Minard's King of Pain Liniment

Yarmouth Nova Scotia.

At all Dealers

REGAL

The Big Value in FLOUR for Bread, Cakes & Pastry



The St. Lawrence Flour Mills Co. LIMITED

Montreal, P.Q. Halifax, N.S.

6

Its Lasting Freshness Brings Economy

IT ISN'T cake-making, it's cake *waste* that is extravagant. It is the cake you bake and don't *entirely* eat that is costly. Here again true kitchen thrift suggests the use of FIVE ROSES flour for *all* your baking. *It prevents waste by keeping fresh.* Long after ordinary cake is dry and tasteless and is wastefully thrown away, you can readily identify a FIVE ROSES cake by its rare freshness of flavor and a texture still soft and moist.

Left-overs are thriftily reduced by the new deliciousness that FIVE ROSES flour imparts. Eager consumption is encouraged by the bright, porous texture, the well-aerated crumb, and the thin, tender crust without cracks.

When you buy FIVE ROSES flour, it is pleasant to know that you are getting more than mere Eating Qualities. You are practising *genuine* Economy.

How to make over 200 Cakes Without Waste

In the famous FIVE ROSES Cook Book, there are hundreds of cake recipes without eggs and with few ingredients for the economical cook, hints for left-overs and scraps that reduce expense. More than 500,000 women are now making their cakes, bread, rolls, puddings and pastries from its 144 pages. If you wish to be successful, send for the FIVE ROSES Cook Book. If you wish to be economical, send 30c. in stamps for YOUR copy. Address: Dept. "C." LAKE OF THE WOODS MILLING CO., LIMITED, MONTREAL and WINNIPEG.

FIVE ROSES FLOUR

FOR BREADS, CAKES, PUDDINGS, PASTRIES

WHEN HOUSECLEANING

An ounce of alum added to each gallon of rinsing water will render lace curtains almost fireproof. When a match head strikes against a curtain thus treated the lace smoulders instead of bursting into flame.

To clean floors, buy a common blackboard eraser and fasten it firmly to an old broom handle. If the eraser is dipped in a little coal oil it will take up all lint and dust and polish the floor at the same time.

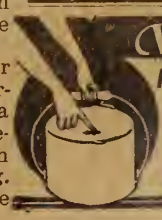
When cleaning white enamel woodwork try using sweet milk and ammonia, two tablespoonfuls of ammonia to a quart of milk. The enamel will not turn yellow if this mixture is used.

The very best duster for polished wood is good chamois skin, not too big. Dip it in either hot or cold water and wring it very dry, so that it feels merely damp. Then go over the dusty surfaces till the chamois looks dirty. Wash it clean and wring hard before going on. A little ammonia in the water helps remove possible fingers marks. Always keep changing the water so long as it grows dirty and always be sure that the chamois is clean and well wrung out.

If the top of a kitchen table or the bread and meat board are rubbed with cut lemon and then rinsed with cold water, they will be beautifully white. Cut lemon rubbed on the hands will whiten them and remove stains, even decided and extensive ones. It will also make the skin smooth.

Wet Spanish whiting with water to a paste and apply to windows or mirrors. When dry, merely rub off and the glass will be bright and clean. Woodwork may be cleaned in the same way. To be sure to avoid lint on windows and mirrors, wash with a piece of chamois, though with the whiting this is hardly necessary.

A little starch in the rinse water when one is washing windows, mirrors, lamp flues or glassware is a great aid. Allow the glass to dry before polishing. It will then polish beautifully with very little rubbing. Dry starch may be used to remove grease spots from linen or other white clothing or from table linen. Cover the spot with the powdered starch, let it lie for an hour or two and then brush off with it. If persistently applied, it will remove stubborn grease spots like those from vaseline, especially if laid in the bright sunlight.



VOL-PEEK

Mends Pots & Pans

Cooking utensils, Graniteware, Aluminum, Enamelledware, Tin, Copper, Brass, Iron, etc. Easy to use, no tools required, ready for use in 2 minutes. Saves a pot for 5½ a cent. 15 cents at your Dealer, or postpaid by Vol-Peek- B-Co., Box 2024, Montreal

YOUR MONEY! NO MATTER HOW SORDID

(Continued from page 487

of boys left the farms of the Maritime Provinces, passed through the horrors of the European nightmare, and many of these boys, the best we had, gave their lives for liberty, justice and righteousness. We ask in the light of Mr. Chipman's suggestion if it does not look as if the struggle had not brought to us that which we most desired. What public man is there in Canada who would attempt to blackmail the manufacturers as Mr. George F. Chipman, editor of the Grain Growers Guide and managing editor of the United Farmers' Guide, has dared to blackmail them. What other man is there who would invite farmers to sit down at table with men whom the Grain Growers Guide denounces as of the criminal class? One would suppose that before he decided to enter upon such a campaign, Mr. Chipman would have weighed the sordidness of his proposition.

May we ask the wives of the farmers of the Maritime Provinces if they desire their boys and girls to be brought to believe that money is money, to be taken by any means from any source and used for any purpose? Do they believe that such doctrines and such principles are calculated to improve their boys, their boys' surroundings or the country of which their boys will be the directors? Do these mothers believe that their boys should be taught to use funds which they regard as stolen, funds used for sapping the public morality, funds stolen from the farmers, and not only to take them but to get them at the point of the pistol? And further, do these mothers believe that the boys of this land should be brought up to not only take such tainted money, but be taught to invite their comrades to share in the takings?

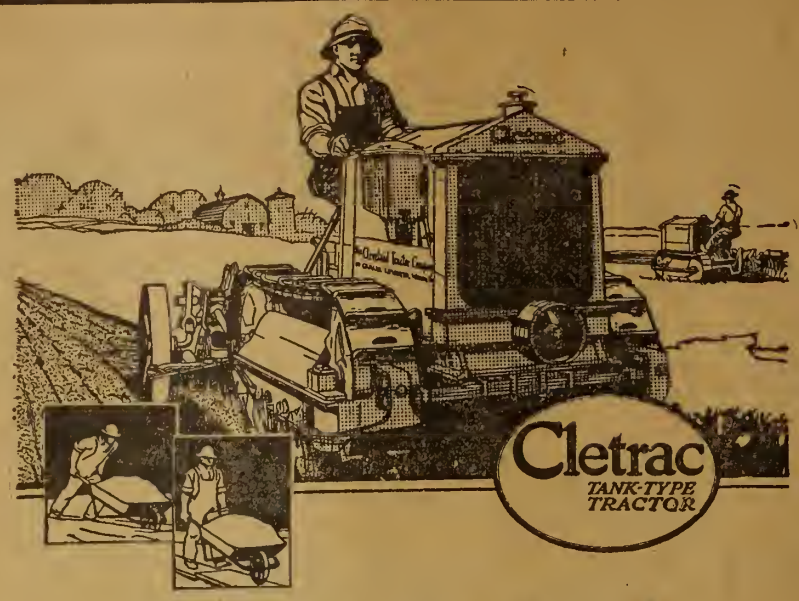
The Maritime Farmer is not weathy. It does refuse hundreds of dollars worth of advertising every year. If the Maritime Farmer thought as the Grain Grower professes to thing, there is not money enough in this country to bribe the owner of this paper to publish advertisements of the class, which Mr. Chipman says he must have and is going to have, if force availeth. When the day comes that this paper is forced for the sake of money to accept advertising from men who are reputed to be robbers of farmers, we'll put up the shutters and get something of an honest turn to do. Let the Maritime Farmer say that in its judgment, the proposal of Mr. Chipman is disreputable and absolutely lacking in elementaries of decency. Mr. Chipman intimates that there are papers which have been bought. Mr. Chipman goes one better and like Faust, is for sale to his own created devil. If the devil is unwilling, Mr. Chipman proposes to use a club on His Satanic Majesty. But why not allow Mr. Chipman to sell himself and not include the farmers of this country in the prize package. Unlike Mr. Chipman, the Maritime Farmer believes there are farmers in this country who will hardly condone any such arrangement whereby they are to be bled white for the benefit of any paper of any class. There is a limit to everything. In the opinion of this paper Mr. George F. Chipman stands out pre-eminent as the proponent of a policy which for pure and unadulterated effrontery eclipses anything heretofore heard of.

May we be permitted to add that these very men who cuss the manufacturers in one breath and blackmail them in the next, are moving heaven and earth to injure the Maritime Farmer. Yet they put up an awful "holler" when they are given a dose of their own medicine. Let us say in all seriousness that if any person does not want to do business with the Maritime Farmer, that is the business of the person concerned, and we shall neither threaten or resort to blackmail.

The manufacturers of this country are not what the Canandian Council of Agriculture would have the farmers of this country believe them to be. They have their faults, as we all have, but they may be pardoned if they refuse to submit to such desperate attacks as those which have been directed towards them by such men as Mr. Chipman.

May we ask in conclusion if Hon. Mr. Crerar is cognizant of the blackmailing program of Mr. Chipman, and whether he approves of it. Does Mr. Crerar agree that money should be forced from the funds of Canadian manufacturers to the coffers of the Grain Growers Guide, to be subsequently used (quoting the Guide's own words) "in support of the policy of the organized farmers of western Canada?" Mr. Crerar must answer. He is now the leader of a political party in this country and his chief political organ has placed him in a rather awkward position.

The columns of the Maritime Farmer are open to Mr. Crerar.



First In The Field

Be first in the field—you can with a Cletrac. It travels on its broad metal tracks, over soft ground.

The Cletrac easily does the work of six horses every day. It will do the work of another six at night if you want it to. It is always ready and there is no such thing as tiring it out.

Plow early, prepare the seed better and be ready to put the seed in at just the right time. Our longest season is all too short. The days saved by the Cletrac this Spring, can be counted in better grain and extra bushels next threshing time.

And the Cletrac not only plows—it will disc, harrow, put in the seed—help do everything connected with planting. One man or a boy can operate the Cletrac easily. It burns coal oil (kerosene), perfectly.

The Cletrac has made good. It is making more friends every day. We now offer you an improved Cletrac with a larger motor, a broader track, an exclusive steering device and a special water air cleaner.

Don't wait until the rush hits you—be ready for it. Buy your Cletrac now and get prompt delivery. There is a dealer near you ready to supply you with a Cletrac and every service you will need with it. See him to-day or write for booklet, "Selecting Your Tractor."

Plowed 40 Acres in 48 Hours

Read What Mr. Taylor Says

My son plowed three hundred acres of land last Spring. He plowed forty acres in forty-eight hours without stopping, except to change drivers and oil. Had it not been for the tractor, through having a wet Spring, I could not have accomplished half. I found out where the tractor cannot go the horses have no business in the field. I consider the tractor lighter on soft ground than horses' feet.

BEN H. TAYLOR, Chatham, Ont.

The Cleveland Tractor Company of Canada Limited

Head Office
WINDSOR, ONTARIO

Western Sales Branch
REGINA, SASK.

PRIZE WINNERS AT CHATHAM SEED FAIR

Wheat

White Russian—1, H. Gordon; 2, Ralph Searle.

White, any other variety—1, Wm. Scott; 2, Henry Gordon; 3, Geo. E. Fisher.

Red, any variety—1, Henry White; 2, R. A. Snowball; 3, R. Leslie Loggie; 4, eGo. J. Dickson; 5, Clement Dickson; 6, Ira Brehaut.

Oats

Banner—1, Henry Gordon; 2, W. M. Johnston; 3, Geo. J. Dickson; 4, R. Leslie Loggie; 5, A. G. Dickson; 6, Wm. McKnight.

Abundance—1, Henry Gordon; 2, J. A. Johnston; 3, Wm. Scott.

Any other variety—1, Fred Traer; 2, Henry Gordon; 3, R. A. Snowball; 4, Clement Dickson; 5, Ralph Searle; 6, Wm. McKnight.

Barley

4 or 6 rowed—1, R. A. Snowball; 2, Geo. J. Dickson.

Peas

Field, Large—1, Henry Gordon.

Field, Small—1, Henry Gordon.

Beans

Colored—1, Henry Gordon; 2, Ira Brehaut; 3, Henry White.

White—1, Henry White; 2, Wm. Scott.

Buckwheat

Rough—1, Ralph Searle.

Timothy

1, Henry Gordon; 2, Ralph Searle; 3, Geo. E. Fisher; 4, Wm. McKnight.

Potatoes

Green Mountain—1, Henry Gordon; 2, Wm. Scott; 3, Ralph Searle; 4, Geo. J. Dickson; 5, A. Dickson; 6, Wm. McKnight.

Irish Cobbler—1, Henry Gordon; 2, Wm. McKnight; 3, F. L. Traer; 4, Wm. Scott; 5, Geo. J. Dickson; 6, Ralph Searle.

Early Rose—1, Wm. McKnight; 2, Clement Dickson; 3, Henry Gordon; 4, Ernest Traer; 5, eGo. J. Dickson.

Turnips

Swede, for seed raising—1, Henry Gordon; 2, R. Leslie Loggie.

Best Collection

Field Roots—1, Henry White.

Prize Winners in the Special Classes for New Exhibitors were as follows:

Wheat

White—1, Frank Dolan; 2, Herbert Fowlie.

Red—1, Wm. M. Loggie; 2, Frank Dolan; 3, Michael Woods.

Oats

White Banner—1, Frank Dolan; 2, Herbert Fowlie; 3, Wm. M. Loggie.

Any other variety—1, John Fitzpatrick.

Potatoes

Green Mountain—1, Frank Dolan; 2, Ernest Traer; 3, John Fitzpatrick.

Any other variety—1, Frank Dolan; 2, Ernest Traer; 3, Wm. M. Loggie.

WARTY GROWTHS ON HORSE

I have a horse that has warty growths. What can I do to remove them?

Twice daily rub in best castor oil, olive oil or fresh goose grease. If that does not suffice try the effects of water containing all the bicarbonate of soda it will dissolve when hot. It would be a mistake to use strong medicine on such a condition. Pine tar is effective, but is messy stuff to use on the location mentioned. Large warts may be removed by ligating their bases tightly with a fine cord, or by putting on a few small rubber bands as tightly as possible.

GLEANINGS OF AGRICULTURAL PROGRESS IN N. B.

(Continued from page 491)

wick pens were compared with the average of the Ottawa contest New Brunswick had a lead of 7.3 eggs per pen.

The report of the 20th week (ending March 19th) shows New Brunswick pens occupying the first five places, also eighth, ninth and thirteenth for the total eggs laid to that date. For the weeks production only the eight New Brunswick pens occupied the first eight places except that one other pen tied with one from New Brunswick for third place.

All except one pen of the New Brunswick entries are Barred Plymouth Rocks of strains imported by the Poultry Division of the Department of Agriculture. Their record indicates that they are equal to stock of the other provinces in winter egg production. There is no longer need of sending to the upper provinces for high egg producing stock. Eggs 10c. each, day old chickens 25c each. Both F.O.B. Fredericton. Cash with order. —A. C. McCulloch, Poultry Supt.

A NOTE IN PASSING

A report of New Brunswick's record in the laying contests her breeders have entered appears in the March issue of the Amrican Poultry Advocate, Syracuse, N. Y., one of the biggest United States Poultry Journals. In view of the fact that seldom if ever, are poultry matters of the Maritime Provinces reported in the big poultry journals across the line, this account is worthy of note.

CO-OPERATIVE NOTES

We are receiving many inquiries as to the nails which have been offered at four dollars per keg. We can supply these in almost any quantities. They are new goods but of mixed sizes. They are several dollars per keg under the market prices. For general farm use they are particularly desirable.

We have been asked to supply binder twine this fall to farm organizations and have been promised a supply. However, all those who desire to buy through the Maritime Farmer (and we will sell at cost) should proceed to get their requirements lined up. The buying date will be here very shortly and the man who is in early will get the advantage of the low market. Those who have been buying through the Maritime Farmer service realize that it is the best and cheapest medium in Canada. We are **buyers, not sellers and big profit takers. We serve and do not want all your money in one swipe.**

We have a car of mixed feed containing 100 bags of barley, oats and corn (mixture), 100 bags of barley meal and four hundred bags of ground corn. The car must be taken in full. It is stored at Truro, N. S., and should be a good opportunity to get feed at a close price. We offer it at wholesale price. There is just one car.

We still have a supply of Ford tires (firsts), guaranteed and tubes for same. The price is attractive. While the lot lasts, they are yours at $18 and $2.75 respectively. We pay expressage on two tire orders, and over.

Details of our butter and egg buying departments are not complete at this date. We expect to be able to handle these articles along about the first of May. In our issue of April 27th we will give more details. If you are interested write us in the meantime.

We have enquiries for registered milking Shorthorns as follows: 2 year old heifer in calf; three year old and one year old. Address Maritime Farmer giving pedigrees and prices.

An
Invincible Barrier
¶ The gospel of better farm fences is being surely spread, and each year shows an increase in the demand for
Invincible
FENCING made from
Open Hearth Steel
¶ Your purchase of this fencing means a permanent and safe barrier on your farm.
PROTECTION
¶ Strong enough to stop anything. Your grain is safe, and your neighbor's grain is safe when Invincible Fencing protects it.
¶ Sold by the better class of dealers all over Canada. If you do not know our Agent, write to us direct. Catalogue upon request.
THE STEEL COMPANY
OF CANADA LIMITED
MONTREAL

A MARE WITH SWOLLEN LEGS

I have a mare that has swollen legs that only comes back to normal after considerable exercise. She is not lame or stiff when walking. What can be done to remedy this?—W.D.G.

Your mare is suffering from the trouble known as stocking. It is most common in badly ventilated tables; and young horses are more liable to it than old ones. It is often the symptom of some disease that requires attention. Give her Fowler's solution of arsenic morning and night, one ounce for a dose, for a week or two; then allow an interval of a few days and repeat. Do not wash the legs in winter weather. Bandage them tight with flannel bandages when the mare comes in from work or exercise. Remove the bandages when going out for work, and give the legs lots of hand rubbing. Do not iritate them by applying liniments or blistering.

HORSE HAS MANGE

I have a horse that has been idle since October. He is in thin condition and has a rash all over the body and most of the hair has fallen off.

Your horse is evidently suffering from mange. This disease is very contagious and you should take every precaution to keep it from spreading. The cause of mange is the presence of insects, which live in the skin and find their food in the watery discharge which their bites cause to flow. All the affected parts first should be oiled, and washed with warm soap and water, to remove the crusts and dirt, before applying curative ointment, or otherwise it will not reach the insects that burrow into the skin and are invisible to the naked eye. As a successful mange dressing make up the fololwing: Iodine, half an ounce; iodide of potash, one-fourth of an ounce; tar, one ounce; lard, eight ounces. Mix for an ointment . Clean and disinfect all stalls, harness and brushes thta have come in contact with the horse.

Percherons & Belgians
30 Head
Stallions & Mares
FOR SALE

Come to Grenville and buy the kind with the big, round feet, clean, hardy, dry bone and joints, sloping pasterns and straight, flashy action. Buy the kind with the sloping shoulders, short back and long, level croup. Buy the modern Percheron or Belgian.

Our prices are very reasonable, and we will give up to three years time, to responsible parties.

All stallions government inspected.

J. E. ARNOLD & SONS

GRENVILLE, - - - - - - - QUE.

SELECTING BREEDING BIRDS

(Continued from page 503)

and where the layer of coloring matter is thinnest. The vent is the first part affected. When a bird commences laying the vent is large, moist and yellow. Color disappears very fast however, and from four to six or eight eggs are usually sufficient to bleach it entirely.

Eye-Ring

The eye-ring does not bleach out quite as fast as the vent as a rule, though often nearly so. Eight or ten eggs will usually bleach it completely. In some cases half this number are sufficient.

Beak

After the eye-ring color begins to disappear from the beak commencing at the head and gradually reaching out towards the tip until the beak is entirely void of yellow color. The line of demarkation between yellow and bleached parts is frequently very sharp and clear. In other cases it is not clearly defined. A well bleached beak represents a production of from thirty to fifty eggs, or about four to six or eight weeks of rather heavy laying.

If the color of the upper mandible or the upper part of the beak of Barred Rocks is obscured by black or horn color, the lower mandible or lower part of the beak may be used for estimating production. The slight lemon or yellowish shade of the beak of Wyandottes should not be mistaken for yellow pigment or coloring matter.

Legs or Shanks

Color gradually disappears from the shanks after the bird has reached about a fifty egg mark. The color becomes less intense and a production of 100 to 125 eggs will be accompanied by a considerable if not complete fading of the greater part of the shanks. This means about 18 to 20 weeks of fairly heavy and consistent laying. In many cases a considerably larger number of eggs is necessary to bleach the shanks.

Conditions Influencing Loss of Color

Not all birds will bleach at equal rates. Neither will the same bird under other environmental conditions bleach at the same rate. Under like conditions a large hen will require to lay more eggs to bleach a certain part than will a smaller bird, merely by virtue of her greater size and therefore more coloring matter or pigment. The writer has observed several large birds which have laid as many as 175 eggs or more and still possessed quite a little yellow pigment in the Shanks. Birds fed excessively on yellow corn, an abundance of green food, etc., bleach relatively slow. Birds allowed to range over green grass will bleach slower than those confined to a bare yard or a house, other conditions being similar.

Color of Beak best guide at this Season

As a basic on which to select the best winter layers for breeding purposes the color of the beak is perhaps the most generally useful guide. A bird at this season may have laid sufficient eggs to completely bleach the vent and eye-ring, but if the change was not apparent in the beak she is not necessarily a very valuable winter layer or desirable breeder. Complete loss of pigment from the beak however does signify sufficiently high production to warrant her a place in the breeding pen. The great majority of birds will still have quite yellow legs, so this test is applied only with some difficulty but fairly light colired shanks is a valuable indication of heavy egg-yield.

DUNLOP
CORD TIRES

The Super-Test

¶ BEFORE you are asked to buy or try Dunlop Cord Tires, they must undergo a test such as you would never give them.

¶ Tires just like your garagemen and dealers now sell are put on our own test cars, and away speed the drivers.

—A Test that is kept up day and night.

—A Test that takes in some of the worst roads in the country and the generality of bumps, bad turns, and all the sudden stops that go with them.

—A Test that specifies the number of miles which must be made by the drivers each day and night.

¶ The results of this crucial test, naturally, have an important bearing on our manufacturing policy.

¶ Tested-in-Advance Service aptly applies to Dunlop Cord Tires—"Traction," "Ribbed." Can you ask for a greater guarantee than the story the road tells—a story which in the case of Dunlop Cord Tires proves that our manufacturing methods are not only Right but Dead Right?

DUNLOP THE UNIVERSE OVER—THE WORLD'S GREATEST RUBBER ORGANIZATION

Dunlop Tire & Rubber Goods Co., Limited

Head Office and Factories - - - TORONTO

BRANCHES IN THE LEADING CITIES

Condition of Abdomen

The bird naturally endowed with heavy egg producing powers is not inclined to become over-fat. The bird not thus naturally endowed is likely to become fat which perhaps gives rise to the frequent remark that hens are "too fat to lay." The fat condition is easily noticed in the abdomen. This part is rather hard and rigid, though not dry and shrivelled like the non-layer. The thick layer of fat under the skin is easily felt and the abdomen is quite full or distended. The abdomen of the heavy producer also is more or less distended, but it is soft and pliable and is filled with greatly enlarged or distended entrails which are essential for immense good digestion and assimilation essential to heavy egg production. By the careful examination of a number of hens layers, non-layers, etc., these points may be easily observed.

Breed from Select Birds Only

In the average flock of twenty-five or thirty birds, e.g., there will most likely be a few non-producers. There will likely be a few moderate producers and perhaps a small number of extra good ones. The latter should be separated from the others, given the very best of care, bred to the choicest most vigorous male, and their eggs only used for hatching. Under ordinary circumstances those which have "slacked" all winter will lay quite heavily during the breeding season and may lay even a little better grade of eggs than those which have been producing incessantly for several months hence when eggs are chosen fo rincubation according to the law of chance, their eggs are more likely to be selected with the result that reproduction is in reality from the least desirable individuals. By such a system little progress towards increased laying capacity can be hoped for.

Good cows, whether pure-bred or grade, come from the use of the best procurable pure-breds and their utility is perpetuated by the use of identically the same kind of bulls.

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T. W. BOYD & SON,
27 Notre Dame Street West, Montreal.

REPORT OF SUPERINTENDENT OF AGRICULTURAL SOCIETIES FOR NEW BRUNSWICK

(Continued from page 489)

ganized merely for the sake of getting rid of the Government money to the crop growers. The sole idea of the progenitors of the competition was the purpose of creating a healthy rivalry in the production of a better class of seed. The farmer who feeds or sells all his home grown grain and who goes out to buy his requirements for seeding purposes has no right to participate in the competitions. The competitions are intended only for the men who are striving to grow a better class of grain for sale or home use as seed, with a view to improve the quality and increase the yield per acre from year to year.

The standard required to win a prize in 1920 will be raised to 85 points out of a possible 100 points, and each contestant will be asked to get the very best available class of seed.

The first and second prize winners in the wheat and oats competitions in each county are asked to exhibit one bushel samples at the Provincial Seed Fair, Fredericton, on March 16th, when in addition to any prizes they may have won in the field competition or at the seed fair, they will be awarded and additional $3.00 and $2.00 respectively. This plan was satisfactorily carried into effect in 1918. I am rather pleased to note in the report of the Ontario Superintendent of Agricultural Societies, for the year 1919, that while this system was heretofore optional with the competitor in his province, he strongly recommends that it be made compulsory. He also recommends that the artificial treatment of seed oats for show purposes by clipping and spading be not permitted as close clipping tends to injure the seed germ.

Recommendations

Boundaries:

I find a growing tendency for the organization of new Agricultural Societies in districts already well served by existing Societies. I wish to affirm my concurrence in the idea advanced by my predecessorf, Mr. DeGrace, to the effect that each Society be opportioned definite boundary lines and that no new Society be organized within these bounds or within ten miles of the centre of that district except under exceptional circumstances over which your Department would have no jurisdiction.

Delegates Expense Accounts

The present system of refunding to each Society, sending a delegate to the New Brunswick Farmers and Dairymen's Association, one-half of said delegates expenses, is not in accordance with good business practise as the refund cannot be made until many months after the convention has been held. For instance, the expense accounts of the delegates to the 1918 convention did not reach this department until the regular Annual reports came in in the fall of that year. The grants had been apportioned and forwarded before these accounts arrived, consequently no other cheques would be issued until the fall of 1919 when the 1918 expense accounts of delegates went forward in the regular agricultural society grants.

I wish to suggest for your consideration and the consideration of the executive of the Farmers' and Dairymen's Association that each Society furnish its delegate with:—

(1)—A regular credentials card bearing the delegates name, the Society number and the Secretary's signature. This card to be handed by the delegates to the Secretary of the Convention, who, at the close of the Session will hand all the credentials to the Department of Agrcluturie for reference purposes when making refunds.

(2)—A blank expense account form on which the delegate will ufrnish a detailed statement of his expenses, accompanied by vouchers for all expenditures of one dollar and upwards. This expense account to include only legitimate travelling and hotel expenses (no allowance for time) should be presented by the delegate to the Secretary Treasurer of his Society for payment in full within ten days after the close of the convention. These expense accounts would then be forwarded to the Department of Agriculture by the Treasurer of the respective societies for a refund of one-half the amounts, not later than May 1st, when cheques could be issued and thus the Societies would be reimbursed in a comparatively short time, instead of having to wait nearly two years as is the custom under the existing arrangement.

Should you consider it advisable to put this plan in effect this year it would necessitate the paying of the 1919 and 1920 expense accounts in May and all out of the 1920 appropriation but each succeeding years' expense accounts would be borne by the appropriation for its current year.

Acknowledgements

Before closing my report I wish to thank the officers and members of the various Societies for their hearty cooperation in the work in which we are engaged . I also wish to thank the District Representatives and other officials of your department for many suggestions and assistance and with your sympathy and suport Sir, as in the past, I am confident that 1920 will prove the best year in the history of our Agricultural Societies.

M. A. MacLEOD,
Supt. of Agricultural Societies.

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LIGHT SIX

—a longer wheelbase
—an improved motor
—improved spring suspension
—superior finish and trim

added to all the good qualities of the previous McLaughlin Light Sixes, make the K-6-63 the best buy in its price class.

Powered with the famous McLaughlin 44 horse-power over-head valve motor. Owners report from 20 to 30 miles per gallon and from 8 to 12 thousand miles on tires.

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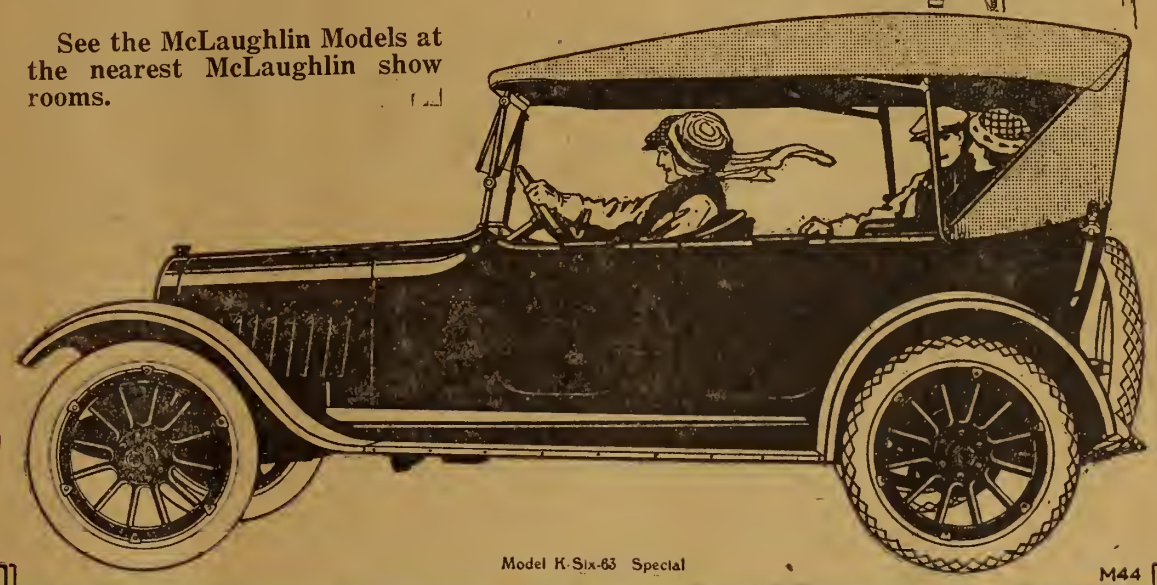

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FARMS YIELD MORE IN CROPS AND MONEY when they are kept up to a high production standard by the regular use of good Fertilizers. BEST-BY-TEST FERTILIZERS are strong in fertilizing power and are up to full strength of analysis. If you want advice as to the kind of Fertilizer you need, write us about your crop and soil. We are headquarters for scientific users of Fertilizer in Eastern Canada. We pride ourselves on having every brand, make or chemical any farmer or dealer could ask for. Ask your dealer, or form a club of farmers and order in carload lots. Prices on request.

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EGYPTIAN LINIMENT

"I have now used Douglas' Egyptian Liniment for 2 years, and find it gives the best satisfaction for man and beast. I tried the liniment on 4 cows during the winter for lump in bag, and a sample bottle cured each case in 36 hours. I also found it good for muscular rheumatism and lumbago." (Signed)
Allan Schiedal.
New Hamburg, Ont

This Liniment will also stop bleeding at once and prevent blood poisoning

35c A BOTTLE
SOLD BY ALL DEALERS
DOUGLAS & CO., Manufacturers, NAPANEE

Stallion Catalon For Sale

I offer for sale my carriage stallion CATALON, 57741, foaled in 1904.

CATALON is a handsome 15-3 hands, 1075 lbs. mahogany bay of perfect conformation and sound. He had trotted a trial mile in 2.14¼, last ¼ in 32 seconds. Perfectly clever and kind. He is sired by Bingen 29567, record 2.06¼. Catalon's dam was the great race mare Improvidence, 2.12, by Prodigal, 2.16, and dam of Owassa, 2.06¾, full sister of Catalon. Catal is a half brother of Uhlan 1.54½, the world's champion trotter. Cataion sired the second fastest two two year olds ever raised in this province, Ima Catalon winning the race in Summerside in 1917. Second heat in 1.12½. This is a very speedy mare and I feel will make a great race mare. She is also for sale. If interested, come and see her.

J. T. WAITE,
14,18 Summerside.

UTILITY BARRED ROCKS

Splendid laying strain.

Cockerels averaged around six pounds each (dressed) last Fall, and won 1st in the dressed classes. Eggs, $1.50 per 15.

J. R. SEMPLE & SON,
TRURO, - - - - - N. S.

Bay View Farm For Sale!

PETITE RIVIERE, N. S.

About 150 acres in one block, on the east side of Petite Riviere River and bordering on the river—35 or 40 acres undercultivation—40 or 50 acres in pasture—remainder in woodland.

The house is a modern 12 roomed one, with ell, and has water piped from well.

There is an orchard of 50 or 60 trees, and the woodland contains forty or fifty thousand feet of lumber, in logs.

There are two barns (water in one), a hen house, an ice house, a large work shop and a wood house.

Can be bought at any time at a bargain—proprietor is selling because he is unable, from advancing age, to work it properly.

Apply to

E. J. WENTZEL,
PETITE RIVIERE, N. S.

Advertise in the Farmer and Get Results.

FIFTEENTH ANNUAL MEETING OF N. B. FRUIT GROWERS' ASSOCIATION

(Continued from page 507)

orchards and increased confidence of our growers.

In conclusion he said, "The last month concluded my tenth year as Secretary of this Association and also as Provincial Horticulturist, and I am happy to say that from every point of view, it was the most successful and encouraging since I came to the province. The building up of scattered elements of fruit growing into a real fruit growing industry, is not a problem capable of easy or early solution or productive of spectacular results—but it is a thing that once accomplished, adds, one might almost say, forever, to a countrys happiness and prosperity, and he or she who plays a part in such a work, as the members of this Association are doing, will in this respect, at least, have served their country well. We have made good substantial progress—we have got many of our older orchards into better shape and we have established some fine new commercial orchards which may be likened to the first story of brick in the new factory, which we are building, resting on the foundation of our older orchards. You have done much—but there is much more to be done and every reason and encouragement to carry on with increased effort and enthusiasm.

Acceptance of the Secretary's report was moved by S. B. Hatheway, and seconded by W. W. Hubbard, who, in a few words reviewed the success of this province as a fruit-growing country. The fact that New Brunswick had come through the recent severe winter so much better than the west, proved the fitness of the climate and should be a great encouragement to the growers.

Mr. G. E. Sanders, of the Dominion Entomological Laboratory, Annapolis Royal, Nova Scotia, then read a paper on "Apple Tree Spraying in New Brunswick," referring particularly to the results obtained by his Department in New Brunswick, in the control of Green Apple Bug and Apple Maggot or Railroad Worm. The results and commercial value of this work was strikingly set forth by means of large charts prepared by the Horticultural Division. Mr. Sanders explained in detail the spraying calendar recommended for use in New Brunswick in 1920, and his address was followed by many questions and a good discussion, which concluded the morning session.

The afternoon session was opened by the reading by W. W. Hubbard of a letter from Dr. George M. Twitchell of Augusta, Maine, to A. G. Turney, Secretary Treasurer of the Association. Dr. Twitchell wished the members success in all their undertakings and expressed a deep desire to be able to discuss with the growers of this province the conditions of supply and demand. He emphasized the value of spray and dust as a prevention against plant and fruit diseases. In another letter to Mr. Hubbard, he dealt largely with the raising of plums. He urged fewer varieties of apples, more complete fertilization, the breaking up of blocks and the more free use of lime.

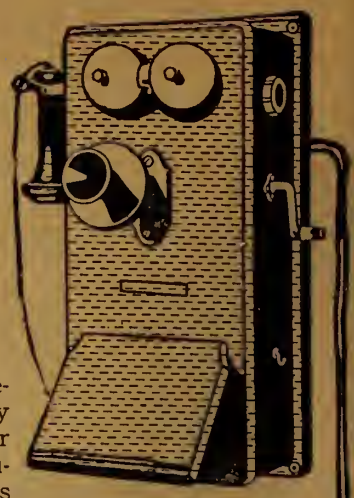
At the afternoon session, S. B. Hatheway of Kingsclear, gave his experiences on his orchard of 6,000 trees at Kingsclear. He explained the mulch system of growing the apple trees; the method of applying pine tar for protection of the trees against mice, and the shaping and pruning of the tree.

S. L. Peters, of Gagetown, referred to the first commercial exhibit of apples made by him at a Farmers' and Dairymens' meeting in this city in 1878, when he had a hard time to convince the members of the Association then that the apples were products of his own orchard. He discussed briefly the Golden Russet and advised the grocers not to go in for a too heavy planting of this variety, as it was a light bearer.

Superintendent W. W. Hubbard of the Experimental Farm gave a general talk on conditions in the province for apple growing, touching upon the necessity of protecting the growing trees against the ravages of mice. He also explained an inexpensive system of cultivation which had brought good results at the Experimental Station.

C. W. Baxter, Dominion Fruit Com-

Economical to Maintain



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are built better than may seem necessary to insure maintenance economy. The telephone, for example consumes less battery current while operating and gives better transmission than other kinds of instruments—which means less frequent renewals of the battery. When you pay less than our price you get less than our quality.

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Shows you how to install and take care of your telephones—tells how to organize a party line among your neighbors and explains just how to get started. Gives valuable information about all Stromberg Telephones shows how our experience goined in building over 2,500,000 telephones is of great importance to you.

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"Shur-Gain Fertilizer buyers should order a full supply at once and arrange for early deliveries. Strikes at the phosphate mines some months ago, railway car shortages and soft coal strikes have delayed raw material shipments to us and will affect the consumer too.

Gunns SHUR-GAIN Fertilizers mean bigger crops with less labor. We have a mixture to suit any crop

You will find a ready market for all the hay, potatoes and orchard crops you can grow this year at good prices. Let SHUR-GAIN High Grade Fertilizers help you put more dollars in your bank. Use them freely. Remember it costs just as much to seed and harvest a thin crop as it does a bumper one. We are specialists in potato Fertilizers and can help you select a fine growth-giving mixture. See our local dealer at once or write us for full information.

Representatives wahted in unallotted territory

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ST. JOHN, N. B.
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WEST TORONTO, ONT

missioner, of Ottawa, was the next speaker. He expressed an earnest desire to help along the industry and thought that the fruit growers did not get together often enough. He expressed wonder that the production of fruit was not greater in this Province. It is Mr. Baxter's intention to visit New Brunswick in the next growing season and examine the conditions then. The great trouble in Ontario is not the supply but the poor system of marketing, and this was one thing that the New Brunswick men should try to overcome. After reviewing conditions in Canada and United States, he showed that we are just about where we were twenty-five years ago, as far as fruit farming is concerned, and that the outlook for this business was never brigher. He advised specializing in certain varieties and letting others strictly alone. The public is becoming more discriminating and its demands must be satisfied. The packing and marketing should be under the supervision of an association to obtain the best results. Regarding small fruits, he said that the acreage had decreased since 1910, until today the canners are importing large quantities of that fruit from the States.

L. T. Floyd, Provincial Apiarist, was the next speaker and dealt very ably with the small fruit question, drawing many examples from his own experience in the business at his home in Kings County. He explained in detail the system of planting, caring for, picking and shipping the product and declared that St. John is the poorest local market for berries. Colonel O. W. Wetmore, the President, also spoke on this subject and there was a general discussion which concluded the afternoon session.

Mr. E. P. Bradt, the Secretary for Agriculture was the first speaker on the evening program. He stated that he was very favorably impressed with the work of the fruit growers of the province. Both climatic and soil conditions he said, were good and the fame of the Provincial Fruit Growers' apples spoke well for the future of the apple growing industry. What had been done in the past year concerning the cooperative marketing showed well what the fruit growers could do when they got together. He considered that the prospects for the industry were never brighter than at the present time, and he assured the members of the Association of the hearty cooperation of the Department of Agriculture at all times.

The Resolutions committee, composed of W. W. Hubbard, Fredericton, S. B. Hatheway, Kingsclear, A. R. Gorham, Greys Mills, H. H. Smith, Hoyt Station and W. B. Gilman of Kingsclear, then presented their reports. A committee was appointed to present the following resolutions to the Minister of Agriculture.

"Realizing the growing importance of the fruit industry as evidenced by the splendid returns for apples and berries shipped the past season to Upper Canadian markets, this Association in Annual Convention assembled, desires to place on record its appreciation of the valuable assistance given by the Horticultural Branch to the growers in the grading and packing of their fruit. We recognize that in order to further increase production and maintain the high quality of our fruit, every possible means should be provided for the Horticultural Department to increase the scope of its work, and that a Committee be appointed to interview the Minister of Agriculture to this end."

"WHEREAS, there are some great advantages in using a dust spray instead of a liquid spray for horticultural operatoions and, WHEREAS, dusting machines have not yet been generally introduced—RESOLVED that we request the Horticultural Branch of the Provincial Department of Agriculture to procure one of the best available power dusters for demonstration purposes this year."

Resolutions approving of the holding of Orchard Field Days at various points throughout the province, also of the holding of a Canadian National Apple show at Toronto next December and pledging support thereto were passed. The meeting also elected Messrs. C. W. Baxter, George H. Vroom and W. S. Potts, honorary members of the Association and passed votes of thanks to the Fredericton City Council for the use of the Council Chamber and to Colonel O. W. Wetmore, the retiring President; and instructed the executive to make a contract for apple barrels for the coming season.

The report of the resolutions committee was followed by a general discussion on marketing and packages, in which the growers were not at all backward in expressing their dissatisfaction with St. John as a market for fruit.

The following officers were elected for 1920:

Honorary President—S. L. Peters, Queenstown.

President—A. R. Gorham, Greys Mills.

Vice-President—W. B. Gilman, Kingsclear.

Secretary Treasurer—A. G. Turney, Fredericton.

Additional members of executive—T. A. Clark, Chartersville; A. G. Dunphy, Douglas.

CHOICE BERKSHIRES

"Valley View Farm,"
Truro, N. S., April 6, 1920

Editor, The Maritime Farmer,
Dear Sir:—

We have at present the best offering in Berkshire pigs we have ever had.

Most of the younger ones are sired by Concord of Meadowvale, a grandson of the great Successors Double, that sold in the U. S. for $1100.00, when a year old. Besides being a large boar of good showring quality, he is a splen-

of good show-ring quality, he is a splen-

He sired the Undefeated under six months pigs of the N. B. shows last fall, and the 1st, 2nd, 3rd and 4th prize sows at Amherst, under nine months class. One of these sows won as best sow in N. S., any breed, under nine months.

Our brood sows, with one exception, are daughters and grand-daughters of the undefeated boar, "Woodstock Pat," champion of the Maritime Provinces, 1916-1917.

We have sows weighing up to 700 lbs., and get as high as 13 pigs to the litter. At Fredericton last Fall, where we had the most competition, we won 1st yearling boar; 1st boar over 6 and under 12 months; 1st boar under six months; 1st, 2nd and 3rd sows over two years; 3rd sow under two years; 1st and 2nd sows under 6 months; 1st sow and litter; 1st and 2nd herds, (boar and three sows).

We had competition in every class except one, viz., boars under 12 months, over 6. Our herd was started 30 years ago, and we ship on condition that if a purchaser isn't satisfied, he may return his purchase and we will refund his money, including all shipping charges. So far, none have come back.

Two years ago we priced a young boar at $10.00; the man thought it was an awful price to pay for a little pig, but he wrote that he was well pleased with him. Last Spring he wanted a young sow. He asked no question, just told us to send him one and send the bill with it. Later, he said—"You certainly did a good job on the pigs you sent me. I think I have the best boar and sow in the Province of N. B." A few days ago he sent us another order and said the sow we sent him had twelve pigs. We have about fifty pigs now.

Yours truly,
J. R. SEMPLE & SON.

MARE HAS SCOURS

What can be wrong with a mare that is in good condition and has a sleek coat, was working hard all winter and fed on dry hay and oats, but scours when she gets heated at work? Is there any way of stopping the scouring?—T. P. P.

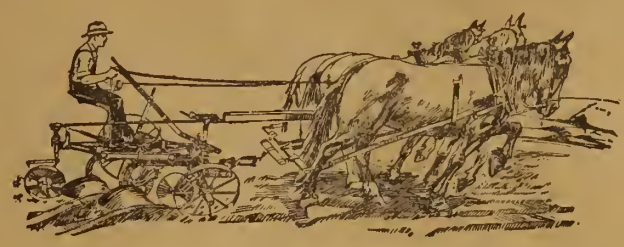
A horse that eats too rapidly is liable to scour, also driving immediately after feeding, and the quality of the water has many times something to do with it. Disorders of the liver and constitutional tendency are other causes. Flat-sided and narrow loined horses particularly are said to scour often without apparent cause. The discharge must not be checked too suddenly. A half teacupful of catsor oil, combined with an ounce of laudanum, and given as a drench with a little linseed gruel is excellent. Oak-bark tea, made by steeping the inner bark of white oak, is good for persistent cases. A teacupful of this tea, combined with an ounce of laudanum, should be given as a drench twice daily. Horses that are subject to scouring while on the road should be fed and watere as long as possible before putting to work. Water sparingly immediately before and during the drive.

GET HARNESS READY FOR WORK

Spring plowing gives the work harness a good test. Many times breaks will occur and a loss of time results because of carlessness in the handling of the harness in the stable during the winter months or neglect in giving teams the proper hitch. Harness is expensive and the teamster who takes good care of it is the one to gain. In the first place the life of a harness may be greatly shortened by improper hanging when not in use. Dampness should be avoided and the ammonia from the manure should not be allowed to come into continual contact with the harness. At least twice a year the harness should be overhauled which should include taking it entirely apart to clean and oil. A rainy day in March is a good time for an overhauling that will insure agains a loss of time when the rush season comes on. Careful attention should be given to each piece to see that there is no break starting and that all metal is free from rust. The leather can best be cleaned with soft water and soap and in case of collection of manure are present it may be necessary to soak the harness in water for a short time. When the leather is clean and dry, a harness oil should be rubbed into the leather. In no case should a dryin oil like linseed oil be used. The metal can be polished or thoroughly soaked in oil to prevent rusting. Proper and prompt attention to the harness will double its life and prevent needless expense and loss of time during the cropping season.

A comparison of analysis of Maine grown potatoes with similar anlaysis of potatoes from other American sources is held to indicate thta Maine potatoes contain approximately 1.5 per cent. more dry matter than all other American potatoes.

Massey-Harris



A Good Job of Plowing

EVERY Farmer takes pride in a well plowed field and recognizes the value of good Plowing. But unless you have the right kind and make of plow, plowing is a strenuous and unsatisfactory job. Massey-Harris Plows are the kind that make plowing both pleasurable and profitable. They are the result of over seventy years experience in the art of plow-making.

They turn and cover perfectly and clean readily. Their excellent scouring qualities enable you to get on the land earlier than with other plows. And they are light draft and easy to handle.

Walking Plows, Riding Plows, Disc Plows, Engine Gang Plows, etc., in many Styles and Sizes.

MASSEY-HARRIS CO. Limited
Head Offices: Toronto, Ont.

AGENCIES EVERYWHERE

HOLSTEIN BULL CALVES FOR SALE

I am offering for sale 5 bull calves from a week to 18 months old. While the dams of these calves are not tested, the dam's dam and the sire's dam of each calf has a record, some as high as 32 lbs in 7 days. The sire of these calves has 14,000 lb. 2 year old daughter.

They will be sold at bargain prices if taken within a month.

ROBERT HICKS,
Glenrane Farm, - West Bathurst, N. B.

FARMERS

The Aspinwall Automatic Potato Planter will SAVE your TIME and the EXPENSE of a hired man. It is SIMPLE, DURABLE, EFFICIENT. Can be drawn by TEAM or TRACTOR. Attachments for peas, beans and fertilizer furnished when desired.

Attractive folders and complete catalog mailed on request.

Aspinwall Canadian Co.

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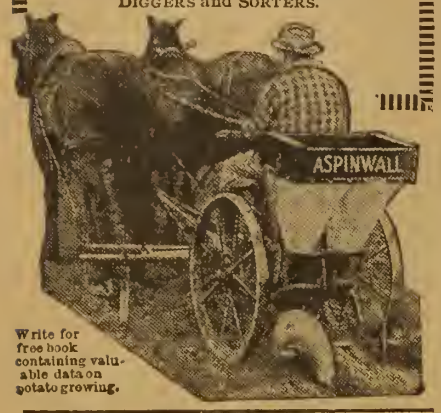

Write for free book containing valuable data on potato growing.

SHEEP BREEDERS ORGANIZE

(Continued from page 493)

crease in Pure Bred Sheep in N. B. as compared with N. S. and P. E. I.

Registration by Provinces

	1918	1919	Increase	% of increase
N. B.	221	326	105	47½
N. S.	145	185	40	24
P. E. I.	144	180	36	25

"Now, Mr. Chairman and Gentlemen, I want to bring one matter before you that New Brunswick stands at the head of the list for Canada and I can make that still stronger in that as far s I know we stand at the head of the list for America and that is the Inspection and Classification of our Pure Bred Rams. This is certainly a big step in the right direction and are we going to let this matter drop merely from not giving it the support it needs. If for no other reason I think it would be well worth while to form an Association.

"Again, the sheepmen as a whole are realizing the advantage of the co-operative marketing of their wool and there is every indication that 100,000 lbs. will be marketed in that manner this year and while the Provincial Department is willing to carry on their work for you this year it does not mean that they will see their way clear to do so indefinitely, therefore it is undoubtedly up to you men to look forward and prepare yourselves to carry on this work that means a good many dollars to the sheepmen of the Province.

"Still further there is every indication that a great deal can be done to improve the marketing facilities of our butcher lambs. This has been clearly shown by the work conducted last fall in this line when a gain of $5,000.00 was made on 2602 lambs marketed co-operatively.

"I have brought up these points namely:

1.—Inspection and Grading of our Pure Bred Rams.

2.—Co-operative marketing of your wool.

3.—Co-operative marketing of your lambs.

"That, I think, more than warrants the forming of a Provincial Sheep Breeders' Association, so that the sheepmen may direct and further along with a great many others."

The officers elected were as follows:

President—A. E. Trites, Salisbry.

Vice-President — Burder Goodwin, Baie Verte.

Sec'y-Treasurer—A. C. Taylor, Salisbury.

Directors—1, Restigouche Gloucester and Narthumberland Counties, Albert Payne, W. Bathurst.

2.—Kent and Westmorland, Burder Goodwin.

3.—Albert and Kings—Geo. A. King, Sussex.

4.—St. John. Queens, Sunbury, Charlotte, Stanley Wilson, Rolling Dam, Charlotte.

5.—York, Carleton, Victoria, Madawaska, E. W. Spinney, Windsor, Car. Co.

General Directors—W. E. Wallace and A. E. Trites.

Auditor—J. M. Crandall, Salisbury.

The following resolutions were passed:

Whereas, it is in the interest of the Shep Breeders of New Brunswick to form a Sheep Breeders' Association,

And whereas, with one exception, each Province in the Dominion has a Sheep Breeders' Association,

And whereas, it is necessary to have the Sheep Breeders organized.

Therefore, be it resolved, that a New Brunuswick Sheep Breeders' Association be formed.

Moved by Burder Goodwin, seconded by W. E. Wallace.

* * *

Whereas, it is necessary for the New Brunswick Sheep Breeders to adopt a Constitution for the operating of their Association.

Be it resolved that the following Constitution be adopted.

Moved by W. H. Venning, seconded by Burder Goodwin.

A Smooth-running Beauty Winter and Summer!

THIS ENGINE began with a resolve to produce an engine second to none in the world. Once we accomplished that, we turned our efforts to cutting down the cost by standardizing all parts and simplifying every operation in the factory.

Now, we have a high-grade engine at a moderate price—vertical type, as used in high-priced autos, four cycle, water-cooled, with every modern feature. You'll like the LONDON Engine fine. Plenty of power—FROSTPROOF and unconditionally guaranteed.

London Gas Power Co., Limited

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AGENTS WRITE FOR TERRITORY

Write to-day for Booklet

Your 'RIGHT' Arm of Power

LONDON ENGINE

Resolution Relative to the Bonus Given to Flock Owners on the Use of a Pure Bred Ram

Whereas sheep raising in N. B. is a very important industry and whereas the success of this industry depends, as with other lines of stock, on the use of well developed pure bred males, and

Whereas, the $5.00 bonus given in the fall of 1919 by the New Brunswick Department of Agriculture was the means of getting a number of owners of grade flocks, who had not

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MACDONALD'S TOBACCO

"The Tobacco with a heart"

SMOKING CHEWING

previously used a pure bred ram on their flocks, to purchase and use a pure bred registered ram, and

Wheeas, there are a large number of sheep owners who have never had a chance to see for themselves the benefits derived from the use of a pure bred ram, and

Whereas, this policy of bonusing rams has been the means of placing a large number of pure bred rams at the head of grade flocks,

Therefore, be it resolved, and urgently requested that the New Brunswick Department of Agriculture continue their good work as in 1919 on the bonusing of pure bred Registered Rams.

Moved by W. H. Venning, seconded by G. E. King.

* * *

Resolution Relative to the Grading of Pure Bred Rams

Whereas sheep raising in N. B. is a very important industry, and

Whereas the success of this industry depends to a very great extent on the use of good pure bred sires, and

Whereas the inspection and grading of lambs as carried on by the New Brunswick Department of Agriculture in the fall of 1919 protected both the large and small breeders in the purchasing of pure bred rams for service, and

Wheeas a greater number of good pure bred rams were used due to security with which the breeder can purchase his by mail, and

Wheeas the breding and selling of inferior rams is reduced by this method of grading, and

Whereas this method of grading benefits both the pure bred breeder and the owner of a grade flock and tends to place the sheep industry on a higher and firmer basis,

Therefor,e be it resolved, that the Department of Agriculture be most urgently requester to continue the inspection and grading of rams as was carried on as in the fall of 1919.

Moved by W. H. Venning, seconded by Burden Goodwin.

* * *

Whereas the demonstrations carried on by the Federal and N. B. Departments of Agriculture in shearing, dipping, docking and castrating has been very helpful and instructive, not only adding considerable to the pocket of the owner, but also greatly increasing the health and comfort of the stock,

We urge that this work be kept up as in the past.

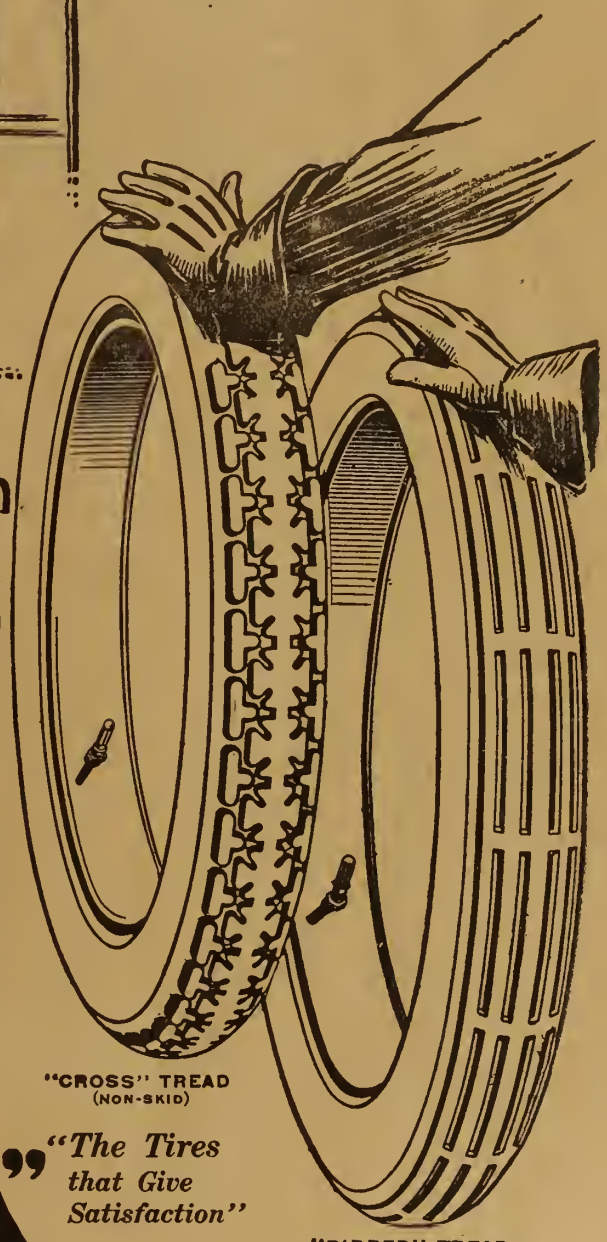
Moved by H. A. Secord, seconded by H. N. Flewelling.

* * *

The charter members of the Association are Burder Goodwin, Baie Verte; A. E. Trites, Salisbury; J. K. King, Moncton; H. A. Secord, Penobsquis; J. W. McLeod, Penobsquis; H. N. Flewwelling, Studholm; Joseph T. Barnes, Studholm; G. A. King, Smiths Creek; F. W. Walsh, Fredericton; R. H. Pearson, Belleisle Creek; W. E. Wallace, Penobsquis; H. A. Wallace, PenobSquis; W. H. Venning, Smiths Creek; H. Allan Dickson, Hammond River; Frank Edwards, Lower Milll stream; A. C. Taylor, Salisbury; Walter C. Allison, W. S. Allison, Rothesay; J. D. McKenna, Sussex.

All members of the Association are entitled to twenty-five per cent. reduction on the cost of supplies. Address all communications to the secretary, A. C. Taylor, Salisbury.

How much do you care for your Car?



Do you think enough of it to equip it with the best tires?

Every car owner is in love with his machine. It is his pal, his road comrade. He cherishes it for the jolly good times it gives him, and the valuable service he gets out of it. You love your car, don't you? Do you think enough of it to equip it with the Best Tires? Protect your car; safeguard its value to you and guarantee its continued service by fitting it out with those famous, long-mileage tires—MALTESE CROSS TIRES—"The Tires that Give Satisfaction."

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"The Tires that Give Satisfaction"

Gutta Percha & Rubber, Limited.
Head Offices and Factories, TORONTO, ONT.
Branches in all Principal Cities in Canada.

GOOD TREATMENT OF CALVES

It is important to handle calves with gentleness. When teaching them to drink, control the temper and the work is not difficult. A hired man who swears and kicks at calves because they are slow in learning to drink is not a good business proposition for a dairyman. An employee who thinks a lot of the calves and shows an interest in them should be substantially rewarded. He is the type of man that the dairy farmer needs.

Rough treatment of calves develops cows which are unruly and difficult to manage. The writer knows of one heifer that was friendly as a calf and the children often teased her and had pushnig contests with her to see which was the strongest. As the calf grew it became dangerously ugly and had to be killed to eliminate the chances of a serious accident to some members of the family. When raising bull calves it is doubly important to handle them firmly but gently and not allow them to find out their own strength.

Small sections of iron stanchions are fine for feeding. Each calf will soon learn to take its proper place at feeding time and each will then receive its right portion of feed. When calves of different ages are fed together the weaker animals are often crowded out and receive less than their share. A large calf feeding trough is apt to be insanitary because of the difficulty of scalding it. Galvanized pails can be scalded easily and this is a factor in keeping down disease and raising vigorous calves. The pails can be numbered with paint and each calf use the same pail at each feeding. When calves are raised to replace cows in the dairy herd, much of the future value of the herd depends on the quality and vigor of the calves. It is better to feed a few and do it right than to try and raise twice as many on short rations.

In the winter when the calves are housed in pens it pays to give them plenty of clean straw bedding. It seems as if the youngsters do much better and have more vigor when they ar ehoused in clean pens with a cushion of warm, clean straw on which to rest.

Preparing cows for tests, feeding and caring for them during the test, requires very careful, patient, skillful and persevering work, but the individual will be amply repaid for his trouble.

Lawndale Stock Farm

Jerseys and Shorthorns (Pure Bred)

We are at present, owing to increased demand and sales, about sold out, with the exception of one young Durham bull, dropped in July, 1919—but watch our new offerings during the summer of 1920.

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

COSSAR STOCK FARM

Lower Gagetown, N. B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

We are presently offering, one imported Clydesdale Stallion "Dunure Crag" sired by the famous breeding horse "Baron of Buchlyvie."

Also

One Canadian bred Clydesdale Stallion "Baron Cossar", rising 5 years old.
Further particulars on application.

G. C. Cossar, Proprietor. J. Melklejohn, Agent.

Shorthorn Cattle

High grade registered stock 0l for sale

J. E. HETHERINGTON
CODYS, :: :: :- N. B.

Elmwood Stock Farm

We have a few young bulls to offer, sired by Dutchland Colantha Sir Rag Apple, a son of Colantha Johanna Lad. His dam is a granddaughter of Pontiac Korndyke. Thus combining the blood of two of the greatest bulls the world bas ever seen.

Tbe dams are daughters of Dutchland Pieterje Count. These calves are a nice straight growtby lot.

W. L. ETTER, Shubenacadie, Hants Co., N. S.

FOR SALE

Registered large English Yorkshire pigs from old sows. Best imported stock. Price $12 at weaning time.
Cash to accompany orders. First get choice.

EDWIN ESTEY & SON
WOODSTOCK, N. B. - - R. No. 6
Pleasant Valley Farm

S. C. White and Barred Rocks

My S. C. White Leghorns won the championship for three years at Moncton, and carried off a silver cup. At Moncton this year, I entered nine birds and won 3 firsts, 2 seconds, 1 fourth and 2 fifths in a class of 48. First pen is headed by champion cock mated to prize hens. Eggs from this grand pen $5 per setting of 15.
I also have bred to lay Barred Rocks of the finest type. My pen of 12 pullets laid 510 leggs during the three winter months. This pen is headed by a grand cock from the O. A. C., Guelph. Eggs $2 for 15.

J. N. FERGUSON,
336 York Street, FREDERICTON, N. B.

Better Berkshires

The real big, smooth, lengthy, heavy-boned, prolific kind. Youngsters from one to ten weeks old. Boars fit for service, and sows ready to breed. In fact, we have most anything you want in the Berkshire line. And—don't forget! We have the largest prize-winning herd in the Maritime Provinces.

J. R. SEMPLE & SON,
TRURO, - - - - - N. S.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must he paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

F. W. C. Nase, Nerepis, N B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B.

Ayrshire Cattle

McIntyre Bros., Springbrook Farm, Sussex, N. B.
E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co,, N. S.
C. A. Arcbibald, Truro N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

YORKSHIRE PIGS

E. Cbaldecott, Monkham's Farm, West Merigornish, Pictou Co.. N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
C.A. Arcbibald, Truro, N. S.
J. James Ross, Pictou, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The aderess must he counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on. as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex N. B.

RAISE SILVER BLACK FOXES, get our easy terms, prices for spring pups. Silver, Cross and Red Foxes. TODD & MOORE, St. Stephen, N. B.

FOR SALE—Registered Yorkshire pigs, farrowed March 11th. A. E. FERGUSON, Gowan Brae Farm, West Bathurst, N. B.

WANT TO HEAR from party having farm for sale, give particulars and lowest price. JOHN J. BLACK, Maritime St., Chippewa Falls, Wis.

SELL your property quickly for cash, no matter where located, particulars free. REAL ESTATE SALESMAN CO., 530 Brownell, Lincoln, Nebr.

SEND FOR FREE catalogue of 300 Annapolis Valley farms and homes. VALLEY REAL ESTATE AGENCY, Wolfville, N. S.

WANTED—Cheese maker, Cornhill Corner Dairy Co., coming season. Output last season, thirty-five tons, six months work. Apply stating salary and qualifications. A. T. STOCKTON, Sec.

FOR SALE—One 200 Egg "Peerless" Incubator and Brooder. Good as new. Perfect working order. Positive bargain. Apply to ARTHUR M. FRIER, Shediac, N. B.

EGGS FOR HATCHING from a good laying strain of Barred Rocks, won first and second prizes in utility classes at Maritime Winter Fair last year, $2.50 per 15.—F. WARREN BLACK, R. R. No. 4, Amherst, N. S.

EGGS FOR HATCHING: White Orpingtons, Light Brahmas, White Rocks, Rose and Single Comb R. I. Reds, Blue Andalusians, Red Caps. Pens headed by first prize birds. MRS. F. H. LOCKE, 8 Commerce Block, Amherst, N. S.

THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and other premises. Price $4.00 per 100 lbs. Apply by mail to "NAILS," care of Office Maritime Farmer, Sussex, N. B.

EGGS FOR HATCHING: The best in a thousand is the hen in the Dominion Egg Laying Contest at Ottawa. Get a setting of eggs from our O. A. C. hens, bred to a full brother of the above hen. Barred Rock Eggs $2.00 per setting, $13.00 per hundred. S. C. Rhode Island Reds, $1.50 per setting, $9.00 per hundred. N. W. EVELEIGH, Sussex, N. B.

Pig Club Pigs For Sale

Last year we could not begin to fill the demand for our high class Registered Yorkshire Pigs. If you do not want to be disappointed this year, order now.

THE SOUTH TETAGOUCHE BOY BREEDERS CLUB.
Lyndsay MacIntosh, Secretary,
R. R. No. 1. WEST BATHURST, N. B.

SUNNYSIDE STOCK FARM

Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

HIGHLAND LAKE HOLSTEINS

Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.
We bave young bulls for sale whose two nearest dams (both Canadian champions) average as higb as 35.62 lbs. butter in seven days; anotber whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lb. sire and an 18,000-lh. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yonge St. Radial) JEFFERSON, ONT

BELLEVUE STOCK FARM

Shorthorn Cattle and Shropshire Sheep

The early maturing and good doing sort—bred from Show stock in every cross. Offering thirty ewe lambs and shearling ewes to avoid crowding winter quarters. Also a few ram lambs not booked yet.

C. A. ARCHIBALD, Bellevue, Clifton, N. S.

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for salo calves of both sexes sired by Dutchland Pieterje Count, a bull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Johona Lad, who was 101 A. R. O. daugbters 4 over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice. come and see these calves or write for further particulars.
We will also book orders for young Yorkshire pigs for the next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewbere

C. C. H. EATON, - - - CANARD, N. S

COBEQUID FARM HOLSTEINS

We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter eacb in seven days. These cows bave in turn been hred to "Riverdale Lyons Ecbo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter each in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a beifer calf or two. Get your orders in quick, they won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

Special Offering

Maple Green Farm Holsteins

On account of the great shortage in the supply of milk in our home town, we have decided (with regret) to dispose of our entire crop of Bull and helfer calves.
If taken inside of the next 30 days will price them away below their value.
The Dams of these calves are now running in the R. O. P., and the last official test conducted by the R. O. P. inspector showed an average test of 4.62% fat for the lot.
All are sired by our 32.32 lb. herd sire "King Korndyke Johanna", whose Dam is a full sister to Canada's Champion R. O. P. cow, "Jemima Johanna of Riverside". Milk in 365 days 30373; butter in 365 days, 1280 lbs.
Phone or write,

R, L. HICKS
DALHOUSIE JCT., - - - N. B.

FOR SALE

Pure Bred Registered Percheron Stallion "King Ferdinand", foaled March 16, 1916, pure black in color, broken to work, weight 1600 pounds, sired by Gresham, champion of Maritime Provinces. Dam, Lady Belle, equally undefeated.
This is a splendid opportunity to secure a horse of exceptional good breeding. Inspection of stables solicited.
For Price and particulars, apply

JOHN ALBERT FLEMMING,
BOX 234 - - - - TRURO, N. S.

Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages. Have some good cows to fresben soon. Am booking orders for ram lambs for fall delivery. Write or pbone for prices and description.

J. ROBIE MacDONALD,
Shubenacadie, - - Nova Scotia
Successor to J. MacDonald & Son

Five Ayrshire Bulls for Sale!

If you want the best in Ayrshires come to Hillside. Our Stock sires are a son of the great "Jean Armour" and a son of "Gardrum White Floss", 1919 Amherst champion over all breeds.

Prescott Blanchard,
Truro - Nova Scotia

ELMHURST STOCK FARM

Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S.

Advertise in the Farmer.

BUY A

SUSSEX WOOD CUTTER

They are built especially for Custom Work to handle all kinds of heavy rough wood

WE GUARANTEE SATISFACTION

HEAVY STEEL TABLE

Balance Wheel 150 lbs.

LONG SWING TABLE—4 ft. 3 Inches between Balance Wheel and saw.

Ask for our Special Catalogue on Wood Cutters. It will pay you
QUALITY is the first consideration in buying machinery. The BEST is the CHEAPEST.
Two second hand Little Giant Threshers on hand for quick sale. Write us today

WALLACE MACHINE WORKS, Limited, : Sussex, N. B.

Holstein Herd Averages 18812 lbs. Milk

A herd of 13 purebred Holsteins last year averaged 18812 lbs. milk and 638.57 lbs. fat.

Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in HOLSTEIN CATTLE

send for booklets—they contain much valuable information.

Holstein-Friesian Association of Canada
W. A. CLEMONS, Secretary.
ST. GEORGE, - - ONTARIO

FOR SALE

We have to offer a nice bunch of Shorthorn bulls and heifers ages 1 to 3 years.

Also span 4 year old horses, span 5 year old horses, span of brood mares and a choice driver

For further particulars apply to

FRANK C. FAWCETT
Upper Sackville - - N. B.

AYRSHIRES BULLS!

fit for service, bred from heavy producing stock.

FRED S. BLACK & SONS,
Springvale Farm,
AMHERST, - - - N. S.

Chester White Pigs for Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

Berkshire Pigs For Sale

Now is the time to have us book your order for one or more of our large English Berkshire Pigs, for later delivery. Did you see them at Fredericton and Woodstock Fair's last Fall.

We have several sows to farrow in March and April. One sow has had seven litters, and has raised seventy-seven pigs out of seventy-nine. We have other sows that promise to do fully as well. They also have size and plenty of it. We have several orders booked, but have room for more, and can furnish pairs not akin. Also can supply our old customers with the best of new blood. All stock will be registered free.

Have milking Shorthorns.

SHAW BROS.,
Highland Stock Farm,
HARTLAND, N. B. - - R. R. No. 3

FAIRVIEW FARM

Holstein and Yorkshire Swine

Calves of either sex, elght mos. of age and younger, from well bred and Tuberculin-tested Dams. Write for further particulars or come and see them.

Booking orders for Yorkshire Pigs for Spring delivery—from 1st Prize Sire and Dams at Frederlcton Exhibition, Fall 1919—either sex, six weeks old. $10.00 each.

FOWLER BROS.,
WELSFORD, N. B.

W. E. B. TAIT

DORCHESTER, N. B.
Breeder of
DUAL PURPOSE SHORTHORNS
and
BRED-TO-LAY BARRED ROCKS

Eggs for Hatching from winners of P. E. I. Egg Laying Contest 1919, mated to Pedigreed Cockerels Imported from Oregon Agricultural College. Price $4.00 per 15.

Eggs for Hatching from high producing Pens, $2.50 per 15.

JERSEY FOR SALE

One bull fit for service, and one bull calf. We also offer heifers bred to Imported bull.

J. R. SEMPLE & SON,
TRURO, - - - - - N. S.

WISH-TON-WISH STOCK FARM

Have 4 good bulls fit for service, that are well grown and are extra choice individuals, and out of gold, big, heavy producing cows. Also 4 or 5 good bull calves from one to two months, as well as a few good heifers ready to breed, and some already bred to Sir Johanna Ormsby of Hickory, whose dam has a yearly official record of 22,159 lbs. milk asd 971.25 of butter in 365 days. For description and prices write, or come and see our herd.

HARDING BROS., Proprietors, WELSFORD, New Brunswick.

Firshade Farm Dual Purpose Shorthorns

P. R. L. FAIRWEATHER
Rothesay, N. B.

FOR SALE

Two yearling Gurnsey bulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

SARAH E. M. SMITH,
Woodwards Cove, Grand Manan, N. B.

AYRSHIRE CATTLE. KARAKULE-ARABI SHEEP

We are offering two Ayrshire Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

For particulars and prices write

THE EASTERN KARAKULE-ARABI SHEEP CO., LTD. WINDSOR, N. S.

A. T. McLEAN, . V. Sc.

Veterinary Surgeon and Dentist,
late of Can. Army Veterinary Corps.

Graduate of University of Toronto and Ontario Veterinary College, 1910.

Treatment of diseases of all domestic animals.

WEST MARKET ST., MONCTON, N. B.
'Phones, Office 979, Residence 1079

Springbrook Farm Ayrshires!

We have to offer one bull, 24 months, 1st prize at Woodstock, Fredericton and Chatham, 1919. Six choice bulls from 8 to 20 months, sired by the prize winning bulls "Morton Mains", Amanth Imp. and Cherrybank Cicero. Also females, all ages.

McINTYRE BROS.
SUSSEX CORNER, - - N. B.

GUERNSEYS!

For Sale—Registered stock. Male or female.

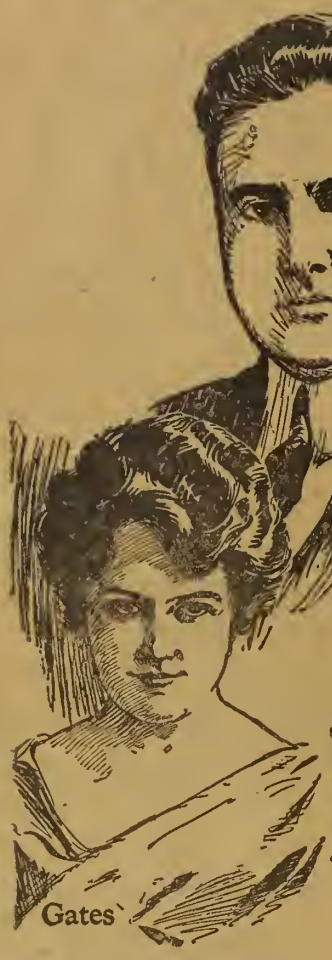
T. D. BLAIKIE,
Great Village, N. S.

Willow Glen Shorthorns!

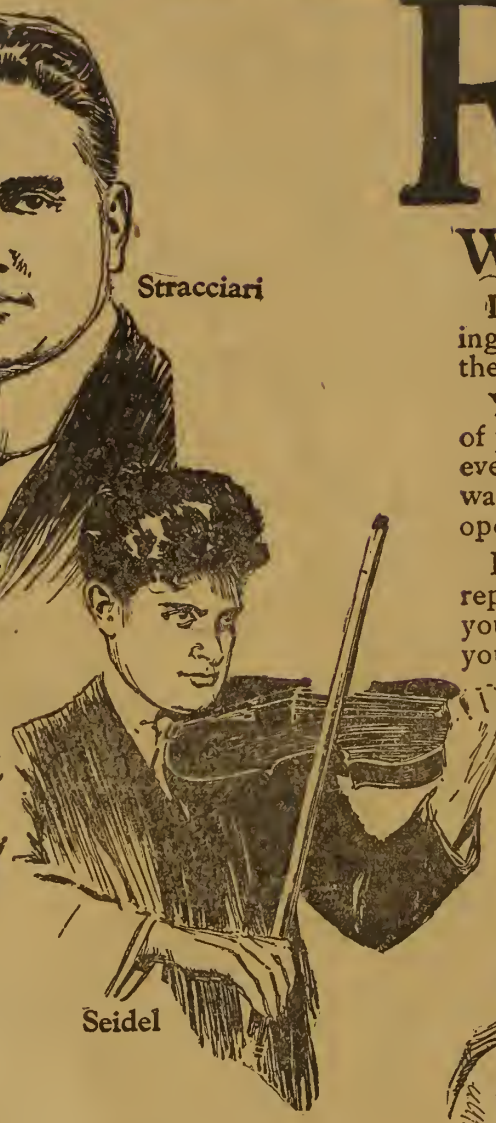
Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

A. N. GRIFFIN,
New Mines - - - N. S.

Columbia Records



Gates



Seidel

Stracciari

What a Concert it would be!

Imagine this group of marvelously gifted artists appearing on one platform, in one evening! They would pack the biggest auditorium.

Yours is the privilege of hearing them, from the depths of your pet arm chair, any evening you choose. And with every individual intonation and shading, every gleam of warm tone color. For all these famous stars of concert and opera make records for Columbia.

Drop into any Columbia shop, select from the varied repertoire of these superb artists the selections for which you care the most, and ask the dealer to play them for you on the Columbia Grafonola.

Lashanska

Lazaro

Casals

Columbia Grafonolas
—Standard Models
$37.50 to $300.

You will realize, perhaps, as you have never realized before the flawless perfection of Columbia reproduction—you will understand why these artists themselves are thoroughly satisfied when they hear their records played, why they are glad to make records exclusively for Columbia.

To make a good record great, play it on the Columbia Grafonola.

COLUMBIA GRAPHOPHONE CO.

Toronto

The
MARITIME FARMER
AND CO-OPERATIVE DAIRYMAN

TRADEMARK REGISTERED

Published Fortnightly in the Interests of the Farmers of the Maritime [illegible] of Canada

Vol. 25 SUSSEX, N. B., APRIL 27, 1920 No 15.

Library Univ of Illinois
1 Jan 21
University Street
Urbana Ill.

"YOU SEE IT'S A MARITIME FENCE"

Maritime fences will stand the severest tests, because they are built throughout of extra heavy hard drawn No. 9 steel wire. The superior stretching power of No. 9 wire keeps the strands from snapping under heavy strains or hard frosts. Each fence is thoroughly galvanised and will sturdily resist the rust and rot of weather.

STANDS THE TEST OF MAN, BEAST, WEATHER and TIME

The strands and stays are firmly gripped at every join by our special time tried and tested never-slip lock. Even after years of hard service, Maritime wire fence retains its sagless shape and sightly appearance. All Maritime Fences are carefully inspected and rigidly tested before leaving the factory. When you buy it you know you have got something that is bull strong and hog tight, something that will withstand greater strain than it is ever likely to receive.

Before you buy fencing it will pay you to first learn what the Maritime has to offer in the way of real fence service.

For sale by agents and dealers in nearly every section.
If you don't know the local dealer, write to us direct.

The New Brunswick Wire Fence Co., Ltd.
MONCTON, N. B.

Brantford "Ideal" Kerosene Engines

An engine for every need. Also operated on Gas and Gasoline.

Maple Leaf Grain Grinders. 6 to 15 in.

Kerosene Light Tractors

WINDMILLS,

Pumps.
Tanks.
Waterboxes.
Steel Saw Frames.
Concrete Mixers.

Agents wanted in unrepresented territory.

GOOLD, SHAPLEY & MUIR CO., Limited
BRANTFORD, CANADA

Make Your Dollars Earn More

The Farmer knows very well that the great increase in the price of the products of his farm has been largely offset by the unprecedented advance in the cost of labor, feed and the necessities of life which he himself does not produce. If he made money ten years ago to do as well now, he must make considerably more. But there is one thing to keep in mind. Just as his hired man earns twice the wage of ten years ago, SO WILL THE FARMER'S DOLLAR EARN TWICE THE WAGE.

There are on the market to-day High Grade Industrials, fully protected, paying Dividends in Quarterly instalments of from seven to eight per cent. annum. At St. Stephen, N. B., there is a thriving shoe factory which in seven years has become a national institution and which, on small capital has built up a reserve of nearly $60,000. For the purpose of doubling the output of this factory, we are offering an issue of $100,000 preferred stock of

CLARK BROS. LIMITED

Dividends Payable Quarterly

Protected by Insurance—Free from Normal Income Tax.

Investment in this industry helps to keep money in the Maritime Provinces and enlarge the Home Market for Farm Products. Write for Circular.

J. M. Robinson & Sons

ST. JOHN, N. B. Established 1889 FREDERICTON, N. B.

"Making two blades grow where only one grew before."

Order Your Spring Fertilizers Early

Indications point to a big increased demand for fertilizers this Spring. Early ordering of supplies is necessary because of the shortage in railroad cars and raw materials. Make sure of your supply by ordering now.

Gunns SHUR-GAIN Fertilizers

Furnish the necessary plant food throughout the growing period, and make for steady, healthy, early maturing plants.

SHUR-GAIN means bumper yields. — At present prices for all farm products, SHUR-GAIN will prove doubly popular.

Don't Delay.—Order your SHUR-GAIN now.

Representatives wahted in unallotted territory

Gunns LIMITED ST. JOHN, N. B.
Head Office
WEST TORONTO, ONT

PRINTED Butter Parchment

Revised Price List

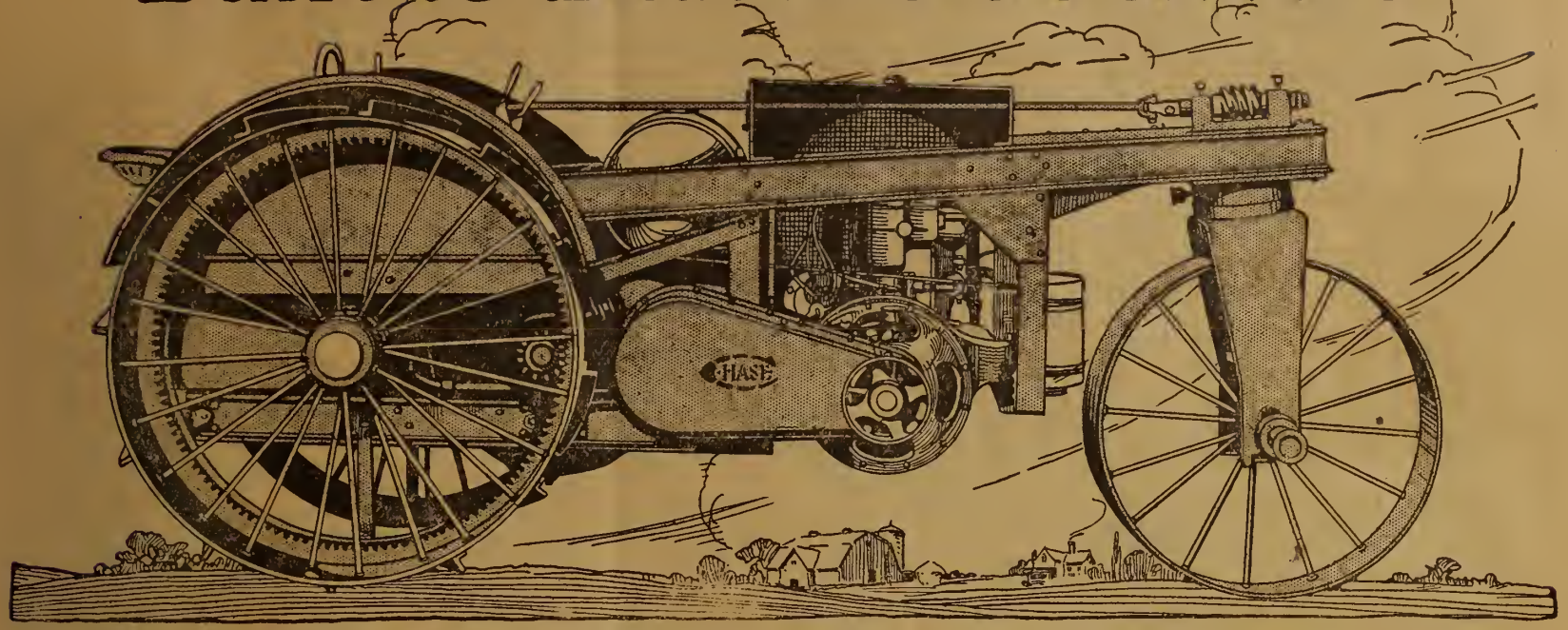
We Prepay all postage to your home address

1000 1 lb. Printed, - -	$5.00
500 1 lb. Printed, - -	$3.75
1000 Printed, 2 lb. - -	$6.00
500 Printed, 2 lb. - -	$5.00
500 2 lb. Choice Dairy Butter,	$2.70
500 1 lb. Plain - -	1.60

Parchment marked "Choice Dairy Butter" 250 sheets, 90c; 500 Sheets for $1.80, Postage Paid.

The Maritime Farmer
SUSSEX, N. B.

"Built to Build Goodwill"



The Tractor without Differential Gears

A tractor has no more need for differential gears than it has for a fly-net. Those gears serve no good purpose in a tractor. And they do cause constant trouble, rob the motor of power, and shorten the life of the tractor.
The Chase Tractor **has no differential gears.**
The two rear wheels get equal driving power, turn over at equal speed, apply the force of the heavy-duty motor at its full efficiency.
That means that when the Chase gets into a hole, both rear wheels work to pull it through. When obstacles are met the Chase rides over them. In plowing on the level or on sidehills the side-draft does not pull the Chase off its true course.
The Chase therefore, avoids a very common tractor trouble.

A trouble-maker avoided

Tractors with differential gears can do their best work only on a straight-way pull on level land. The moment one wheel meets an obstacle, the differential throws all the power into the other wheel. So quite often you see such a tractor with one rear wheel dead and the other spinning. That happens when the tractor gets one wheel in a mud hole. The very time when extra driving force is needed the differential gears rob the motor of its power to move the tractor.
The same thing occurs in a lesser degree in all plowing work. For the side-draft tends to place more load on one wheel than on the other and the differential gears throw the power into the other wheel. **The tractor with differential gears is more than half of the time a one-wheel-drive tractor.** The Chase Tractor, **having no differential gears,** is always pulling evenly on both rear wheels.

For that reason it operates with less power and so saves kerosene.

Gears waste power

But there is another saving of gas from this same feature of Chase construction. Differential gears rob a motor of about 10% of its power. 10% that does the tractor owner no good. The Chase saves that 10% because it has no differential gears.

The even pull saves money

Pulling evenly the Chase wears evenly. Lasts longer. Requires less adjustment of bearings. Needs fewer repairs. And, for that reason, stays more steadily "on the job."

As a practical man can see, the whole of the Chase Tractor gives proof of the same sensible, common-sense idea of design in every part of its construction.

Watch it in action and you will see in the smooth-working Chase a quality that you expect only in a high-grade, perfectly adjusted machine.

Built to build goodwill

Canadians build the Chase—in Canada. Canadians build the Chase that is sold in Great Britain and foreign lands—yes, and also in the United States. The Chase institution was created to establish in Canada a world-wide tractor business founded on Canadian principles of doing business. The men behind it, R. J. and W. J. Cluff, are men with high manufacturing ideals. They are exacting in their demands. They want the men who buy Chase Tractors to make money out of them. They are determined that every customer shall receive the service he requires to keep his Chase Tractor always at its best and always "on the job."

Investigate Our Service

You will find it to your advantage to deal with an institution with these ideas of service. You will find that the Chase Tractor is a piece of machinery that will gladden your eye. If you haven't seen it, be sure to do so. Or, write for illustrated literature and detailed information. We will send it promptly and tell you where you can see a Chase Tractor.

SPECIFICATIONS

Motor—Buda Model H.T.W. Heavy duty, Tractor type 4 cyl. 4¼" bore, 5½" stroke. Set crosswise of frame. Every part readily accessible. Extra large water passages for cooling. Force-feed lubrication, thorough vaporizing of low-grade fuels. Heated and "water washed" air.

Fuel—Specially designed to burn Kerosene or low-grade gasoline.

Drive—No differential gears are used, the drive being direct from the transmission to outer rim of wheel through bull pinions and gears. Both bull pinions and bull gears cut from forged steel and case-hardened.

Transmission—Fully enclosed and running in oil. Myatt roller bearings. Very simple type. Gears accurately machined from high grade steel.

Chain Drive—Power is delivered to the transmission gears by a wide chain fully encased and running in oil.

Belt Pulley—In direct line with crankshaft—no bevel gears. Located at side—best position for lining up with the machine to be driven.

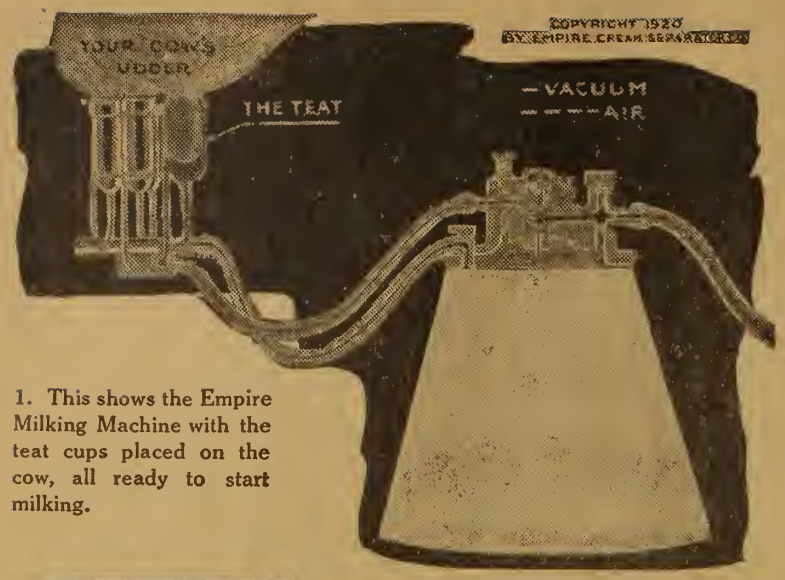
Control—Driver has unobstructed view. Control levers are simple and easy-working.

Turning-radius—12 feet circle.

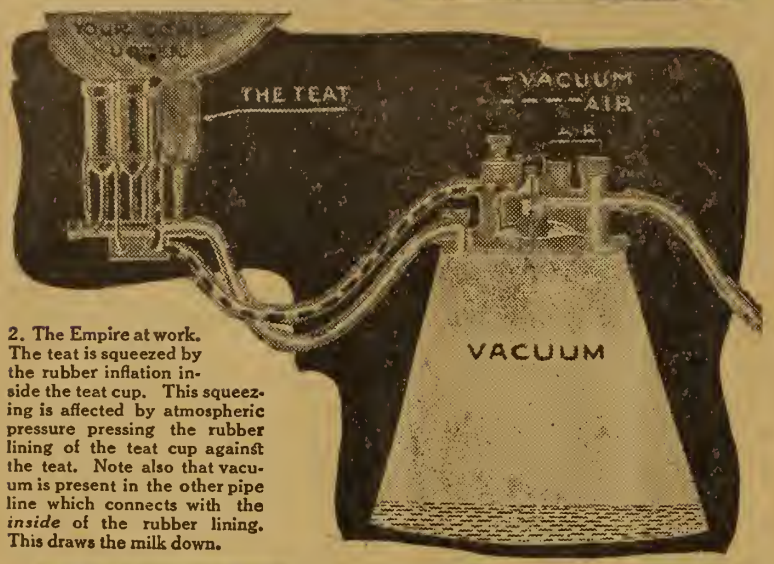
CHASE TRACTORS CORPORATION Limited
TORONTO - ONTARIO

Eastern Motors Limited **Wholesale Automobiles.** **Fredericton, N. B.**

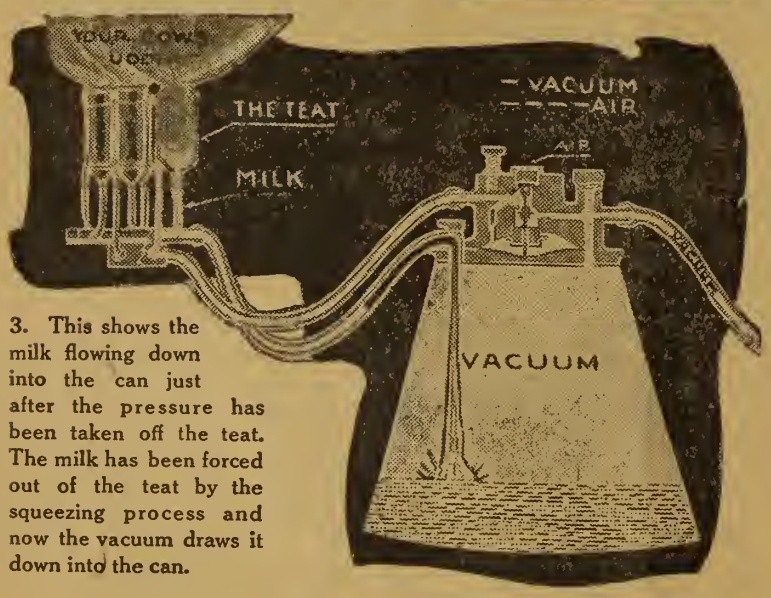
CHASE TRACTOR



1. This shows the Empire Milking Machine with the teat cups placed on the cow, all ready to start milking.



2. The Empire at work. The teat is squeezed by the rubber inflation inside the teat cup. This squeezing is affected by atmospheric pressure pressing the rubber lining of the teat cup against the teat. Note also that vacuum is present in the other pipe line which connects with the *inside* of the rubber lining. This draws the milk down.



3. This shows the milk flowing down into the can just after the pressure has been taken off the teat. The milk has been forced out of the teat by the squeezing process and now the vacuum draws it down into the can.

Why does the action of the Empire teat cup "go the calf one better?"

The young calf sucks—creates a vacuum which pulls the milk from the teat. ***So does the Empire Milker.***

Then the calf swallows and—***here's the important thing***—its tongue massages the teat from tip to udder. That pressure of the calf's tongue relieves the teat by sending back into the udder the blood drawn down into the teat during the sucking process. ***The Empire teat cup inflation does exactly the same thing,*** by the gentle application of atmospheric pressure—NOT compressed air—between the teat cup shell and the soft, pliable rubber inflation.

BUT—the poor little calf may be very hungry; he may suck too hard. ***That's one instance where the Empire "goes the calf one better".*** BECAUSE, the action of the Empire is always uniform and gentle—since the vacuum is controlled by a relief valve. And you can't put a relief valve on a hungry calf. He wants ***milk,*** and he's not particular how he gets it.

Now let's talk on hand milking. Even a casual study of the diagrams on the left will prove that it is impossible for hand milking to be as uniform as that of the Empire, no matter how experienced the hand milkers may be. It would be about as impossible as making pins by hand and expecting them to be as uniform as those turned out by the pin-making machine. And note this: The Empire is not only uniform, but it is so simple to operate that ***it makes everybody an expert milker.***

Now take a glance at the pulsator on the top of the Empire pail. Note its extreme simplicity. There are only five moving parts. ***Note that it has no piston.*** You can readily appreciate how much such simplicity practically eliminates wear and tear—Empire means life-long satisfaction.

We can't tell you our complete story here. We haven't said a word about the increased profits that follow the installation of an Empire Milking Machine. We haven't touched on the endless time and labor saving. And there's a hundred and one other things you should know about the Empire, BUT THERE'S ONLY ONE WAY YOU CAN GET OUR COMPLETE STORY—and that is by sending for our catalog 20 Why not drop us a letter in the next mail.

"The Standard of the Better Dairies"

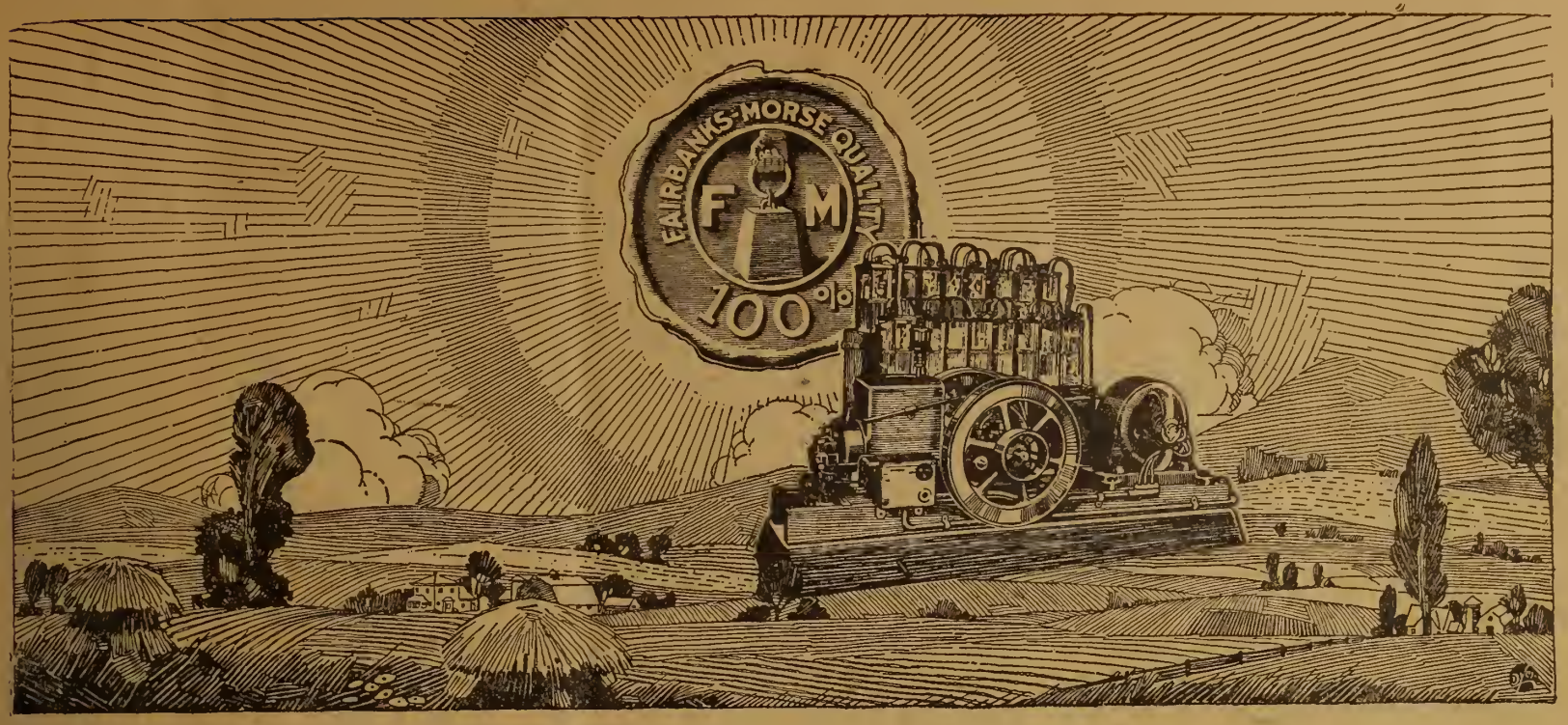
THE EMPIRE CREAM SEPARATOR CO., OF CANADA LIMITED,

TORONTO and MONTREAL.

Also manufacturers of The Separator with the MILLION DOLLAR BOWL and EMPIRE GASOLINE ENGINES.

EMPIRE

MILKING MACHINES



Canada's Greatest Farm Help

For twenty years The Canadian Fairbanks-Morse Company has been making engines, scales, and other improved farm equipment for Canadian farmers. But what we consider our greatest accomplishment—the one thing of greatest usefulness, comfort and convenience—the greatest of all farm help is

The "F" Power and Light Plant

We have built an enviable reputation for dependable products, good service and fair prices, but we believe the "F" Power and Light Plant will prove to be such a universal benefit to the farming community that it will eclipse even the record of the past.

We know there is no power and light plant which begins to approach the "F" Plant for utility, flexibility, economy and price.

Our Toronto factory is turning the "F" Plant out in great numbers every week to supply the demand. Each plant is minutely inspected, thoroughly tested, broken in, and when finally approved is ready for year after year of satisfactory service.

The installation of these plants is entrusted to the most dependable and skilled men we are able to find in every district. As part of the Fairbanks-Morse organization, they may be depended on to give owners of the "F" Plant satisfactory service, cordial treatment, and the fullest co-operation in showing the various utilities and advantages of the "F" Plant.

If you do not know the Agent in your territory, or merely wish to investigate the "F" Plant, send coupon to our nearest office and a catalogue will be forwarded to you without delay.

Agents Wanted

in every district to handle this biggest and easiest selling proposition and give owners the kind of service which has built the reputation of this Company.

The Canadian Fairbanks-Morse Co. Limited

ST. JOHN QUEBEC MONTREAL OTTAWA TORONTO HAMILTON WINDSOR
WINNIPEG REGINA SASKATOON CALGARY
VANCOUVER VICTORIA

40-Light Plant

$495

F.O.B. Toronto

ALSO MADE IN 65, 100 AND 200 LIGHT SIZES

DEALER'S COUPON

Mail this coupon with your letterhead to our nearest branch for full particulars of Fairbanks-Morse "F" Power and Light Plant Agency.

Name .....

Address .....

65 M. F.

USER'S COUPON

The Canadian Fairbanks-Morse Co., Limited
Please send me Catalogue of Fairbanks-Morse "F" Power and Light Plant

Name .....

Address .....

65 M. F.

Work Clothes

THE indigo drill and indigo duck sold under the "Prue Cottons" mark for work clothes or overalls are specially constructed for long and hard usage. There are none better.

Ask your dealer for "Prue Cottons."

DOMINION TEXTILE
Company, Limited

MONTREAL TORONTO WINNIPEG

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTESED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 25. SUSSEX, NEW BRUNSWICK, APRIL 27, 1920. Number 14.

Let's Clear the Atmosphere a Bit

The Maritime Farmer is Fighting the Battle of the Farmer and Against Those Who Would Exploit His Politics and His Pocket

The Grain Growers Guide, Winnipeg, has flooded the Maritime Provinces with circulars attacking the Maritime Farmer. This paper has been accused of all sorts of things. We have made certain statements which the Guide resents. Naturally being out of keeping with the general plan the Guide had in view to flim-flam the farmers of the East, the Guide is annoyed.

The first step in this campaign was an attempt to buy the Maritime Farmer. This failed. It failed because the Grain Growers Guide and the man who controls the stock of the Maritime Farmer, Mr. J. D. McKenna, Sussex, do not agree as to what really is in the interests of the farmer. The Grain Growers of the west have apparently made large sums of money out of the farmers. In this province, an organization was started which was to sell goods cheaper to farmers and at the same time pay dividends, two in number to farmers who could be induced to purchase stock. To control the organization a central board was formed, which to all intents and purposes was to act as a middleman organization for branch stores.

Long before either the Grain Growers or the United Farmers had decided to confer on the farmers of this province co-operation, which takes profits from farmers, instead of returning them to the BUYER, we had co-operative methods firmly installed in New Brunswick. Through the efforts of the Agricultural Societies United, the cost of fertilizer to the farmers of this province was reduced, in some cases one-half. The Maritime Farmer, as a matter of policy, decided to extend this work by buying feeds and seeds co-operatively for farmers. We did not handle one cent of cash in most of these transactions. We got together such a volume of business, that it commanded the respect of those who had goods to sell, and we placed the farmers of the east in touch with sources of supply, and they paid their bills direct and bought as cheap as any other buyer in these parts. Thousands of farmers know what has been done along that line, and appreciate the service the Maritime Farmer has rendered them.

Well, all this looked good to somebody, and other co-operative methods were devised, whereby those who have money to invest, could make money out of the farmer who did not feel inclined to put money into storekeeping. What was the result? Those farmers who continued to buy through the Maritime Farmer, have been getting their feeds over five dollars per ton cheaper than did the farmers who put up their cash and kept it up.

When it comes to seeds we bought for farmers in the Maritime Provinces this very year, clover, alsike and timothy seed. The No. 1 clover cost the farmers of the Maritime Provinces four thousand five hundred and fifty dollars per car less than the United Farmers, of Ontario, offered it to the farmers of Ontario. The price of alsike was three thousand, five hundred and fifty dollars per car less, and we not only bought and delivered No. 1 timothy cheaper than the United Farmers of Ontario sold No. 2 timothy for, but our price on No. 2 seed was thirteen hundred and sixty-five dollars per car less than the prices quoted to Ontario farmers by the United Farmers Co-operative Company, 130 King Street East, Toronto. New Brunswick and Nova Scotia farmers were saved these great amounts by the Maritime Farmer, despite the fact that we paid the freight on these seeds to Sussex and took for ourselves sufficient to cover the cost of getting the orders together and handling them.

We ask the farmers of the Maritime Provinces were ever men caught more red-handed in profiteering from the farmers than in this instance? And we propose to keep on helping the farmers of the Maritime Provinces, and we make this offer—that if any body of farmers decide to start a store—and to be frank it has not been the experience that such stores are profitable—we will put that body of farmers in touch with sources of supply where they can secure supplies at wholesale rates—and never have to hand over any of their capital to the head office of the United Farmers, Woodstock, or pay that middleman organization one cent of profit.

We believe that the biggest asset in any co-operative movement is the buyer. Without his trade no store can flourish. Knowing that, the Maritime Farmer has worked in the interests of all the farmers, and not the fellows alone who have money to invest. Therefor, it was, that the Maritime Farmer decided to carry on the work it has been doing. And so it refused to sell itself body and soul to Winnipeg, to become a political hack, advocating just what Winnipeg directed that it should advocate. No farmer has ever been advised by this paper as to what his politics should be, and no farmer ever will. His political leanings and those of his neighbor are not the business of this paper or any other paper. We are here to serve the farmers of the Maritime Provinces, first, last and always as farmers. If they are Grit, Tory, Independent or United Farmer, they will get just the same treatment from this paper. But we do not propose to sit idly by and see these men robbed in cold blood, and by men who, while professing to help farmers, are profiteering from them to the full extent of their ability.

The Maritime Farmer and its methods are too well known to the farmers of this part of Canada to need any defence. We make this charge again that the Grain Growers are in full charge of the political campaign which is being conducted in this province and in Nova Scotia, and that this campaign is being conducted solely for their own benefit. We maintain again that if the monies of Canada are to be used to assist the wheat growers of the prairies, then our own farmers should receive the same treatment. We charge that the Maritime Farmer has been and is being systematically condemned for asserting that the potato growers of these provinces have equal rights with any western farmer, and we believe that this attack is being directed from a central source.

We are prepared to support any movement the farmers of the Maritime Provinces may undertake, but we are not going to be bought or frightened into condoning the exploitation of the farmers of this part of the country. We are free niggers, uncontrolled by any organization or by any party. We have made statements which are serious. We are prepared to back them up. We do not propose to reply to the campaign from Winnipeg. We expect to go on about our business as usual serving the farmers of Eastern Canada. We never have opposed farmer organizations. We are with them to the drop of the hat, but as we said before, we will not hesitate to expose conditions such as we know to be not in keeping with the professions of those who make them. We have served united farmers' organizations in the past, we will be at their service in the future, and we hope to their financial welfare.

In the meantime, the new paper which Winnipeg owns in greater part, after charging some farmers $1.50 per year, has dropped the price to 75 cents to others. Here again is a chance for a refund. Surely every subscriber is entitled to the same treatment. Those farmers who have paid the high price are entitled to some of their money back.

Ownership of the U. N. F. Guide Fixed

Circulars have been sent broadcast to the effect that the United Farmers' Guide is owned by the Farmers of the Maritime Provinces. This paper claims that the new paper is owned and controlled in Winnipeg. Speakers have everywhere told audiences that the Grain Growers' Guide did not control the new paper. Read this announcement, which is taken from the Grain Growers' Guide of March 31st, 1920;

THE UNITED FARMERS' GUIDE

On April 7, the first issue of The United Farmers' Guide will be published at Moncton, New Brunswick, as the organ of the organized farmers of the Maritime provinces. The farmers in Nova Scotia, New Brunswick and Prince Edward Island have been interested in organization and already have made a big start. They have had, however, no journal to serve them as The Grain Growers' Guide has served the farmers in Western Canada. The result has been that The Grain Growers' Guide has united with the farmers in the Maritime provinces to publish the United Farmers' Guide to assist them in their work. The Grain Growers' Guide will be the chief owner of the new paper and it will be published under the same management as The Grain Growers' Guide. The United Farmers' Guide will be the same size and made up in the same form as The Grain Growers' Guide.

There are a great many Maritime province people in the prairie provinces, and no doubt thousands of them among the readers of The Grain Growers' Guide. They are fully aware of the benefit which The Grain Growers' Guide has been to the organized farmers in the West. No doubt many of them would like to send a subscription for the new paper to some of their friends who are still living in the Maritime provinces. The subscription price of The United Farmers' Guide is $1.50 per year, or $3.00 for three years. We would ask any person who wishes to help the movement in the Maritime provinces to send in subscriptions for their friends who are living there so as to get as many subscribers as possible. Send all subscriptions to The Grain Growers' Guide, Winnipeg, Man., and they will be forwarded to the Moncton office, and each subscriber will receive the first issue of the new paper.

THE GRAIN GROWERS' GUIDE.

Now we ask in the light of this, is the Maritime Farmer not absolutely right in preserving its independence, in order to speak for the Eastern Farmer? Already this paper has made the question of wheat buying by the Dominion Government at least a remote proposition.

Dominion Educational Butter Scoring Contest, 1919

By Geo. H. Barr, Chief Dairy Division

Plan.—The Dairy and Cold Storage Commissioner, Ottawa, made arrangements with the Provincial Dairy Commissioners and Superintendents of Dairying to select 4 creameries in each province that would manufacture and ship to Montreal in the months of May, June, July, August, September and October, one 14-lb. box of butter. British Columbia selected only 3.

The method of manufacturing the butter was left entirely in the hands of the creamerymen and the provincial authorities. Blank churning records were furnished each creamery to be filled in and forwarded with the samples. Upon arrival in Montreal, the butter was placed in cold storage at from 12 to 15 degrees temperature. A few days after the samples were received, they were scored by Mr. P. W. McLagan, Montreal, Mr. J. B. Muir, Ingersoll, and the writer, and were rescored for flavor by the same parties each succeeding month until October. The August, September and October samples were again rescored for flavor on December 17th.

Objects of the Contest:

(1)—To ascertain if it is possible to make as fine butter in one province as another.

(2)—To find out if possible the best method of handling the cream and churning it to make the finest and best keeping quality of butter.

(3)JTo try and establish a type of butter which would meet the requirements of the export trade and also be suitable for the best markets in Canada.

(4)—To promote a healthy rivalry between the different provinces in making the finest quality of butter.

(5)—The Contest would indicate to some extent the effectiveness of the dairy educational work being carried on in each province.

To what extent has the contest worked out these problems? We think the question of making a uniformly high grade of butter in each province has been definitely settled. Note the uniformity in the total score on the best sample from each province:

	Points
British Columbia	97.1
Alberta	98.0
Saskathcewan	98.5
Manitoba	98.0
Ontario	96.5
Quebec	98.5
New Brunswick	96.8
Nova Scotia	98.0
P. E. Island	98.0

Following is the percentage of the total samples from each province that were placed in Special Grade at the first scoring. The minimum score for Specials is 41 points for flavor and a total score of 94 points.

Province	p. c. samples grading Specials	Tot'l No. Samples
Quebec	73.9	23
Manitoba	70.0	20
Alberta	68.1	22
Nova Scotia	57.1	14
Saskatchewan	36.3	22
British Columbia	33.3	22
P. E. Island	30.0	20
New Brunswick	21.7	23
Ontario	10.5	19

Although there is considerable difference in the number of special grade samples from the different provinces, every province has made Specials. We can, therefore, say that the finest butter can be made in every province.

Acid in Cream.—The Contest shows that the very finest butter can only be made from clean sound flavored cream. The keeping quality of the butter made from cream with .35 per cent. acid is as good as that made from cream with less than .2 per cent. acid, but .35 per cent. is about the limit to make the finest flavored butter with long keeping qualities.

The churning records indicate that 15 samples of butter were made from cream in which the acid had been neutralized. The average acidity before neutralizing was .615 per cent. and after neutralizing was .262 per cent. The deterioration in flavor in these samples betwen the first score and the last rescore was 1.57 points, which is only .42 points greater than the average deterioration in all the pasteurized samples and 2.49 points less than in the samples made from unpasteurized cream.

Pasteurization.—It has been generally admited that pasteurizing the cream improves the keeping quality of butter. The Contest bears out this fact. But pasteurization will not produce special grade butter from sour, poor flavored cream. High pasteruization, (160 to 185 degrees), has given exceptionally good results in the keeping quality of the butter.

Samples made from cream pasteurized to a temperature of 160 degrees and held for from 10 to 20 minutes have held their flavor equally as well as those from cream heated to 180 degrees. We would, however, recommend the higher temperature to be absolutely certain that the work is effected.

The percentage of samples made from pasteurized cream which passed from Special and No. 1 Grades into No. 2 and Off Grades between the first scoring and the last rescore, was 17 per cent., and from unpasteurized cream 100 per cent.

The deterioration in flavor during the same period was almost three times as great in the samples made from unpasteurized cream as in those made from pasteurized cream.

The tendency of pasteurizing is to produce a mild flavor in the butter. Many people do not like butter of this character. They prefer butter with some taste to it, but the rescores show that the samples with this mild flavor are keeping better than those with the higher or more pronounced flavors and the creamerymen and butter dealers will do well to note this fact.

The Storch Test.—This test is based on the principle that milk and cream produced normally contains certain deoxodizing ferments which are known as peroxidase. If when a few drops of an "indicator" and a "reagent" are added to a sample of milk or cream, an immediate color reaction occurs (milk and cream, indigo-blue; whey, violet-red) then the sample has not been heated above a certain critical temperature, or it may not have been heated at all. If the sample turns a pale grey in color either immediately or within half a minute's time after the addition of the reagents, then it has been previously heated to the "border line." If the sample remains white or develops a very pale violet-red tone by the addition of the reagents, then it has been heated to a temperature sufficiently high to destroy or to render inactive the peroxidase ferment.

In reporting the Storch Tests in this Contest, three terms were adopted: "No Reaction" when the sample remained white; a "Light Reaction" when the sample turned a light grey color; and a "Strong Reaction" when the sample turned a dark blue color.

The following brief statement shows the value of the test in relation to the keeping quality of the butter.

130 samples gave "No Reaction" and at the last rescore 8 of those samples or 6.07 per cent. were placed in Off Grade for flavor; the churning records indicate that 5 of the 8 samples were made from cream in which the acid had been neutralized and 2 were made from unpasteurized cream and no record as to the acidity or condition of the cream was given. It has been found that a very high acidity on the cream will affect the Storch Test results and I am not prepared to say what effect neutralizing the acid in the cream has on the keeping quality of butter..

31 samples gave a "Light Reactioc" and at the last rescore, 11 of these samples or 35.5 per cent. were placed in Off Grade for flavor.

20 samples gave a "Strong Reaction" and at the last rescore, 50 per cent. were placed in Off Grade for flavor.

These results would indicate that the Storch Test is a fairly reliable test to show the keeping quality of butter and can be used to very great advantage in commercial grading.

Uniform Type.—The type of butter that pleased the scorers best and, in fact, everybody else who saw the samples, was that which came out on the trier like a piece of wax and showed little or no moisture on the butter, or on the back of the trier; texture, close and smooth; color, even and about a straw shade, and a salt content of from 1.5 to 2 per cent. The butter from the Western Provinces was usually of a closer character than that from Eastern Canada and showed less free moisture. Many of the Eastern samples showed too much free moisture and the color was often uneven. Nobody wants mottled or streaky butter and there is no excuse for this defect. More working would overcome the defects in color and would also eliminate the defect of too much moisture.

Texture.—Many of the samples were brittle or short in texture. Such butter has the appearance of being churned at too high a temperature, coming soft and then washed with very cold water. An effort should be made to overcome this defect. The butter from the Maritime Provinces is inclined to be open or loose in texture; more working would improve it. A close smoth waxy texture is what is desired.

Salting.—The amount of salt added to the butter at churning as shown by the churning records varied from 1.5 to 8 per cena. The percentage of salt in the butter as shown by the salt test varied from .8 to 4.3 per cent. The churning records for the 15 samples which scored the highest for flavor had an average of 2.73 per cent. salt added to the churning an 1.4 per cent. in the butter. If the salt test is reliable, there is either a very great difference in the percentage of salt expelled in working the butter, or there are very grave errors made in estimating the quantity of salt added to the butter.

The average per cent. added at churning and the per cent. found in the butter from each Province is as follows:

Province	P. C. Added	P. C. in Butter
British Columbia	3.64	2.13
Alberta	2.60	1.13
Saskatchewan	2.57	1.48
Manitoba	1.99	1.15
Ontario	3.44	2.38
Quebec	3.32	1.74
New Brunswick	5.29	2.57
Nova Scotia	3.67	2.07
P. E. Island	3.87	2.19

The following table is very inter esting. It shows the percentage of samples from each province which scored perfect for texture, incorporation of moisture, color, salt and packing.

Percentage of Samples Scoring Perfect

Province	For Texture	Incorporation of Moisture	Colour	Salt	Package
British Columbia	41.1	88.8	61.1	100.0	77.7
Alberta	40.9	95.4	81.8	100.0	90.4
Saskatchewan	50.0	86.3	59.0	100.0	81.8
Manitoba	65.0	90.0	75.0	100.0	95.0
Ontario	36.8	42.1	42.1	68.4	84.2
Quebec	13.0	65.2	91.3	100.0	91.3
New Brunswick	47.8	26.1	52.1	60.4	82.6
Nova Scotia	64.2	64.2	78.6	78.6	92.8
P. E. Island	30.0	15.0	65.0	75.0	100.0

This table shows very plainly where the buttermakers in each province fell down in workmanship, and it also shows that in some cases there is very great room for improvement.

The Standing for Workmanship by Provinces is as Follows: Maximum Score 45 Points.

1st—Alberta	44.63 points
2nd—Nova Scotia	44.55 "
3rd—Manitoba	44.54 "
4th—Quebec	44.44 "
5th—P. E. Island	44.29 "
6th—Saskatchewan	44.25 "
7th—British Columbia	44.11 "
8th—New Brunswick	44.11 "
9th—Ontario	44.00 "

NOTE.—In working out the above points, it was considered advisable to leave out the score for salting. Theer are very wide variations in the quantity of salt required for the different local markets, and as some of the creameries make butter for local markets only, the salt in some of the samples was too high for export trade and were scored down accordingly.

The Following Creameries in Each Province had the Highest Score for Workmanship

Name of Creamery	Address	Province	Average Score
Scotsburn	Scotsburn	Nova Scotia	44.86
Crescent	Winnipeg	Manitoba	44.83
Morkebery Cry. Co.	Markerville	Alberta	44.92
St. Hyacinthe	St. Hyacinthe	Quebec	44.61
Farmers' Co-op.	Moncton	New Brunswick	44.58
Bowes Co.	Toronto	Ontario	44.57
Central Bedeque	Central Bedeque	P. E. Island	44.52
Tantallon	Taltallon	Saskatchewan	44.51
P. Burns & Co.	Vancouver	British Columbia	44.27

Manuafcturing a uniform type of butter all over the Dominion is no doubt a big problem, as it depends almost entirely on workmanship and it is no small undertaking to get about one thousand men churning and working the butter in the same manner, but the Contest shows that there were a good many samples from every province which scored nearly perfect workmanship.

A Healthy Rivalry between the Provinces.—A good stiff competition will bring out the best that is in a man, and although there are no rewards offered in this Scoring Contest, there is considerable honour to those who win the highest standing. The fact that the man who makes the butter knows it will be placed alongside of samples from every province in the Dominion, should stimulate him to do his finest work and when we get the best men in each province doing their best work, we will certainly get a comparison of the very best methods of manufacturing creamery butter. With the churning records of the highest scoring samples each month before him, a buttermaker ought to get some useful information to put into practice. We hope this year to place in the hands of every buttermaker in Canada a copy of the monthly report of the Contest. Let us have a splendid exhibition of workmanship and skill in our 1920 Contest.

Dairy Educational Work.—The proof of effective dairy educational work is shown in the quality of the finished products. Although only 4 creameries from each province are competing, they will to a greater or less extent reflect the character of the work which is being done in the balance of the creameries in the province, and the dairy authorities in each province would do well to watch the successful competitors in this Contest and put into practice the methods that are producing the finest butter.

Summary

(1) The very finest butter can be produced in every province in the Dominion.

(2) Excellency of workmanship would appear to have more to do with the production of fine butter than either climatic conditions or geographical position.

(3) The finest butter can only be made from clean sound flavoured cream.

(4) Cream should not have more than 3.5 per cent acid if the best butter is to be made.

(5) Results indicate that pasteurizing good cream to temperatures from 160 to 185 degrees will ensure good keeping butter; also that sour and poor flavoured cream pasteurized to the above temperature will have very much better keeping qualities than butter made from the same grade of unpasteurized cream.

(6) The deterioration in the flavour of butter made from unpasteurized cream was nearly three times as great as in the butter made from pasteurized cream.

(7) The Storch Test we consider a valuable test to indicate the keeping quality of butter.

(8) The addition of about 3 per cent salt to the butter fat churning will in most cases produce butter as far as salt is concerned that will suit the best trade in Canada and also the British markets.

Clover Culture and Seed Selection

An address before the F. & D. Convention at Fredericton, March 16th, 1920, by O.C. Hicks, B.S.A.

The essential nature of the grass and clover crop is little realized. When the phrase "Food will win the war" was on every tongue the public thought only of wheat, potatoes, butter, cheese and pork, forgetful that back of these was the clover crop, the mainstay of the farmer and dairyman; or that the effectiveness of cavalry regiments and thousands of horses overseas with the Expeditionary Forces in France and on other fighting fronts depended on the daily forage ration of timothy and clover hay.

During the war the Imperial War Office bought in Canada through the Dairy and Cold Storage Branch of the Department of Agriculture 481,250 tons of hay. Hay-pressing plants were operated at St. John, 1915-16 and at Woodstock, 1916-17 and a large special plant at Montreal, where hay was recompressed. When the United States entered the war Canada supplied their Overseas Army with 162,225 tons more—a total of 643,457 tons.

The New Brunswick hay crop for a number of years has been over one million tons, grown on three-quarters of a million acres. The crop of last year is estimated at 1,111,000 tons, grown on 748,000 acres.

Try to think for one moment of the appalling distress that would be caused should the clover crop fail for one single season. The Western Provinces had a dry year last summer. The pastures were parched, the cattle starved, and to save the herds Governments and railways co-operated to shoulder the burden of transporting the live stock to green pastures. Cattle were even sent as far south as Texas to graze.

At a low estimate one-tenth of the area in hay crop in the Province is reseeded annually, that is, seventy-five thousand acres. How much seed is used on this, and what is the outlay required to buy the seed? The answers to these questions disclose the importance of the seed phase of growing the hay crop.

The majority of farmers sow 1 peck of timothy seed mixed with 1 quart of red clover and 1 quart of alsike seed per acre. Say, 10 lbs. of timothy, 2 lbs. each of red and alsike clover. Now, at the present cash price for No. 2 Timothy and Red Clover, and No. 1 Alsike, it costs $4.20 for the grass seed for one acre. That is, the farmers of the Province will spend for grass seed $315,000.00 and for this amount the 75,000 acres will be seeded down with 1,050,000 lbs. of seed, most of it imported stock.

There is today a great deal of talk about the small buying power of the Canadian dollar when sent to the United States. The following figures of the trade in grass and clover seeds between the two countries may offer a partial explanation, for nowadays when we hire someone else to do our work, or grow our foood supply or seed stocks we must expect to pay well for it.

The importation of clover and timothy seed were as follows:

Clover (lbs.)	Timothy (lbs.)
1914—3,326,952	1915—11,553,700
1916—4,801,731	1916—10,935,730
1918—2,586,886	1917—11,196,094

The exports for the same years to U. S. were as follows:

Red Clover (lbs.)	Grass Seeds (lbs.)
1914—129,406	1916— 736,030
1916— 67,342	1916— 689,446
1918— 48,790	1917—1,960,207
1919—850,165	Alsike—10,019,462

This balance of trade in so far as New Brunswick is concerned can be changed so that clover seed may be exported. Our seed is superior in vital energy, it grows hardy plants and makes better permanent pastures.

Northern Grown Seeds

A large seed firm of Chicago, specializing in grass and clover seeds, makes extravagant claims for northern-grown seeds bought in Canada. Tests made at Experimental Stations and privately owned farms in Canada and elsewhere have proved the hardiness and superior quality of home-grown over imported Red clover seed.

At the Svalof Station in Sweden, careful comparative trials were conducted with a large number of Swedish and foreign clover sorts during the years 1907-1910. The winter of 1908 was quite severe with the result that English and Chilian clovers were completely killed out while the Swedish remained and gave a crop almost equal to the first hay crop of these sorts durng the preceding year.

Many complaints of failure to secure a good clover crop are due to the use of southern grown seed that is so delicate that it will not survive the rigors of a northern winter. The clover seed produced in a region where winter-wheat kills out as it does in New Brunswick is worth a good deal more for seeding down our hay fields and pastures than is the clover seed grown in the winter wheat growing States.

Good grass crops in rotations can only be secured by sowing plenty of seed. As well might we expect to gather figs off thistles as to gather a crop of clover from a grass seed mixture containing 2 or 3 lbs. only of clover seed. If you want to reap a hundred dollar per acre crop of hay then sow more seed than if you expect a fifteen dollar crop. A few men have arrived at the place where they say that they cannot continue to farm without clover and these men sow it plentifully and are better off in consequence each year.

In the report on the Illustration Farm for 1916 Dr. J. W. Robertson, Chairman, Comimttee on Lands, in a statement relating to the sowing of clover seed on the 26 illustration farms in P. E. I., N. B., N. S., Ont. and Quebec, said:

"Only two of the farmers claimed to have been showing their clover seed thick enough to ensure a good catch. Twenty-one had been sowing an average amount of six pounds to the acre, whereas they now sow ten pounds to the acre. Some had sown as low as three or four pounds, but are now convinced that ten pounds is better and are sowing it."

George R. Barrie, Gault, Ont.: "The high price of clover seed had something to do with our sowing a small amount, but since growing our own seed we do not mind sowing it heavier, and find that the extra seeding more than pays for itself."

"The farmer doing illustration work for the Commission in Lanary County, Ont., in 1914, grew 1,200 pounds of red clover seed and had never grown a pound of his own seed previous to commencing work with the Commission."

J. M. McLean, New Perth, P. E. I., "During the last two years the first crop of hay was always much better on the area sown with 10 lbs. clover and 10 lbs. timothy, while this year we have an unusual stand of clover in the plots heavily seeded. . . We find the second crop is always much thicker and of a better quality after the thick seeding."

The purpose for which red clover is grown and used is the factor which governs the time and method of harvesting and the stage of ripening or maturity of the crop.

Clover pasture is helpful and important for all farm animals. For pigs it furnishes about sufficient food for maintenance so that all grain fed goes for gain weight. Clover pastured pigs are healthy and have good bone and constitution—points of special importance with breeding stock.

Clover is used for ensilage by a number of dairymen who farm just outside of Moncton. For this purpose it is harvested when the blossoms are fresh cut and blown into the silo while wet with dew or rain.

Mr. T. B. Terry, a writer in the farm magazine, "Our Farmer," maintained a team of horses for several years on clover hay with no grain allowance of any kind.

Clover furnishes a large amount of crude protein, so essential to milk production, and is palatable and much relished. It is unusually rich in lime which is needed by the cow in large quantity and is too often otherwise supplied in very small amount in other food.

Two ton crop of clover hay to the acre removes 90.5 lbs. of limestone, and contains 74.8 lbs. of potash. The chemical composition and feeding value of clover varies at different stages of growth. The development of fibre or woody matter increases with the age of the plant, while the portein, fat and ash as well as the nitrogen free extract, which contains the more valuable carbonhydrates reach their maximum amount after that period.

The largest amount of the dry matter in clover is produced between early and full bloom. During this period 60 per cent. of the organic compounds are formed.

Practical experience places the best time to cut clover for hay when about one-third of the heads have turned brown. This is because at any earlier date the plant is so soft and sappy that only with difficulty can it be cured into good hay. To delay until all the heads are dead makes haying still easier but means poor, woody unpalatable hay.

The differences in composition and feeding value between clover cut and cured in full bloom and at maturity are as follows:

Clover at Full Bloom

1.—The crop contains less fibre than when mature.

2.—The crop contains its maximum amount of proteins.

3.—A smaller yield per acre is secured than at maturity, but the crop is more concentrated in protein.

4.—The nutrients in the crop are more evenly distributed.

5.—The crop contains its maximum amount of essential oils which impart palatability.

6.—The nutrients in the clover are more digestible.

Clover when Ripe

1.—The crop contains a larger amount of fibre.

2.—The crop contains a smaller per cent. of protein than when in full bloom.

3.—A larger yield per acre is secured, and the crop is more concentrated in carboydrates.

4.—Some of the nutrients in the crop are transferred to the seeds, leaving less in the stems.

5.—At maturity, there are less of the essential oils than at any other period.

6.—At maturity, the crop is less digestible than at full bloom.

Two methods of haying are com-

(Continued on page 560)

Notes From the Nova Scotia Agricultural College

DISCOVERY OF SALT DEPOSITS AT MALGASH

Readers of the Maritime Farmer are already familiar through the general press with the discovery of salt deposits at Malgash, in Cumberland County, N. S. It may not be known to many, however, that the announcement probably means much more than appears on the surface. Mr. L. C. Harloy, Chemist at the Agricultural College, has analysed some samples and states that the major part of the salt so far mined contains about 1½% of potash, the bulk of the remaining matter being common salt. Even this small proportion may prove to be of considerable value where thransportation charges are not too high.

Other samples analysed are very rich, containing up to 28% of potash. If there are extensive doposits of this type, the find will be of immense value, since material of this character will refine to as high grade salts as the muriate and sulphate of potash which were formerly obtained from Germany. These in their refined form contain approximately 50% of potash. One sample analysed gave roughly 32% potash. This is very high grade material. The German crude salts before refinement contain about 7% potash. Developmhents will be followed with eager interest by Maritime folk generally, and especially by the Fertilifier trade and the farmers.

A HIGH PRICED COLT

The highest priced home bred colt ever sold in the Maritime Provinces is the Standard bred Billy Sharon, 2.16¼. The price paid was $3,500. His sire, Captain Aubrey, is the well known standard bred stallion at the Agricultural College farm, Truro.

By the way, a request has been received through the minister of Agriculture for Prince Edward Island, on behalf of horse breeders in that Province, to send Captain Aubrey for a time back to his old home. It should be highly satisfactory to the people of Nova Scotia to know that they have at the Provincial College farm, in Captain Aubrey and other sires, individuals which are so valuable an asset to the country.

ANNUAL REPORT FOR 1919

The Annual Report of the Secretary for Agriculture is now off the press, and has already been fairly well distributed. Probably many others who would like to have it have not yet received a copy. Any interested person may secure one by applying to the Secretary of Agriculture, Truro, N. S.

It may be of value to point out some features of this latest report which are of special interest to farmers. One is that which deals with the use of various fertilizers on a run out field. Exhaustive experiments were carried out, and the results are set down in tabular form and also illustrated with photographs. This section is well worth the study of every practical farmer.

Another interesting feature is the report on the use of limestone in renovating old pastures. These are cuts of some famous cows on the College farm, illustrating the types of animal that constitute the aristocracy of the bovine world. Of these, one which will be of specail interest this year is Gardrum White Floss, the Ayrshire which won over all breeds at Amherst in 1919. Jemima Wayne Sarcastic, the Holstein dam of the cow which holds the Canadian long distance record, another member of the College herd, adorns the lower section of the same page.

In yet another section will be found a very interesting and useful report of chemical analyses of peat soils, mucks and mud, some of which have a very considerable value as fertilizers.

Poultry enthusiasts will be interested in the account of, and the photographs illustrating the First Nova Scotia Egg-Laying Contest.

All who are watching the progress of dairying in Nova Scotia will want to read the report of the Dairy Supt. This sets forth clearly the progress made by the creameries of the Province during the past fifteen years. In 1905 the total production of N. S. creameries was 290,714 lbs. butter. In 1919 the total reached 2, 093 804 lbs.

In the report of the Supt. of Agricultural Societies reference is made to the request for an increased grant to these organizations. Members of these societies will be pleased to know that this request has been granted, and the Legislature in its present session has increased the grant from $15,000 to $20.000.

CLOSING DAY AT THE N. S. A. C.

Closing Day at the Nova Scotia Agricultural College is always one of the major events among the educational institutions at Truro. This year was no exception. The term closed on April 15th, with exercises of more than usual interest.

Principal Cumming presided, and with him on the tastefully decorated platform were Mr. John Howard, Agent General for Nova Scotia in London, Eng., Mr. W. B. McCoy, Sec'y of Industies and Immigration and Mr. D. McGillivray of the Canadian Bank of Commerce, with headquarters at Halifax.

After a few preliminary remarks by Dr. Cumming, in which he referred to the College year just closing as the most successful in the history of the institution, he called on Mr. Howard, to whom he referred to as one of the real friends of the boys when overseas, and an unfailing source of help by way of inforbation and counsel to thir parents at home.

Mr. Howard congratulated the gradlates on the high reputation and ability of the Principal and staff under whom they had studied. He hoped that these young men who had had such special opportunities would prove to be leaders in every good cause in the various communities to which they would go. He also expressed the hope that they would be the means of encouraging the immigration to this country of capable and ambitious farmers from the old country who may be looking for new opportunities.

In introducing Mr. McGillivray as the principal speaker of the day, Dr. Cumming described him as a fine example of the man who, besides being a specialist and a success in his own chosen line, takes a strong and active interest in every movement for the well-being of his community.

Mr. McGillivry's address was of a very high order. He began by expressing his delight in the beautiful surroundings of the College, and in the unexpectedly large audience present. He went on to pay a high tribute to the profession of agrficulture, saying that every intelligent person today places the farmer among those at the very apex of important callings, and as honorable as any.

The speaker urged the graduates of the College to carry into their communities the spirit of a broad-minded charity. The curse of the world today is class consciousness, the tendency of one calling or profession to distrust, denounce and even despise those of another.

A fine tribute was paid to the boys who had gone overseas, many of whom had laid down their lives in the sacred cause of humanity. In the great victory a fundamental element was the food largely contributed through the exertions of the farmers. Now the big word is "Reconstruction." He would suggest instead the word "Replenishment," and in the replenishment of the world's supplies the farmer must play the first part.

The key-note of Mr. McGillivray's address was service. He gave his audience a four fold definition of the purpose of education as a working basis for life.

1.—To teach us to delight in the things we should delight in.

2.—To earn a living.

3.—To become a good neighbor.

4.—To enrich the life of our time.

The last speaker was Dr. Soloan, Principal of the Normal College, who congratulated the Staff of the N. S. A. C. on their success in making their institution something much greater than a technical school.

Following is the list of those who received Diplomas:

Edwrd Bonyman, New Anan, N.S.; Ned Burnaby Eaton, Lower Cunard, N. S.; Wm. Glennie Hamilton, Lower Truro, N. S.;Arthur Phillips Laidlaw, Halifax, N. S.; Donald Murray McKeen, Canning, N. S.; Harold Rjck, Falmouth, N.S.; Cecil Blanchard Selfridge, Aylesford, N.S.;Lemueal Neil Vickerson, Hermitage, P.E.I.; Murray McKenzie, Waterside, N.S.; George Parker Walker, Fredericton, N. B.; Clarence Francis Elderkin, Falmouth, N. S.; Harold Kingdon Bate, Newcastle, N. B.; John Albert Bentley, Halifax, N. S.; James Logan Clark, Bayhead, N. S.; Harold Waldorf Clay, Bridgetown, P.E.I.; Chas. McKittrick Collins, Abney, Lot 64, P.E.I.; Dwight Wallace Guiou, Ottawa, Ont.; Rudolph John Haase, Glace Bay, N.S.; Robert Jarvis Haslam, Bradalbene, P. E. I.; Wm. Burpee Jackson, Scotch Lake, N. B.; Angus Duncan McDonnell, Port Hood, C. B.; Harry Edison Miller, Windsor Junction, N.S.; Robert Lee Payne, West Bathurst, N.B.; George Belden Treen, Pugwash, N.S.; Smith Albert Hilton, Carleton, Yarmouth Co., N. S.; George Thomas Frederick Wood, Crter's Point, N. B.

The winner of the Governor General's Medal is Smith Albert Hilton. Mr. Hilton also won the privilege of having his name inscribed on the big silver cup by taking first place in seed judging.

Passed from first year into second year:

Eddie Anderson, Morrell, P. E. I.; Fred F. Annis, Carleton, N. S.; Geo. Archibald, R. R. No. 3, Truro; Everett F. Armour, Upper Dorchester, N. B.; J. D. Atkinson, Fredericton, N.B.; Grant Beckwith, Steeves Sett., N. B.; John C. Bennett, Frederjcton, N. B.; Earle Burpee Brown, Cambridge, Kings Co., N. S.; Donald Carde, Central Burlington, N. S.; John Gordon Clarke, Tatamagouche, N. S.; Kenneth Cox, Upper Stewiacke, N. S.; Leander Crooker, So. Brookfield, N. S.; Clarence FitzRandolp, Bridgetown, N. S.; Stanley B. Fulton, Bass River, N. S.; Geo. B. Hervey, Round Hill, N. S.; J. Lorne Howatt, Charlottetown, P.E.I.; Clifford Hunter, East Florenceville, N. B.; Fred W. Inch, Hampstead, N.B.; Alex. D. Kirkpatrick, Debec, N.B.; Guy Edward Knight, New River, N.B.; Herbert McCharles, Baddeck Bridge; Wm. McCurdy, 73 Coburg Road, Halifax, N. S.; John C. McDougll, Strathlorne, N. S.; Jas. A. McGregor, Lot 16, P.E.I; Arthur McKenzie, Elmsdale, N. S.; Kenneth McLeod, Charlottetown, P. E. I.; Stuart C. Muir, Shelburne, N. S.; Harold H. Nicholl, Mira Gut, C.B.; Robert Parent, Fredericton, R. R. No. 4, N. B.; Frederick Russel Perry, Carleton, N. S.; Hugh Peacock, Bayfield, N. B.; Percy Clare Redding, Lockeport, Shel. Co., N. S.; Melvin Reeves, Kemptville, N.S.; Frederick B. Smith, Truro, N.S.; Webster A. Spinney, Windsor, N.S.; John U Stevens, Kingston, N. S.; Earl J. Vincent, West New Annan, N.S.; Wm. H. Waters, Carter's Pt., N.B.; Kenneth Weldon, Upper Sackville, N.B.; Sydney T. Wyatt, Talc Hall, Coventry, Eng.; Arthur MacKeen, Pictou, N. S.

Passed with certain qualifications: Ulric Arsenault, Charlottetown, P. E. I.; Cedric Bower, Kemptville, N. S.; Russel N. Cochrane, Upper Dorchester, N.B.; Max Ells, Sheffield Mills, N. S.; Clifford A. Miller, Merigomish, N. S.; Harold Newcombe, Port Williams, N. S.; George Walker, Charlottetown, P.E.I.; H. F. S. Lugar, Halifax, N. S.

Truro, N. S.,
April 10th, 1920.

To the Directors of the Maritime Dairy School:

I beg to submit herewith the Financial Statement of the operations of the School for Short Courses recently held.

From an educational standpoint this was the most successful course yet held; especially the "Creamery Course," where thirty men were enrolled and over twenty in regular attendance, and a keen interest was manifest all through the Course.

The attendance for the different years to date has been as follows:

	Creamery	Cheese	Cow Testers
1917	27	12	—
1918	35	18	9
1919	22	9	10
1920	30	9	5

The attendance this year, while not the largest, was by far the most regular and nearly all in attendance stayed for the full course. In former years many only stayed for two or three days.

A number were also in attendance this year that took the course two or three years ago, and gave evidence in tangible form of the value of the former course. One P. E. I. buttermaker telling me of having about $8,000 more butter in 1919 from the same amount of fat by using methods as taught in the School as compared with the methods as used previous to 1917. Scotsburn Creamery made about $18,000 more butter in 1919 by using modern methods than they would have made had they used the same methods as employed in 1915, and this bears true in many other cases in the Maritime Provinces. The regretaable feature, however, is that altogether too many are still using the old methods and the subsequent losses to the country they are serving.

A tremendous work is thus ahead for a Maritime Dairy School. The above figures give some idea from a manufacturing standpoint. From a production standpoint as figures will show they are many times bigger. A conservative basis of figuring, is that if the production from the average cow in the Maritime Provinces could be increased from the present production of about 3,500 lbs. of milk to about 8,000 lbs. milk per year, that it would have meant $48,000,0000.00 more money for the Maritime Dairymen in 1919. The Dairy School seems to be the logical place to drive and push for this increase.

The past few years have been somewhat of an experiment to see if Maritime men would co-operate. The trail was made in a small way, the results are open for criticism. The future is open for what the Maritime men put into it. The School has outlived its present accommodation. The Dairymen of the three provinces and backed by the organized farmers of New Brunswick and Prince Edward Island have by resolution asked for adequate accomodation. The

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Gleanings of Agricultural Progress in New Brunswick

AGRICULTURAL EDUCATION FOR OUR YOUNG PEOPLE

(E. P. Bradt, Sec'y for Agriculture.)

Not so many years ago public sentiment did not endorse any effort directed toward providing facilities for giving our young people an opportunity to study agriculture. The idea of a young man spending a few months or years at an agricultural college, to better fit himself for his chosen occupation, was more or less ridiculed. The chances are he would be discouraged on every side from taking up such a course and be told that it was a wholesale waste of time and money. Perhaps some one in the district had taken a course and turned out a failure as a farmer. This instance would be cited as an example of what resulted from a college course, no mention being made of perhaps a dozen others who had taken a similar course and were making a success of farming.

All this in past years has had a discouraging effect and has deterred many a young man from taking advantage of an agricultural training. He feared criticism and ridicule and stayed at home, even though his one great desire had been to prepare and train himself to be a better farmer.

Fortunately, the tide is turning. Our most successful farmers are now strongly supporting every movement that has for its object the training of boys and girls for farm life. They realize that the practical side of farming can only be learned on the farm, but there is something else. The problems of the farmer of today are vastly different and more complex than they were half a century ago. These problems are of a wide variety and many of them not easy of solution. They need trained minds, constructive ideas and a broad outlook, to handle them to the best advantage and to reach a solution that will give agriculture its proper place among the industries of our country. In other words, the idea of the farmer as a citizen, as well as a producer of wealth from old Mother Earth, belongs to the new era.

The Province that does not look after the education of its young people along agricultural lines will fast fall behind in its agricultural development. They will occupy the farms of this province tomorrow. Every effort should be made to provide and equip for this Tomorrow.

The Ministe rof Agriculture, Hon. J. F. Tweeddale, has well looked after the interests of the young people in New Brunswick. The policy of the Department is to start in with the pupils in the Rural Schools through elementary agricultural instruction and to follow up the work after school age with Poultry and Livestock Clubs and, for more mature young men and young owmen, provide Short Courses for a special training in agriculture and domestic science.

The first step is with the boys and girls of school age. To quote the words of Director of Elementary Agricultural Education, Mr. A. C. Gorham, we find these statements:

"It is intended that this course shall be taught in such a way as to interest the pupils in the things about them, to train pupils by not only theoretical studies and formal recitations, but at first by physical, concrete objective exercises, thus stimulating thought and expression connected with locality. We would have the educational system made up of a series of experiences using those things near at hand and belonging to the present rather than the study of remote and ancient practices.

The means for practical education lie more without the school room than within. All the work in the school garden, home garden, study of animal life and plants should be connected with arithmetic, langauge, writing and other subjects. A knowledge of the history and geography of the natural resources and industries of the locality and province is important. This course seeks to make them conversant with these things through constant use and reference. We desire to give practical training in civics, organizing school fairs, forming clubs, conducting debates, holding meetings and practice in speaking from platform as a part of the regular school work in certain grades.

That education might proceed along natural and logical lines the following activities are employed : school gardening, home gardening, poultry raising. Exercises and problems growing out of these are concerned with practical drawing, real business arithmetic and bookkeeping. Also closely related to the subjects of household study and woodwork are a number of others dealing with health, saniitation, ventilation, lighting and heating. The importance of these have long been recognized."

Everyone knows how the interest of the boy and girl is awakened in receiving something that they can call their very own. With this awakened interest comes the opportunity of directing their efforts along well defined channels of usefulness. To accomplish this small packages of seed of approved varieties of grain, vegetables and potatoes have been given free to school children. On this work Mr. Gorham reports as follows:

"With what I have seen and from the reports of the supervisors who visited and socred these home gardens I can safely say that they have been an unqualified success. With free seeds and instructions provided for the making of the plot and sowing of the seed the teacher simply has to demonstrate in the school garden how the plots are to be made to make it clear to the pupils how it should be done at home. The pupil is given printed instructions with this package of seeds and with the guidance of the teacher, if necessary, he interprets these and works out the scheme for himself. It is surprising how well they can interpret these instructions and carry them out sucsessfully. Each pupils feels the responsibility for the success of his or her plot, and thus acquiring real knowledge through experience. They know because they have thought it out and put it into operation."

The next provision made for interesting and training our young people is farming is through Club work. There are at present thirty-six Poultry Clubs in the province, with a membership of 450. This work has been very popular and is creating an interest on the part of our boys and girls in poultry-raising and, at the same time, is a means of introducing excellent bredt-o-lay strains of poultry into the province. It is estimtaed that these young people now have over 8,000 birds of these improved strains. This makes excellent foundation stock from which to spread broadcast over the province eggs for hatching purposes.

The Pig Club work has been equally successful. There are twenty-two Clubs organized, with a membership of 220. Pure bred pigs are owned by the club members. These clubs thus act as sources of high class breeding stock in the province. The quality of the pigs owned by these boys was clearly shown at the provincial exhibitions held last year when club stock carried off the honors in the open classes at each exhibition.

The institution of Short Courses for young farmers was adopted this year. During the month of February courses were held at Moncton and Chatham with an enrollment of twenty-seven at the former and twenty-two at the latter place. The benefit derived from them was not confined to the lectures and practical work in Stock and Seed Judging, but also the opportunity of meeting each other, taking part in debates and thereby developing a broader outlook on life, came as an added advantage. Through the medium of these courses Junior Farmers' Associations have been organized. Meetings will be held throughout the year for social as well as educational purposes.

Arrangements have been made to hold a Potato Growing Competition, where prizes will be awarded to the competitor showing the greatest profit from raising an acre of potatoes. A "Feeding Hogs for Profit" competition is also being held, where each contestant will feed four pigs from the time they are six weeks of age until reaching a weight of from 175 to 200 lbs., prizes being awarded to the one making the largest net profit in the production of pork.

All this work leads up to a desire on the part of these young people for further education and aids in bringing in recruits for the longer established courses at the Agricultural Colleges. It leads up to the point where it should be possible in the near future to get a sufficient number of students for our agricultural schools, which would warrant opening them for regular courses of four or five months' duration. When this time comes it will be necessary to organize the schools and appoint sufficient staff, which, together with the assistance of the general staff of the Department of Agriculture, could put on a course of great value to the young men and girls of rural New Brunswick.

The value of trained men on the farms can not be over-estimated. Farmers are fast taking their place in the affairs of the country. Leadership of the right kind is best developed by starting with the boy or girl and giving them every opportunity to improve their education. This education should be of the kind that develops them for rural leadership, the kind of leadership which, to be effective, requiies a knowledge of the real problems confronting agriculture. No province can afford to deny these opportunities to the younger generation. The Department of Agriculture are fully alive to these needs and are adopting policies to meet them as the requirements arise. Advancement is being made as fast as conditions will warrant and everything will be done to promote the development of agricultural education in New Brunswick and the placing of such an education within the reach of everyone in the province.

SUSSEX COURSES SUCCESSFUL

The classes in Cookery, Millinery and Nursing recently held in Sussex under the auspices of the Women's Institute Division of the Department of Agriculture aroused considerable interest in these subjects, in consideration of which the instructors merit high commendation.

Appreciation is herewith acknowledged of the kindly interest shown in the work by J. D. McKenna, Esq., Messrs. Chas. T. White & Son Ltd., and Mr. S. H. White in providing prizes for the above mentioned classes. Following are the names of the students winning these prizes.

Cookery—Miss Elva I. Morrell.
Millinery—Miss Greta Arnold.
Nursing—Mrs. E. Louise Black.

Following this Course comes the one held in Moncton, the first of its kind ever held in that city. The enthusiasm and interest kindled in the Moncton classes plainly evidences the success following the Women's Institute Short Course in Household Science there.

Here as in Sussex appreciative interest is shown in the work by outside interests in the persons of Messrs. J. A. Marven, Lt., Mr. F. R. Sumner and the T. Eaton Co., Ltd.

The prize winners in this instance are:

Cookery — Miss Muriel Steeves. Moncton.
Millinery—Mrs. D. Murray Condon, Moncton.
Nursing—Miss Alice S. Alward, Moncton.

Concluding their classes at Moncton the Women's Institute Short Couse Staff next turn their attention to Devon. Notwithstanding the busy Easter season, the holiday attractions the classes are well attended and enthusiastic interest is shown throughout the Course.

Business men of Devon are not a bit behind those of other towns of New Brunswick. Appreciation of the work done is shown by Mayor Henry, W. D. Gunter, Esq., and Stanley Douglas, Esq., in providing prizes for the Cookery, Millinery and Nursing classes respectively. The prize winners are:

Cookery—Miss Greta Young.
Millinery—Mrs. David Coombes.
Nursing—Mrs. E. M. Young.

The itinerary of the Women's Institute Short Course in Household Science for 1920 held in English speaking districts is as follows:

Sussex—March 2-12.
Moncton—March 16-26.
Devon—March 30-April 9.
Perth—March 13-23.
Chatham—April 27-May 7.
Bathurst—May 11-21.
St. Stephen—May 25-June 4.

Further announcement regarding these Courses as well as those to be held in French speaking districts will be given later.

HAZEL McCAIN,
Supervisor.

CARLETON COUNTY HOLSTEIN BREEDERS ORGANIZE

On Sturday, April 10th, a representative group of Carleton County Holstein breders met in the Vocational School, Woodstock, for the purpose of organizing a breeders' club. The chairman of the meeting, Mr. R. W. Maxwell, Director of the Vocational School outlined the objects of the proposed club, which are as follows: The promotion of good fellowship amongst its members and the advancement of the general interests of the Holstein-Friesian breed of cattle by the holding of public sales at auction, by encouraging the entry of cows and heifers in the advanced registry, discussion of the best methods of breeding, rearing and exhibiting and raising the standard of excellence of the breed by bringing before the public the good qualities and exceptional merits of the breed, and in other ways to generally widen and extend the interests of this breed of cattle by acting in unison upon all occasions which demand it, and by establishing a reputation for Carleton County as a centre for high class Holstein cattle. The aims of the club were endorsed by all present, and the meeting was then opened for the election of officers. The following officers were elected:

President—H. Lindsay.
Vice-President—J. Purvis.
Sec'y-Treas.—R. W. Maxwell.
Directors—W. P. Hale, H. B. Hemphill, G. S. Peabody, F. Brown, C. L. Smith, W. L. Carr.
Honorary Director—J. H. Hoyt, District Representative of the Department of Agriculture.

A formidable set of By-Laws was adopted. Althugh membership re-

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Fifteenth Annual Meeting of N. B. Fruit Growers' Association

Report of Sec'y-Treasurer

Mr. President and Members:

I beg leave to submit my report, which is divided into two parts, the first part dealing with the secretarial and general work of the Association, and the second part comprising the financial statement.

Your Association is again able to report another year of increased membership and service, in fact, the most active, useful and promising year of its existence. The members totalled 174 as compared with 128 in 1918 and 151 in 1917—and we hope to reach the 200 mark this year—an accomplishment of no mean proportions in view of the conditions and in comparison with the activities of other assocation whose field of recruiting is very much larger.

The Association continued the work of supplying its members with nursery stock, spraying matreials and all kinds of supplies, the volume of this business showing a 35% increase over that of 1918. Just a word here in regard to this supply business. From a purely personal and selfish standpoint, I would prefer to be relieved of the extra work, etc., entailed in handling the supplies but I do not think it would be good business for the Association to give it up, as to do so, would in my opinion rob the Association of much of its usefulness and remove one of the strong factors in maintaining and increasing the interest and membership. You may now be able to buy your supplies as cheap elsewhere, though I very much doubt if you can obtain them any chaper—but stick to the old firm and support your own organization—the one that was giving you this service long before others entered the field and by competition forced other sources of supply to lower their prices.

Our financial position continues satisfactory—the bank balance of Ootober 31st, 1919, plus the excess of assets over liabilities showing approximately $1,519.18 to our credit. This substantial balance is essential to the most advantageous purchase of supplies and the carrying on of our general business since, of necessity, one-half or more of our assets is, at times, in the form of outstanding accounts and supplies carried in store.

At the last annual meeting a resolution was passed requesting that the Association be incorporated under special Charter of the Legislature, and that an annual grant in keeping with the importance of the industry which this Association represents be accorded to it. This resolution was brought to the attention of the Honourable J. F. Tweeddale, Minister of Agriculture, who promptly introduced and secured the passage of a bill incorporating the New Brunswick Fruit Growers' Association, at the session of the Legislature then sitting, and also appropriated for it a grant of $200.00. The immediate and favorable action of the Honourable Mr. Tweeddale on this resolution is much appreciated by the fruit-growing interests of the province.

In my report for 1918, I suggested the holding of a "Sunny Field Meeting," and thih idea was unanimously endorsed by a resolutoin requesting the Department to lend all possible assitance. Accordingly the first Orchard Field Day was arranged and held on August 28th. Prominent members of the Fredericton Board of Trade and others kindly placed their cars at our disposal, thus making such a trip possible and the fruit growers feel much indebted to those gentlmen for their kindness. The cars assembled at the office of the Department of Agriculture shortly after 9 o'clock and proceeded across the river to the large Duchess orchard of Mr. Robert Tomilson in North Devon, where Mr. C. A. Parker, Packing Expert, gave a demonstration of grading and barrel packing, and Dominion Fruit Inspector W. S. Potts, of St. John, explained the requirements of the Fruit Marks Act. The next stop was at the Dominion Experimental Farm, where the party enjoyed a very substantial luncheon and afterwards inspected the young commercial and variety test orchards which were looking very well indeed, and just beginning to bear. Many thanks are due to the Supt., Mr. W. W. Hubbard and his staff for doing so much to make the day a success. The next stop was at Burton, where the party looked over the nurseries and orchards of the St. John River Valley Fruit and Farm Land Company and listened to a talk on growing nursery stock by the Manager, Mr. R. A. Fillmore. The Duchess and Wealthy fillers in this eight year old orchard were heavily loaded with beautiful fruit and well worth seeing. Proceeding the party observed in passing the large orchards of R. D. W. and W. W. Hubbard and R. S. Barker, also at Burton, and followed the river through Upper Gagetown to Lower Gagetown, where the final stop was made at the adjoining orchards of W. P. and F. L. Fox and the Cossar Farm. The Fox orchard was a splendid example of the results of good care, the trees being in strong vigorous condition, well sprayed and loaded with fine large clean fruit to the extent of more than one thousand barrelss. Mr. G. E. Sanders, of the Dominion Entomological Branch, explained the spraying experiments conducted in this orchard by his staff and pointed out the difference in the results. The schedule of the trip was concluded by inspection of the still larger orchards on the Cossar farm, where the practise of good methods of culture was evident in the abundant crop, upwards of fifteen hundred barrels of apples being on the trees.

About one hundred fruit growers and their interested friends enjoyed the outing and profited by what they saw and heard in the different orchards visited. Everybody was delighted with the scenic beauty along the St. John river and the fine possibilities in orcharding which the trip disclosed, well satisfied with the courteous treatment accorded them, and looking forward to a similar profitable and delightful outing next year. The St. John Board of Trade, owners of the Demonstration Orchard at Browns Flats, sent a strong delegation and there were fruit growing representatvs from the counties of Carleton, Charlotte, St. John, Kings, Queens, Sunbury, York and Westmorland. Before this meetnig adjourns I would like to hear a discussion on the advisability of holding a Summer Field Day again this year. Shall we make it an annual event?

Your Association, acting with the assistance of the oHrticultural Division of the Department of Agriculture, contnued the co-operative shipment of apples with marked success and marketed nearly two thousand barrels, with the highest net returns ever received for New Brunswick apples. This work, which we started in 1917, has increased rapidly and is popular with the growers. As I expect to refer to it somewhat in detail at the evening session I will not give further time to it now.

The Barrel situation was again decidedly unsatisfactory, the supply being unsatisfactory and uncertain and the price high. While some barrels were secured earlier in the season for 48 and 60 cents delivered, the price for the main supply was from 75 to 80 cents. While the barrels from Woodstock were good and those from Ontario fair, much dissatisfaction was expressed with the St. John barrels, but neverthelesss growers felt lucky to get sufficint barrels to handle their crop even though the quality was inferior. I am informed that the barrel factory at Oromocto, owing to the disastrous fire of last September, will not be able to make any barrels this year until some time in the fall. In view of this and other conditions, I think the Association should consider the immediate placing of a contract for its minimum requirementss, at least.

Snce the small fruit industry is of such proportions that it annually requires from one-half to three-quarters of a million boxes and thousands of crates, there would seem to be no good reason why these packages should not be made in New Brunswick from our own wood and by our own people. Action towards this end is under considration. If this could b done it would largely solve the question of a uniform box and crate.

I would direct your attention to the question of subscribing to "The Canadian Horticulturist." If the Association subscribes for its members in a body the subscription price for each member will be forty cents. While I would very much like to see this paper going regularly to all our members I do not think that the Association should accept the proposition unless the membership fee is raised to $1.50 so as to cover the subscription price.

I am sure that all our members will join with me in extending their heartest congratulatons to Mr. C. W. Baxter, on his appointment to the position of Dominion Fruit Commissionr, an appointment which was all the more acceptable since it embodied a practical recognition of the principle of "Promotion within the Service." We have every confidence in Mr. Baxter's ability and his sense of fair dealing to all to feel assured of the most hearty sympathy and co-operation of himself and his staff in our work. We have not been backward in calling on them for assistonce and we do not intend to be so. Should we, at times, appear to be too persistent, or somewhat unreasonable in our requests, it may be said in extenuation that we have all the enthusiasm of pioneers with aspirations and dreams of future greatness for New Brunswick as a fruit growing province.

The determination of the prospects for apple growing in Canada or in any of its several provinces involves a consideration of the conditions and prospects of the industry in the United States. In this connection we cannot do better than quoto the United States Department of Agriculture which in a special publication entitled, "The Commercial Apple Industry in the United States," prepared in 1918 by J. C. Folger, Fruit Crop Specialist, of the Bureau of Crop Estimates, says under the heading of "Future of the Apple Industry":

"Apple production does not respond quickly to supply and demand, and for this reason there has been more or less stability in the matter of prices. It requires several years for trees to come into full bearing, and over prodution as the result of excessive planting is not felt for a considerable period. There seems no reason to believe that over a period of years, taking the good with the bad, apple acreage as a whole will make any materially better returns than the average farm crop, yet apples will always afford better opportunty for individual efforts of the excxeptional grower.

Aside from the possibility of certain "boom develepoments" and the planting of unsuitable land, there seem many reasons for viewing the future of the apple industry as promising. In speculating upon future production, one instinctively turns to New York State. Unquestionably, western New York State is approaching its maximum production. The Hudson Valley includes many new orchards, but in the more important parts of western New York, the average orchard is more than 40 years old. Nowhere in the Eastern States with the exception of the Shenandoah —Cumberland region, does there seem likely to be any material increase in production. Many of the old trees all through the east are dying out. On the other hand, the Pacific Northwest can be expected to show a constantly increasing production for several years. A very large percentage of the new planting in the decade 1900-1910 occurred in the Northwest. These plantings are to a large extent commercial. Taking the United tSates as a whole, there has been very little planting in any locality since 1910. It would therefore not sem improbable that this lack of planting will have a pronounced effect, beginning about 1925, if not sooner.

With the cessation of war, the export markets, which normally furnish an outlet for approximately 10 per cent. of the United States commercial crop, will be opened. The probable extension of foreign markets will increase this percentage. While a moderate increase in apple production seems probable, the increase in population and the movement toward the cities are factors likely to increase consumption very materially. Furthermore, the improved marketable quality of commercial apples is unquestionably stimulating the demand for this fruit among all classes. Better means of distribution and wider use of the apple combine to give a decidedly hopeful outlook to the commercial apple industry."

Coming to Canada we find an increased production in British Columbia but not sufficient to have any marked influence on the situation; a practically stationary production in Nova Scotia; and a decrease production in Ontario and Quebec.

Speaking of the apple industry in Ontario, in the October issue of the Canadian Horticulturist, Professor J. W. Crowe, said, "The depletion of our apple orchards has been so serious that Ontario will soon be reduced to the necessity of importing apples to meet our home requirements. Our orchards have not been taken care of as they should have been, and many of them are rapidly dying out. This condition existed even previous to the war, and during the past five years has been intensified by the shortage of labor. Possibly not over 1 per cent. of the orchards of the province have been given proper attention during the past few years. Added to all this the heavy freeze the winter before last has had a disastrous effect. In Northumberland Co., which is one of the heaviest apple producing sections in Ontario, I am informed that 50 per cent. of the apple orchards have been destroyed. The loss among even the better cared for orchards runs as high as 30 per cent. There is no reason to believe that conditions in Northumberland county are exceptional. It is evident from this that the industry has suffered a severe blow and that many years will be required before normal production will be restored."

In the province of Quebec, the situation is far worse for a recent census of apple trees there showed a loss of approximately 1,000,000 trees since 1911, or nearly one-half the bearing trees. This was largely due to the severe winter of 1917-18, but the cause went further back than that as many orchards were dying through old age and neglect previous to that winter. As yet, this great loss is not being replaced by new plantings.

In Europe the orchard situation is extremely backward, having suffered heavily from the war. The bearing trees have been neglected and are ruined in the war area, and in great areas where the actual fighting did not take place they have been very much neglected.

In 1918, following one of the most severe winters on record, our orchards appeared to have sustained but little permanent injury, notwithstanding the fact that heavy winter killing and injury resulted in sections hitherto considered more favorable for apple growing than New Brunswick. This judgment of light injury to our orchards was confirmed this year, when those trees and varieties which showed signs of injury from the winter of 1917 and 1918, could not be detected from the others —blooming and bearing equally as well and looking vigorous. We are now able to say that the damage to apple trees in this province from the the winter of 1917 and 1918 was remarkably light and the recovery as complete as could be required, in marked contrast to Quebec, Maine and Eastern Ontario where very extensive damage was reported in the summer of 1918 and where many trees that lived through that summer succumbed to last winter, though it was mild and favorable.

The foregoing facts indicate that this is inded an opportune time to extend the plantings of apples in New Brunswick. The experience of recent years in this province has demonstrated that commercial production of high quality apples that are in good demand on a variety of markets is practicable and frought with no greater dangers than in many other apple sections of the Dominion. The ability of our growers to realize top prices for their apples on the largest competitive market in Canada (Montreal), and to do that practically at the first attempt, has added greatly to their confidence in their ability to grow good apples from long established fruit growing sections, hitherto considered as more favorably adapted.

It is highly probable that the price of apples will never get back to prewar levels. In the great neglect of European orchards, the shortage of seedling stock, increased prices for everything and the decreasing conditions of the orchards in Quebec, Ontario and parts of the eastern United States, lies the opportunity of the present for the enterprising fruit grower in New Brunswick and Eastern Canada—in contrast to the bogey of over production preached so often a decade ago.

It is somewhat early as yet to say how our orchards have wintered, particularly as to the condition of the fruit buds but following the heavy crop of 1919 it is probable that the crop will be considerably lighter, although the coming into bearing of young orchards may offset this to some extent. We should, however, give our orchards the best attention possible, with the object, not only of gettig the best returns this year, but of preparing to secure the fullest possible returns from a larger crop in 1921.

The last month concluded my tenth years as Secretary of this Association and also as Provincial Horticulturist and I am happy to say that from every point of view, it was the most successful and encouraging since I came to the province. The building up of scattered elements of fruit growing into a real fruit growing industry is not a problem capable of easy or early solution or productive of spectacular results—but it is a thing that once acomplished, adds, one might almost say, forever to a country's hapipness and prosperity, and be he or she who plays a part in such a work, as the members of this Association are doing will in this respect, at least, have served their country well. We have made good substantial progress—we have got many of our older orchards into better shape and we have established some fine new commercial orchards which may be likened to the first layer of brick in the new factory, resting on the foundation of our older orchards.

You have done much—but there is much more to be done and every reason and encouragement to carry on with increased effort and enthusiasm.

Financial Statement

Supplies in store....	440.00	
Receipts	$4,348.68	
Expenditures	3,798.96	
		$550.72
Receipts from Nov. 1 '19 to March 31 '20	1,959.84	
Expenditures from Nov. 1 '19 to Mar. 31, '20	1,779.83	
		$180.01

ASSETS

Accounts outstanding, March 31, '20.....	238.42	
Advance for trees March 31, '20.....	80.00	
Advanced for apples March 31, '20.....	50.00	
		$808.42
		$1539.15
Less Liabilities.....	26.00	
		$1,519.15

BUYING BEES IN COMBLESS PACKAGES

(Experimental Farms Note)

During the past few years a popular way to make good the winter losses of bees, and even to make a start in beekeeping, has been to purchase a pound or two of bees with a queen in spring, shipped from a specialist in the Southern States by express, and more recently by parcel post also.

From experimental shipments received at the Central Experimental Farm, Ottawa, during the past four years, and from enquiries amongst beekeepers in other places who have received them, it can be said that this method of obtaining bees should be followed with caution.

At Ottawa, the best results were obtained in 1917, when three two-pound lots with young fertile queens arrived by express in good condition from an experienced shipper in Alabama, after having been seven days on the journey, on May 9, a week before the honey-flow from dandelion commenced. These bees, on arrival, were given combs containing a little old honey. The spring having been favourable for breeding, they quickly developed into strong colonies, and each gave about as much honey as the average wintered colony.

But later experiments and investigations have shown that it is far too much to expect such good results every year, and that several accidents are likely to happen that may make this method of acquiring bees anything but profitable.

In the first place, bees are very perishable. Several shipments by express in April and May, 1918, from the above mentioned dealer, arrived nearly all dead eleven days after despatch, but another shipment received by parcel post on April 28, 1919, arrived in good condition only four days after despatch. Heavy losses both by express and parcel post have occasionally been reported.

Moreover, the journey often injures the queens, so that they are liable to do poor work, or to die soon after arrival. This misfortune was mainly instrumental in spoiling the results in 1919 from six lots received in good condition by parcel post from the same breeder. They together produced only 282 pounds of honey, while each wintered colony gave 187 pounds, two of the queens having died a day or two after arrival, and two more having been superseded a week or two later. A short breeding season before the honey flow contributed to these poor results.

The sender, owing to a rush of orders or unexpected unfavourable weather, may be unable to supply the bees until the summer, after the season has gone, and one or two instances have occurred of bee diseases having been introduced by bees from the south. However, postal regulations are now in force in both countries forbidding the bees sent by parcel post to be accompanied by combs, which will help to remove the risk of the transmission of foul-brood.

So great has been the demand for these southern bees in recent springs, that inexperienced dealers have arisen who have shipped them in boxes unsuitably constructed and provisioned, and sometimes with too many bees in the box, resulting in heavy loss. A few unprincipled dealers have also appeared who have sent old bees or too large a proportion of drone bees, or virgin instead of fertile queens. One may expect, however, that as the trade in these southern bees becomes more stabilized, and after the transportation employees become accustomed to recognize the very perishable nature of this merchandise, the losses will be less frequent.

On the whole, we would advise beginners to buy bees locally in preference to getting them early from the south, particularly because in the latter case, combs and expert care are needed. We also think that, at the present high price of bees and unfavourable rate of exchange with the United States, those who have bees will pay better to make from their own bees by breeding queens and prepare them with extra good care for the winter than to depend on purchasing bees from the south in spring. Those who wish to try the experiment of buying bees from the south for the first time, could protect themselves by ordering only a few pacakges and noting in what condition they arrive before ordering more. It is advisable also to order from reliable dealers some weeks or months before the bees are wanted.

There is no customs duty on bees entering Canada, but an entry for customs returns, which usually causes little or no delay, is required.

Most of the objections to procuring combless packages of bees from the south in early spring are overcome by getting them from the warmer parts of Canada later on in the season. Several Canadian firms are now supplying these, and beginners can make a fair start by obtaining one or two of these lots in June or early July, without having to buy combs.

F. W. L. SLADEN, Apiarist

DUSTING APPLES

In view of the fact that between 200 and 300 dusting machines will be in operations in the Annapolis Valley this season it seems best to outline what seems to be the best programme for the season.

For those who are going to use 90-10 sulphur lead arsenate dust we have the following advice: Apply the dust in the early morning when the air is still, and the plants wet with dew. Apply enough dust, 75 pounds per acre per application on 20-25 foot trees. You cannot get results without using enough material. If possible space your dusts a little closer together than liquid sprays, applying five dusts during the same period as you apply four sprays.

Some will use the new copper-arsenic dust on all four applications on account of their preference for Bordeaux, anl also for economy. This advice regarding the application of sulphur dust applies to copper-arsenic dust excepting that 50 pounds of copper-arsenic dust per acre per application is enough for 20-25 foot trees. If the copper-arsenic dust is used on the third or calyx application about half as much russeting of the fruit will result as results from the use of Thompson Bordeaux. If one wishes to avoid this russeting, and it is worth while avoiding it, one can use 90-10 sulphur lead arsenate dust for the calyx application, and the copper-arsenic dust for the remaining applications.

Important things to note in ordering dust are:

Copper-arsenate dust costs $1.00 per hundred less than 90-10 sulphur lead arsenate dust.

In using copper-arsenic dust 50 pounds per acre per application is enough for the average orchard.

In using 90-10 sulphur lead arsenate dust 75 pounds per acre per application is enough for the average orchard.

Order enough dust for four or five heavy applications and use all of it.

In former days when dust was expensive we could not reasonably blame people for being saving of it. During the past year we have worked hard in order to lower the cost of dusting material, thereby getting into many rows with spray firms, etc. Now that we have got the material down to a low price do not skimp on it and then blame dusting for the results of stinginess.—By G. E. Sanders, Dominion Entomological Laboratory, Annapolis Royal, N. S.

SPRING PRUNING

(Experimental Farms Note)

If pruning is to be done this spring see that it is completed before the sap is flowing to any extent. Do not think it is necessary to take out a lot of wood from every tree. Much damage may be done by annual butchering. If the orchard has light annual pruning it will only be necessary to (1) remove all the dead or broken branches, (2) to head in any branches which may be too rangy, (3) to remove cross branches or (4) to thin out fhere the tree hos become absolutely too thick.

If the orchard is old and hs been neglected, which is evidenced by lack of growth and barren arms for many feet from the main trunk, a vigorous heading back of the top is necessary to force ou new growth from which new fruit-producing wood can be selected.

Handle the young trees carefully. Do not make it a practice to head back one-half or one-third annually. Watch the crotches and always keep one branch in the lead to avoid weak crotches.g Cut out where the branches are too close together to keep the tre headed low, and if the variety produces a long rangy tree suppress the strongest growing branches the most and the weakest the least.

Points to Remember

In cutting back a main branch and one of its strong growing laterals do not cut both to the same length. Permit the main branch to retain the lead, otherwise two branches of equal dimensions will result which will produce a very weak crotch; a constant source of trouble.

Whenever given the option of selecting either a branch growing at a sharp angle to its parent or one growing almost at right angles, choose the latter—it will make a stronger crotch in future years.

Always cut back to a bud, cutting as close as possible without injuring the bud itself. By paying attention to the position of the bud one can do much to decide the form the tree shall take.

Study each variety you are dealing with and adopt a system most suited to its needs. Do not attempt to apply very hard and fast rules to your whole orchard.

It is not a question of how much pruning one cand do, but how little one can do and still retain the desired shape, vigor and productiveness of the tree.—M. B. Davis, Pomologist,

Spraying the 1920 Apple Crop in Nova Scotia

(By G. E. Sanders, Dominion Entomological Laboratory, Annapolis.. Royal, Nova Scotia)

It seems to be the opinion of growers that the apple trees are well loaded with blossom buds, and though indications are that we will have more than the average quantity of blossoms yet there seems every probability that the blossoms will be weaker than usual for the three following reasons: First, the large crop of 1919 undoubtedly reduced the vitality of the tress somewhat. Second, the frosts of October, 1919, caused the leaves to drop some weeks earlier than usual, thus weakening the buds. Third, the extreme low temperatures of the past winter have, in the opinion of many orchardists, lowered the vitality of the buds of many varieties.

With the prospect of a fairly heavy but weak bloom, the orchardists should take steps to correct the weakness and guard against injury so far as is in their power.

It is a well known fact that the more pollen is distributed to the petals of the apple blossoms, the better the set of fruit wil be. The amount of pollen that is needed tto set a crop varies with the vitality of the trees. It would appear therefore that we will need the maximum quantity of pollilation in 1920 or we shall need the maximum quantity of domestic bees, for bees are the most useful pollinizers among insects. Domestic bees are now very scarce in the Annapolis Valley and it is worth while for every orchardist to obtain a hive or so of bees for use in his orchard during the blossoming season of 1920.

The use of stimulating fertilizer about apple trees just as the buds are bursting or before the blossoms, has a great eeffct in strengthening the trees and so causing blossoms to set that would otherwise drop.

Probably the most important thing to consider this year is the spraying material. We must use only sprays that we know will not weaken the leaves and blossoms and cause fruit removal. Therefore, we should avoid the use of lime sulphur on apples. We should use sprays that are known not to cause leaf injury or fruit removal. That we must spray in order to insure a crop, we know from the season of 1913, when those who sprayed before the blossoms had full crops while those who did noot, had practically all of their blossoms and sets removed by apple scab. In 1919 we very narrowly escaped the same state of affairs, but the scab starting a little later gave those who neglected pre blossom spraying, a very dirty crop instead of no crop.

The 1919 spray calendar has proved to be almost perfect for Nova Scotia conditions, both in insect and in fungus control and freedom from russetting and fruit removal. The formulas given below are those advocated.

First spray when leaves are the size of a ten cent piece.—3-10-40 Bordeaux, 1 pound arsenate of lime to 40 gallons of water.

Second spray when blossoms are showing pink.—2-10-40 Bordeaux, 1 pound arsenate of lime to 40 gallons of water.

Third spray when petals fall.—1 lb. soluble sulphur, ½ lb. arsenate of lime, 5 pounds hydrated lime to 40 gallons of water.

Fourth spray two weeks after the blossoms fall.—2-10-40 Bordeaux, 1 pound arsenate of lime to 40 gallons of water.

The United Fruit Companies have this year laid in a full supply of finely crystalized copper sulphate and hydrated lime so that growers can make their Bordeaux by the quick method and so handle only dry materials in mixing. The quick method is to weigh out the proper quantity of finely srystalized copper sulphate and put it either in the strainer or in the spray tank before starting to fill with water. Either run the water in over the copper sulphate in the strainer or keep the agitator running while filling if the material is in the tank. When the tank is about three quarters full dump in the hydrated lime. The agitator mlst be running rapidly when the lime is added in order to distribute it thoroughly before it dissolves, so giving the eect of mixing dilute solutions together. Last of all the poison should be added.

In orchards or on varieties very susceptible to apple scab it might be best to make the second and fourth application of spray 3-10-40 instead of 2-10-40 Bordeaux. Better scab conrol will result and the increased amount of russeting will be negligible. One of the most important points in making Bordeaux for the apple is always to use at least three times as much lime as copper sulphate. This eliminates danger of foliage yellowing such as we used to get from the use of such formulas 4-4-40 Bordeaux.

More bees, the use of stimulating fertilizer, and careful spraying following the 1919 spray calendar, are necessary in order to offset the effects of the large crop of last season; the early frost of last faal and the low temperatures of the past winter.

CLUB ROOT OF TURNIPS, CABBAGE, ETC.

Club root of turnip and related plants causes a considerable loss in the astern provinces. Diseased roots are greatly swolen, distorted and sometimes rotted. Once established the disease remains in the soil indefinitely unless precautionary measures are taken.

Control.—If the following precautionary practices are adopted the disease can be greatly reduced if not completely controlled:

1.—Plant only on disease free soil. A comparatively new piece of land which has never been planted with turnips, cabbage, rape, etc., and which hence may be regarded to be absolutely free from disease is desirable. Under no circumstances use a field which has previously produced a club-rooot infected crop unless it has been heaviy limed and the lime has had three or four years in which to free the soil of the organism.

2.—Liming is a good practice. Considerable benefit may be secured by applying three tons of air slaked lime or five tons of ground limestone any time before planting the crop; but the best results are obtained when the lime is applied immediately after the diseased crop has been harvested and a period of three or four years allowed to elapse before turnips or cabbages are again planted. Liming will not only control club-rooot but turnips and cabbages do better on soils rich in lime than where lime is lacking. Acid reacting fertilizers encourage the disease.

3.—Manure:—Manure from stock fed on club-rooted turnips should not be used as it invariably carries the disease and infects the soil to which it is applied. Where possible it is good practice to apply to the turnip crop only such manure as comes from stables where tyrnips have not been fed at all.

Rotation and Sanitation—Plant susceptible crops on the same soil not oftener than once in eight years. Destroy all diseased roots or boil them before feeding. Keep down all weeds of the mustard family. Raise cabbage and cauliflower seedlings on disease free soil and never throw infected soil from seedling boxes where it may be spread to clean fields.—G. C. Cunningham, Pathologist for Root and Vegetable Crops.

Cold Stores for Maritime Provinces

Delegates From Maritimes Given Fine Reception-- All Maritime Province Members Pressed for Favorable Reply

The delegation from the Maritime Stock Breeders Association and the N. B. Farmers and Dairymen's association which went to Ottawa to press for further cold storage facilities for the Maritime Provinces, accomplished much. Every member of the federal house from the Maritime Provinces was asked to give support to the petition of the delegation, and when the representatives of the east met in Hon. Dr. Tolmie's room, it looked as if a big step had been taken to bring about Maritime Province union. Never has a more representative gathering been present to urge any policy on the Dominion givernment, so far as Eastern Canada is concerned.

The delegates were M. E. A. Trites, Salisbury; Mr. Fred Fuller, Truro; Mr. C. W. Alward, Havelock and Mr. J. D. McKenna, of the Maritime Farmer, Sussex. Backing them up in their demand for cold storage facilities were: Hon. A. K. McLean, Halifax, Messrs. Stanley Elkin, St. John, Pius Michaud, Madawaska; Leger, Kent; Copp, Westmorland; Loggie, Northumberland; General McLean, Royal; Sinclair, Queens, P. E. I.; Turgeon, Gloucester. Messrs. Davidson and Chipman were present from the Halifax and Amherst boards of trade, respectively.

The whole question of cold stores was carefully considered from a national standpoint and Hon. Dr. Tolmie gave every assurance of his sympathy with the petition, and expressed his opinion as recognizing the need for cold storage. At the suggestion of the Minister of Agriculture, a committee consisting of Messrs. McLean, McCurdy, Copp, Leger, Elkin and Sinclair was appointed to act with Dr. Tolmie in pressing the question to a successful conclusion. Later the delegation saw Sir George Foster, acting premier, and Hon. Dr. Reid, minister of railways, and placed the views of the Maritime Provinces before them. The delegates received a most attentive hearing and are confident that something of a definite character will result. Hon. Dr. Tolmie announced that he would later confer with the ministers of agriculture of the three provinces in regard to abattoir facilities in the Maritime Provinces.

Mr. Harvey Mitchell Retires

The name "Harvey Mitchell' has been so closely linked with dairying progress in the Maritime Provinces during the past twenty-six years that it is almost a household word. The Maritime Farmer ventures to say that if any resident of the Maritime Provinces were asked to name the foremost figure in the dairy interests of Eastern Canada during the past quarter of a century the reply would invariably be "Harvey Mitchell."

In 1894 Mr. Mitchell joined the staff of the New Brunswick Department of Agriculture as Dairy Superintendent, which position he efficiently filled until 1907, when he became Maritime Representative of the Dairy Division, Ottawa, with the three Maritime Provinces for his field of action.

In 1896 he introduced the co-operative plan of operating cheese factories and creameries in New Brunswick also the division of proceeds according to percentage of butter fat. Previous to this the milk was practically all bought outright and paid for at a stated price per one hundred pounds, regardless of fat content.

On becoming Maritime Representative of the Dairy Division in 1907 he introduced Cow Testing for the improvement of Dairy herds in his territory. From 1907 until 1916 he continued to supervise Cow Testing in Nova Scotia, New Brunswick and Prince Edward Island, a work that has made splendid growth and wonderfully helped to set the dairymen in the right track, teaching them how to track the robber cow, eliminate her from the herd and at the same time discover and perpetuate the profitable cow. During this period Mr. Mitchell assisted in the establishment of central creameries in Nova Scotia and Prince Edward Island. The years 1915-16 were spent in carrying out a special propaganda for an improvement in the quality of Prince Edward Island cheese. The object lessons taught by Mr. Mitchell while carrying on this campaign have been conducive of the desired effects. No one conversant with the splendid showing made in 1915 and 1916 at the Charlottetown Exhbition could fail to note the interest that Mr. Mitchell's propaganda aroused and the hearty co-operation he received.

In 1917 Mr. Mitchell carried the gospel of the necessity for manufacturing a better class of cheese to the cheese makers, factory owners and patrons of cheese factories in New Brunswick. New Brunswick cheese had become a by-word not for excellence in the vocabulary of cheese buyers. The New Brunswick cheese manufacturers fell in line and by following Mr. Mitchell's advice there was soon a decided improvement in quality and an improved system of marketing was introduced. During these years Mr. Mitchell also helped very materially in establishing central creameries at Moncton and St. Hilaire, N. B.

On March 31st of this year, Mr. Mitchell severed his connection with the Federal Dairy Division to give more attention to his private affairs, or as he humorously says: "I went away back and sat down where I will be always glad to meet any of the boys."

Mr. Mitchell has always been a boy with the boys and they too will always be glad to see him. His advice on dairy matters was always sound and not only the local department of Agriculture but also the Federal Department found in him an advisor on dairy matters of sound judgment. Many of the men who manage Maritime Province cheese factories and creameries received their instructions from Mr. Mitchell. These are the men who were closely allied with him in his line of work for dairy advancement and it is they who best appreciate what Harvey Mitchell has meant to our dairy industry.

STRAWBERRY PLANTS FOR 1920

Manning K. Ells, the strawberry plant and berry grower of Port Williams, Nova Scotia, who has been supplying thousands of reliable plants to the berry growers of the Maritime Provinces for several years, and whose shipment of berries from his own farm proves that he has the right goods to sell, has issued his 1920 catalogue. Intending growers, as well as others who may wish to re plant, will find Mr. Ells reliable in his dealings. Ask for his catalogue. Mr. Ells will help you to get a good start in strawberry growing.

BANGING THE MARITIME FARMER

Thousands of dollars are being spent in Winnipeg to discredit the Maritime Farmer. The expose of the exploitation of the farmers of Ontario in the matter of the sale of seeds. The big savings that have resulted to farmers through the conduct of the Maritime Farmer's co-operative branch, and the refusal of this paper to sell itself to do the bidding of Winnipeg are sore spots with the Winnipeg management of the political campaign,through which it is hoped to tie up the farmers of the Maritime Provinces in support of the ideals of "Western Farmers." During the past week or two this paper has received a number of letters from various parts of the Maritime Provinces, and strange to relate, they are all in the same language. They have the same reasons for disagreeing with the Maritime Farmer, clearly proving that somebody centrally located had been advising these farmers what to say and how to say it. One of the strong points made against this paper is that it opposes the handling of wheat by the government unless products of the farms of the Maritime Provinces are given similar treatment. That is one point on which all the letters centre. Doesn't it look as if Winnipeg was at work again?

And then, the Maritime Farmer gets pretty roughly rapped over the knuckles for daring to stick up for six dollars and a half per barrel potatoes. Some of these letter writers get very much excited because the Maritime Farmer does not believe that the farmers of the Maritime Provinces are making too much money already. We are invited to support the farmer of the West in his raid on the treasury for wheat marketing, but we are told that we are crazy to think of calling for a fair deal for the potato growers of Carleton and Victoria, or the dairy producers of the other counties of the Maritime Provinces. The Maritime Farmer does not propose to make any apology. When it comes to a question of holding up the price of spuds, butter, cheese, eggs, etc., we are out for the same treatment of the East as the West gets. Who started this special privilege stuff, anyway? Was it the farmers of the east that first asked for any government funds to handle their produce? All the Maritime Farmer wants is a fair deal all round and we make no bones as to where we stand. Despite the letters directed from Winnipeg through various channels, we are not ashamed to speak out for a square deal for the potato grower of the East. Let Winnipeg rave away, say we.

CANADA'S LATEST AYRSHIRE IMPORTATION

The Donaldson Liner, Cabotia, landed at St. John, N. B., on April 8th, with a large importation of live stock for different parts of Canada. Included in this importation was a consignment of Ayrshire cattle and Clydesdale horses for R. R. Ness & Sons, Howick, Que. The consignment of horses was made up of two Clydesdale fillies and a two year old colt by "Signet". The consignment of Ayrshires represented, 10 yearling bulls, 1 two year old bull, 25 yearling heifers and 1 two year old heifer.

This consignment of Ayrshires represents one of the best importations that has ever left the other side. They were personally selected from the best herds in Scotland by R. R. Ness, who spent February and March visiting the large Ayrshire auction sales and he also visited many breeders.

The most notable purchase was "Hobsland Victory", from John Mackie of Dalfibble. Mr. Ness has been trying to secure this great sire for sometime, and finally succeeded in landing him at $5000.00. He is being retained until July by Mr. Mackie to do a season's breeding. He is an animal of outstanding merit both from the point of individual excellence and in respert of the milk records in his pedigrees. His sire was the great breeding bull "Netherhall Keystone" (14699), and he is out of "Hobsland Jean 5th", the great breeding cow sired by "Hobsland Masterpiece". Her record for her first lactation was 11,250 lbs. milk testing 3.97% butter fat. At the Hobsland Sale, this year, her calf "Hobsland Mendel" sold for $9000.00. "Holsland Victory" is to be retained in the Ness herd permanently as a herd sire.

Another splendid individual is the two year old bull "Kelloch Volunteer". His sire, "Netheron Viceroy" is by the great breeding and show bull "Brae Rising Star", who has seven A. R. daughters in America, which averaged 9,820 lbs. milk and 398 lbs. fat. The dam of "Killoch Volunteer" is a big strong cow with a large record.

"Hobsland Guide", a yearling bull, was bought at the Hobsland Sale. This bull is to be retained also as a herd sire at BURNSIDE. He is by "Hobsland Scotland's Best", whose dam is "Hobsland Jean 5th", by Masterpiece. Her record is 11,250 lbs. milk testing 3.97% fat. Guide is out of "Hobsland May 3rd", with 9,720 lbs. milk at 3.84% in her first lactation and 10,540 lbs. milk at 3.98% in her second lactation. Hobsland Guide and Hobsland Victory are very closely related, and should make great sires for the Masterpiece heifers.

Another bull by "Netherton Viceroy" is "Holehouse Military Cross". This is an excellent yearling that is sure to be heard from at the fall shows. The dam of Viccroy has a record of 9,470 lbs. milk at 3.8% in 294 days. This young bull stood fifth at the Kilmarnock Bull Show in a class of eighty bulls.

"Holehouse Look Out" is also by "Netherton Viceroy". He is an extremely stylish individual and was a year old in March. His dam, "Holehouse Jean Again 3rd", gave 7,250 lbs. milk at 4.07% as a heifer.

"Barewheys The Goods", was sixth prize bull at the Kilmarnoch Show this Spring in the same class as "Holehouse Military Cross."

"Sandhill Rambler" by "Bargenoch What Care I" stood fourth at the Kilmarnock Show. He is a large, strong individual that would have stood higher in a Canadian ring. His dam's record as a two year old was 6,240 lbs. milk at 4.58%. The milk record of dam of sire was 10,530 lbs. at 3.98% in 280 days.

"Sandhill Optimist" by "Bargenoch What Care I" was bought at the Ayrshire Show. He stood third in the yearling class with fifty-five bulls entered. His dam's record was 7,500 lbs. milk at 3.85% in her first lactation. His dam of sire gave 10,530 lbs. milk at 3.89% in 280 days.

Another yearling by "Hobsland Scotland's Best" was bought at the Barr Sale; this "Hobsland Grand Parade". Milk record of dam was 8,560 lbs. milk at 3.75% in 46 weeks and 8,070 lbs. milk at 3.77% in 40 weeks, this was in the first and second lactations. Record of dam of sire was 11,250 lbs. milk at 3.97%.

"Thornhill Renewar" by "Netherhall Renown" was bought from A. Cunningham of Stewarton. He is out of "Netherhall Mildred" and his sire is from "Netherall Kate 25th", of the noted "Netherhall Kate" strain, she gave 10,920 lbs. milk at 4.03% in 46 weeks.

"Finlayston Eclipse", a March yearling, is by "Bargenoch Silver Knight". The milk record of his dam as a heifer was 7,650 lbs. milk at 4.03% as a heifer. The milk record of dam of sire was 10,200 lbs. milk at 4.20% in 41 weeks.

The heifers are a uniform lot and picked from some of the best herds in Scotland such as Hobsland, Auchenbay, Auchenbrain, Palmerston, Whitehall, Killoch, Holehouse Auchenleigh, Chapelhill, Moorefield and Catlins.

One of the choice ones of the lot is the young heifer, "Catlins Pansy 6th". She is by "Hobsland Victory", the new herd sire for BURNSIDE.

W. F. STEPHEN.

EXPERIMENTAL FARMS IMPORTATION

Mr. Robert Cunningham of the Central Experimental Farm at Ottawa, accompanied R. R. Ness to Scotland, and between them they selected a number of excellent individuals for the Ottawa herd. These arrived on the same boat and at present are in quarantine in St. John, N. B.

"Overton Lord Kyle" was bought at the Lenark Show and Sale to head the new herd. He is a yearling with great record backing, and an excellent individual from a conformation standpoint. His dam, "Overton Snowflake 2rd" gave 9,190 lbs. milk at 3.93% as a heifer and his dam of sire gave 10,-y50 lbs. milk at 3.56%.

In addition to this young bull he also secured some excellent Ayrshire matrons. From Hobsland came the grand young cow "Dunlop Betsy" and the yearling heifer, "Hobsland Betty 7th", who is a big strong heifer with great promise.

"Auchlochan Emerald" was purchased out of the renowned herd of Dr. Douglas, and she is by that great breeding bull "Golden Pippin", who is a son of the well known show cow "Auchenbrain Fanny 9th".

From A. Cunningham of Thornhill, Stewarton was purchased "Hardcroft Dewdrop 3rd", a grand young cow that should do well in the new herd.

It is worthy to note that Mr. Cunningham has built up a richly bred herd free from T. B. that are noted producers. As he will not keep any cow that will not give 10,000 lbs. milk in a lactation period.

From the Catlins herd came "Catlinns Barbara", a sister to the dam of "Hobsland Jean 5th" and "Hobsland Perfect Piece." This cow is of immense scale and capacity.

Mr. Ferguson of Auchinbay supplied a great three year old heifer, "Auchinbay Mina 5th," that has every indication of being a heavy producer. Her dam had a number of records averaging over 10,000 milk at over 4%.

Thomas Barber of Broomhill was also visited and a promising four year old cow "Broomhill Flo" was secured, and from James Howie was purchased a grand cow, (name not available at time of writing).

Perhaps the best cow of the lot is "Oldhall Maggie 9th", bought from Mr. Caldwell of Moorefield, and from John Caldwell of Coarsehill was secured a choice cow in "Culcaigrie Dot."

A useful dairy looking cow "Hareshaw Tibbie", was secured from the Hareshaw herd, and a yearling heifer "Grange Mary 5th" from John Slater of Grange Farm, Kirkcudbright, completes the list of Ayrshires for the farm.

In addition to the Ayrshires, Mr. Cunningham, who is also a sheep man worthy of note, secured a dozen choice Leicester shearling ewes to strengthen the already splendid flock kept at the Experimental Farm.

Mr. Cunningham had in his charge also a splendid young Yorkshire boar for Alex. Dynes of Ottawa. The sire, "Pelico", was the champion boar at the Highland in 1919, and his dam "Dalmenie Blossom" was champion at the Royal Show in England. His is considered to be the best boar that has ever left the other side.

W. F. STEPHEN.

WATER BOWLS

Editor "The Maritime Farmer",

The writer read with much interest a recent interesting and instructive article in your paper on watering cows.

There is no question but that the use of individual water bowls for cows is one of the greatest labor and time saving installations a dairyman can make. There is even a greater benefit from the use of individual water bowls than the labor saved. This is the extra profit made from cows by their being able to get the amount of water they need to produce their capacity of milk.

We thought that in this connection you would be interested in the following figures, which might make good reading for your many readers in backing up your arguments for the use of individual water bowls.

Sussex, as we all know, is the greatest milk producing section in the Maritime Provinces. In the last year, twenty-four of the leading dairymen around Sussex installed three hundred and nineteen water bowls. Mr. Robert Robinson of Millstream P. O., close to Sussex, told us recently that he considered that he got more value out of the water bowls he installed than any machinery or equipment he had ever bought on the farm.

Perhaps the most striking proof we have ever had of the benefit of water bowls came to us recently. Messrs. Snide Brothers, dairymen at Shubenacadie, N. S., ordered a complete water bowls installation costing them $205.00. Included in this order was a steel storage tank, which we were not ale to ship them for forty days after we had sent the water bowls, on account of not having the steel to make the tank. After they had installed the equipment, and had used it for a couple of months they asked us to pay them ($240.00), $6.00 a day for the forty days they were without use of the bowls. They have thirty cows and are able to prove to us that the water bowls increased their milk production to the extent of $6.00 a day.

We know that either of these men would be perfectly willing to have their statements printed if you care to use them in any of your arguments on water bowls.

N. J. C.,
St. John, N. B.,
Representing Beatty Bros.

AUCTION SALE OF FAT CATTLE AT THE EXPERIMENTAL STATION, CHARLOTTETOWN P. E. ISLAND

The auction sale of fat cattle at the Experimental Station was largely attended by the farmers in the neighborhood. There were not a very great many butchers present, and Mr. Brown, of York, was the only buyer outside of the city. The pen of dry cowss sold at an average price of $11.35 per hundred; the beef type of cows sold at an average price of $11.55 per hundred; the dairy type of steers sold at $12.52 per hundred, and the beef type of steers sold at $12.88 per hundred.

The feeding experiment conducted for 115 days from the first of December, was to determine whether it pays to fatten dry cows during the winter, or to sell them off in the autumn. The four pens mentioned above were fed the same quantity each of turnips, hay, oats, bran, cottonseed meal and oilcake and what screenings. Tee prices charged were just the actual cost of material as purchased. The total cost per pen for the 115 days was $162.27, or $40.57 to feed one animal for 115 days. The dry cows, which were just an ordinary lot of grades, sold at a loss of $6.67 per cow; the beef type of cows, which were Shorthorn grades, with one pure bred Shorthorn cow, sold at a loss of $4.34 per cow, while the dairy type of steers, fed in exactly the same way, gave a profit of $8.36 per steer, and the beef type of steers, which were grade Shorthorn cattle, gave an average profit of $14.84 per steer. While this experiment has not shown any very great profit on the whole, yet it contains a lot of very valuable information, which may be turned to profit by every farmer in the province.

The detailed figures in connection with this experiment are available for the press, and will appear in the annual report of the Experimental Station.

THE MARITIME FARMER

And Co-operative Dairyman
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Fortnightly Journal devoted to the interests of the farmers of the Maritime Provinces.

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APRIL 27, 1920

DO WE USE ENOUGH MILK?

It is a safe assertion that the achievements made in the science and practice of sanitary milk production during the last few years rank near the top of the list of those things which have contributed most to the well-being of the human race.

Of all the progress in dairy science two developments of the past few years stand out in bold relief. One of these, the discovery of the presence and function of vitamines in milk, has brought to light the fact that milk is as fundamental to the welfare of the young of the race as pure air and water.

There is no other single article of diet that will so quickly restore the healthy color and ruddy glow to the lips and cheeks, together with vigor and robustness, as this same fluid which the cow so generously supplies. How often when the family physician has been called in because the little one has become pale, languid, and weak, a tonic has been prescribed. But, at the same time, the doctor has recommended more fresh air and that milk should be substituted for the mixed diet. Immediately the signs of health and vigor have appeared, the result having, perhaps, come as much from the change of diet as to the prescription, if not more so.

The other development has been the increased production of sanitary milk, which has placed a pure and wholesome product in the hand of the masses at a reasonable cost.

Dr. McCollum, of the School of Hygiene, John Hopkins University, who has devoted his entire time for the past 13 years to the study of nutrition, has reached the conclusion that milk should be given particular prominence among foodstuffs, because of its unique value as a protective food. He says: "It has become evident that milk is the greatest factor of safety in our nutrition, and it is certain we could not have accomplished what we have had we dispensed with milk as food." With this opinion the leading experts on the subject of nutrition agree. According to the views of these men food must do more than satisfy the appetite and supply sufficient calories and protein to meet the bodily needs. It must maintain health by furnishing certain protective substances to the individual. These protective substances are lacking or are insufficient in most articles of food. They exist abundantly in only two common articles of diet, namely, in milk and in leafy vegetables, such as lettuce, spinach, cabbage, etc. These protective foods are essential not only for the maintenance of health, but also for satisfactory growth in the young. Leafy vegetables are not nearly as well adapted for protective foods for man as is milk, principally for the reason that they cannot be consumed in sufficient quantity.

Dr. McCollum also believes that the achievements of any race of people in science, art, and literature depends more on the milk consumption of that people than on any other factor. In other words he says that a nation that consumes milk liberally is bound to be a healthy, virile, and productive nation. "The Chinese, Japanese, and the peoples of the tropics generally have employed the leaves of plants as almost their sole protective food. They are characterized by small stature, relatively short span of life, high infant mortality, and by continued adherence to the employment of the simple mechanical intentions of their forefathers." It is said that the Japanese child, fed without cow's milk, requires two or three years longer than the Canadian to reach maturity, while the Japanese farmer of 60 corresponds in health and vigor to the Canadian of 80 years of age.

Milk is not only a substitute for meat, it is an improvement over meat. The free use of milk on the farm means reduced food bills, but more important than this, it means better health, greater capacity to work, and an increased joy in life. The farm housewife, at small expense, can use milk and cream freely in cooking, and insure a superior quality to the food on her table. Milk used in cooking gives full value in nourishing the family, and such use is a wise practice which should be extended rather than curtailed. In the majority of farm homes visited by the writer, milk does not apepar regularly on the table as a drink. A pitcher of milk freely passed around and a glass at every place is the best health insurance a farmer can have. Whole milk is best, but skimmilk is excellent. We all know how well pigs and chickens thrive on milk—even skim milk. It is certain that milk is as beneficial for man as for farm animals. Let us use more of it, especially on the farm, where it is produced relatively cheap.

FINANCIAL MEN WAKENING UP

A timely message of advice to Canadian financial men has recently been sounded by F. H. Sissons, vice-president of the Guaranty Trust Company, New York, who in the course of an address the other day said:—

"The farmers demand more control in the financial field. The farmers' problems have become more complex. The cost of agricultural production has risen immensely, in line with the increased prices of farm products.

"The Farmers' Government has secured office largely because the farmers desired two things: the elimination of the middleman and a larger amount of credit. I think fundamentally that is sound. The middleman takes too much from the farmers' revenue, and the farmer has not had adequate credit for the work he must carry on. So, if the farmers are to be supported in that contention, it is the part of the financial leaders, not only of the United States, but of Canada, to devise ways and means by which credit can be extended on a sound basis to aid in developing this great mine of gold which lies in our fallow and unfallow fields in both countries."

It has taken the bankers a long time to swing into line. Now they have got to do it, otherwise with the farmers getting in control legislation will be enacted to compel them to grant liberal credits.

FATAL CARELESSNESS

A striking demonstration of the extent to which carelessness and foolhardiness are responsible for fatal accidents is given in figures on grade crossing accidents in the United States during 1919 by Mr. R. L. Clancy, safety expert of the Southern Pacific Railway. At these crossings 531 automobiles were damaged or destroyed, 46 people killed and 173 injured. Of these 531 cars, 73 stalled on the crossings and were struck by trains, 263 attempted to cross almost immediately in front of approaching trains, 173 ran into trains, 9 skidded into trains in effort to avoid collision after going too close, 31 ran into lowered crossing gates, 5 ran into flagmen stationed to keep back traffic, and 14 were due to miscellaneous causes. By far the greater number of these 531 accidents, it is evident, could have been avoided by reasonable caution. Mr. Clancy has pointed out that although a passenger train approaching a crossing at full speed may be a quarter of a mile away when a motor car arrives at the spot, it will be roaring over the crossing 18 seconds later. That brief space is not sufficient to permit the motor car to cross in full assuranec of safety and it would cause the motorist no delay to wait it out.

The several branches and divisions of the federal Department of Agriculture are each putting forth every effort to advance the interests of the farming industry. Dairying is gaining new strength. Live stock and field crops are continuing their progress and the poultry industry is taking a leading place in Canadian agriculture. The Report of the Minister of Agriculture for the Dominion of Canada for the year ending March 31, 1919, obtainable from The Publications Branch, Department of Agriculture, Ottawa, sets forth the activities of the Department for the fiscal year 1918-19. It shows what has been accomplished in the various branches and indicates the progress of agriculture in general. Among other interesting facts it states that Canada in 1918 produced about one hundred tons of field root and vegetable seeds. This phase of the industry is a new one, but its possibilities are almost unlimited.

The whole problem of gettnig more money or, more correctly speaking, of realizing a greater profit for the market egg may be boiled down to three definite propositions: First, the poultryman must take cognizance of the new order of things and keep abreast of the times by putting all his operations on an efficient basis; second, he must recognize the demand of the market for quality and maintain his product at a high standard of excellence; third, he must study the marketing problem in all its ramifications in order to dispose of his products to the best advantage.

Any big "chuck holes" in the road in front of your farm? You may not get paid in dollars and cents to fill these in, but you will feel a lot better by doing so and it makes your farm look all the better. Where the farmers all take an interest in the roads bordering their farms, they are willing to fill up the holes in the roads without waiting for pay.

Notes on Fertilizers and Their Use

By Dr. Frank T. Shutt, Dominion Chemist

It is with regret that I find myself unable to be present at this meeting. It would have afforded me much pleasure to take part in your discussions and to renew old friendships among the farmers and dairymen of New Brunswick.

In this short paper on Fertilizers and their use it will of course be quite impossible to even touch upon every phase of this important subject. My purposes, therefore, will simply be to briefly emphasize certain features and considerations in connection with the practice of fertilizing that may be of more or less interest under present day conditions and which may serve as points for your discussion.

First, I should like to say that our correspondence with farmers during the past winter points to a largely increased use of fertilizers, especially in the Maritime Provinces, this season. This, while in part may be the result of the wider disemination of reliable information regarding the nature of fertilizers and the profit that may be obtained by their rational use, is no doubt lagely due to the higher prices nowadays received for farm produce, and more particularly for those crops for which fertilizers are specially used. It is quite true that in common with everything else the prices of fertilizers are higher than ever before, due largely to labor troubles, higher wages and increased freight rates. This may deter some from purchasing fertilizers, but I wish to point out in this connection that the increase in value of farm produce —and especially of potatoes, the crop more than any other for which fertilizers are employed in the Maritime Provinces—is proportionately greater than the advance in the cost of fertilizers. There is, therefore, no economy in refraining this season from purchasing and using fertilizers.

There are two points in this connection which I wish to emphasize. The first is the early ordering of supplies. This is the more important owing to the difficulties and delays nowadays of transportation, more particularly as the season adavnces. The farmer should calculate his requirements in December and after obtaining quotations from various fertilizer firms—a matter too frequently entirely neglected—and studying the guranteed analyses of the various brands offered—if a ready mixed fertilizer is determined on—the order should be placed. Properly stored there is no appreciable deterioration between midwinter and the time of application if the mixed goods have been well made. Of course with regard to fertilizer constituents—nitrate of soda, sulphate of ammonia, superphosphate, basic slag, muriate and sulphate of potash, there is no loss, change or deterioration if kept in a dry place. Having the goods on hand at the opening of the season may mean an appreciable increase in yield through being able to go ahead with the work as soon as the soil is in a favorable condition for working.

And the second point is that we ought to do more co-operative buying. There are two savings to be effected thereby, the first in the reduced prices of the goods if ordered in car load lots and the second in freight charges. Of course some farmers are so located that co-operative purchasing is out of the question, but wherever possible it should be practised. I commend these suggestions for your consideration.

You will naturally expect me to say something as to the form in which you should buy your fertilizers—the fertilizer materials (or constituents) or the ready-mixed goods. I favor the former, for several reason but I recognize also that there are tmes and occasions when to purchase the latter is the mor convenient.

In buyng nitrate of soda, sulphate of ammonia, muriate and sulphate of potash in original bags we may be quite sure of the quality. These goods may be considered as "standard" and as always containing, within small limits, certain well known percentages of plant food. Every user of fertilizer should familiarize himself with the percentages of nitrogen or potash, as the case may be, which these materials contain. There are other fertilizer materials that need more careful scrutinizing as to composition — super-phosphate (acid phosphate), tankage, dried blood, fish-meal, bonemeal; the guarantee as to plant food of those should be obtained.

Among the adavntages in purchasing the fertilizer materials rather than the ready mixed goods are (1) the oportunity of a more intelligent sfudy of soil deficiencies and crop requirements—and consequently the possibility of a more effective and economic conduct of our work in increasing crop yields and (2) the saving in cost per unit of plant food to be effected. The fertilizer manufacturer must charge for grinding, mixing, bagging, sales commissions, advertising, etc., in addition to overhead expenses and profit. This charge—amounting presumably to 25 per cent. to 40 per cent. on the original cost of the material (in addition to freight charges on "filler" if such be used) may be in a large degree saved if the farmer is prpared to do a little calculating and expend some work and time on weighing, pounding or crushing and mixing. The implements for this work are not necessarily expensive and the work itself does not entail any special skill or experience. It is claimed by some that home-made mixtures are no so intimately mixed nor so finely ground—and consequently not capable of as uniform distribution on the land—as the ready-mixed fertilizers. This is no doubt sometimes true, but the remedy is in the farmer's hands—he must put more thoroughness in to his work.

If, however, it is decided to purchase a ready mixed fertilizer, I believe, the farmer may depend on the guarantee issued by the manuafcturer —if he buys from well-known firms. The official control under the Fertilizer Act has shown an honest endeavor on the part of by far the larger number of Canadian fertilizer firms to live up to and to deliver goods as specified. It is satisfactory to know this. There are, however, one or two products on the fertilized market that are not quite honestly advertised. The point is demand the guarantee and scurtinize it carefully. Buy only on percentages of nitrogen, phosphoric acid and potash and their availability and disregard all other claims —as for instance the benefit to be derived from the presence of ground limestone, which in the mixed goods is charged for at exorbitant prices. Buy your ground limestone separately and then you will know what you are paying for it.

Further, in this connection, don't purchase any fertilizer simply on the ground that it is cheap. There are low grade and high grade fertilizers on the market. Both may be honest goods but the high grade, as containing the larger percentages of plant food, will be the more economical to buy—for the freight rate on both classes wil lbe the same. This past year there has been a marked improvement on th part of many fertilizer manufacturers to advocate and put out only what might be termed high grade brands—brands containing not less than 14 per cent. of plant food constituents as with formulae 3:9:2. 4:8:4, etc. Ths is an excellent move. It will reduce, simply on the ground of freight charges, the price per unit of plant food in the goods. My advice in this matter is, other things being equal, buy brands showing high percentages; they ought to be cheaper, considering their quality.

With these several considerations we must pass on to speak briefly and specifically of certain fertilizer materials and their use.

Nitrogen

Nitrate of soda (15-16 per cent. nitrogen) continues to hold the premier place among fertilizer sources of available nitrogen. Its nitrogen is immediately and directly, i. e., without any conversion, available to the growing crop; hence its special value in the early and cold weeks of the season before nitrification starts. From the extreme solubility of this compound and the fact that on light soils especially, it is liable to get quickly leached to the subsoil by heavy rains, it is not economical that any single application should exceed 100 pounds per acre. For many crops and especially for hay and pasture lands, the best results are obtained by two or more top dressings of say 50 to 75 pounds each at intervals—say of 18 days to 3 weeks—during the earlier weeks of growth.

Sulphate of ammonia (20 per cent. nitrogen), though equally soluble with nitrate of soda, is slower in its action, since its nitrogen must first undergo nitrification before it is usable by crops. It is well adapted for use in moise climates and on soils well provided with lime. Its exclusive and continued use tends to render a soil distinctl yacid, due to loss through leaching of the soils carbonate of lime.

Our experiments in Eastern Canada have shown that for the potato crop at least, a mixture of nitrate of soda and sulphate of ammonia may prove superior to either of these materials alone. The results at several of the branch Farms indicate that the initial application of 75 pounds nitrate of soda and 75 pounds sulphate of ammonia per acre, marks the approximate dressing that can be given with profit, provided the land is in fair condition, as for instance one prepared by ploughing under a good clover sod which has been lightly dressed with manure.

Of organic forms of nitrogen—organic ammonia they are called by the fertilizer trade—there are many and they differ vastly not only in nitrogen content but in the availability of their nitrogen. If purchased, it is necessary not only to scrutinize their nitrogen content but also to study their nature and source. Dried blood ranks first among these in availability; fish meal and tankage—of which there are many grades—supply in less readily available forms and are therefore more suitble for crops with a long season of growth. They generally furnish a fair proportion of the nitrogen in mixed goods. There are other abattoir by-products, such as horn and hoof meal, wool and hair waste, in which the nitrogen is so slowly available that it is doubtful if they can be profitably employed.

Phosphoric Acid

Superphosphate or acid phoosphate is, by reason of the ready availability of its phosphoric acid, the most widely used of phosphoric fertilizers. It is usually sold in two grades, containing, respectively, 14 and 16 per cent. available phosphoric acid, but it is necessary to scrutinize the guarantee. The application is in the neighborhood of 300 pounds per acre. It is suitable for a large variety of soils and crops and its maximum (but not its entire) beneficial influence is obtained the season of application.

Bone meal contains from 20 to 25 per cent. of phosphoric acid and 2 to 4 per cent. of nitrogen. Here again the purchase should be made on guaranteed analysis only. The phosphoric acid in bone meal is not immediatly available, but is gradually liberated throughout the season. It is more particularly adapated to warm, moist, rathrer light loams. It is generally considered a "lasting" manure and is useful for the permanent improvement of the soil. Undoubtedly its beneficial influence is in part due to its nitrogen, which is gradually nitrified as the season advances.

Basic slag is an alkaline phosphatic fertilizer and therefore specially valuable for sour soils and soils deficient in lime; it is also a desirable form for heavy clay loams and soils rich in vegetable matter as mucks. Its phosphoric acid is not soluble in water but is nevertheless present in forms that are more or less readily set free in the soil—hence may be considered as available. There are many grades on the market and slag should always be purchsed on its phosphoric acid content and its degree of fineness—the latter an important matter as affecting the availability of its phosphoric acid. From 75 to 85 per cent. of the slag should pass through a sieve having 100 wires to the linear inch. With this degree of fineness, the price should be commensurate with its phosphoric acid content. There seems good reason to disregard the Wagner standard of availability, viz., solubility in 2 per cent. citric acid; many experiments in England and Scotland in recent years have conclusively shown that the availability of the phosphoric of slags is not measured by ts solubility in this solution.

As our experimental data accumulates we shall be more and more impressed with the value of basic slag. Results point to it being found an effective and profitable phosphatis fertilizer in many parts of the Dominion, especially for soils defiicent in available lime (of which we have large areas) and for heavy clay loams. It is worthy of trial as a top dressing (500 pounds per acre) on pastures, since it will encourage the growth of clover and the finer grasses, thus increasing the nutritive value of the herbage. It should also be useful for many crops with a long season of growth—turnips, mangels, corn, etc. and for orchard work. In a sense it is a slow-acting fertilizer, hut is is a durable one. Its full return will not be obtained the season of applcation, but its effect will be marked, as a rule, throughout the rotation.

Potash

We have now reached a difficult matter; one in which under present day conditions it is almost impossible to give definite advice. In pre-war days we obtained our entire supply of potash salts from the Strassfurt mines in Germany. As you all very well know, this source of supply being cut off by the war, potash in fertilizers has been practically unprocurable for the past five years, or if obtainable it has been at such prices as to make its use in agriculture almost prohibitive. Unfortunately, notwithstanding the war is over, the situation is but little changed. There is very little, if any, German potash on the Canadian market today. We may confidently expect for next year a supply from the mines in Alsace—again French territory—but it is doubtful if any quantity reaches our shores in time for this season's application. There is a great shortage in the stores of potash in Europe, and this must largely be met before there will be heavy exports.

(Continued on page 557)

HORTICULTURE.

APPLE SPRAYING IN NEW BRUNSWICK

by G. E. Sanders

Mr. President and Gentlemen:—

I presume that each and everyone of you are open to congratulations as a result of your phenomenal results of last year. You were able to demonstrate last year (1) the value of the McIntosh and Snow as you grow them in New Brunswick, and (2) the value of spraying. Your McIntosh apples are taking the place of the product of the Snow or Famuse orchards, which were killed out in some districts by the sevtre winter of 1917-18, and there seems little doubt but that you will continue to get large returns from the splendid asset which your McIntosh orchards have proved to be. I am not going to advise you to plant or not to plant more McIntosh, as it is not my business to do so. Such advice should come from your provincial officer, but I am here to tell you that it is worth while taking care of the McIntosh trees that you now have, particularly as regards their spraying, for it is evident that the next few years will see a great shortage and consequent high price for this most delicious fruit. The McIntosh is one of the most susceptible apples to scab, and on account of the gerat demand for high grade McIntosh fruit, the returns for money expended in spraying this tree are much higher than the returns from spraying most other varieties, although we all realize that we cannot afford to neglect spraying any variety.

Returns From Spraying

Growers get two separate and distinct classes of returns from spraying. The first and most noticeable is the improvement in quality, or the prevention of diseases, and insect injuries and the growing of clean high grade fruit. The second and least apparent benefit which results in infinitely larger returns than the first is the increase in quantity of fruit produced. This second class of returns is usually much greater the year following the application of spray than it is the year that the spray is applied.

Improvement in Quality

Two years ago we carried on an experiment in Mr. S. B. Hatheway's orchard on McIntosh, and from one spray before the blossoms, and two after we were able to get McIntosh that were 91 per cent free from apple scab, while where we did not spray they ran only 6 per cent. free from scab. Last year we carried on another experiment in Mr. A. G. Dunphy's orchard, and we were able to get from four sprayings, McIntosh 76 percent free from scab, while among the unsprayed McIntosh we were unable to find a single clean apple.

One of the finest demonstrations of thorough spraying in New Brunswick this year was on the Springhill Orchards, which is managed by Mr. Hatheway. Mr. Hatheway sprayed on May 28th with 3-10-40 Bordeaux, and one pound of arsenate of lime to 40 gallons. One June 23rd he sprayed with soluble sulphur 1 pound, arsenate of lime ½ pound, hydrated lime 5 pounds, water 40 gallons. On July 9th he sprayed with 3-10-40 Bordeaux, and one pound arsenate of lime to 40 gallons water.

The returns from 367 barrels of all varieties and grades totaled $1854.17 or an average price of $5.05 per barrel. One particular lot of 104 barrels of all grades, mostly of the McIntosh variety, sold for $815.00 in the open market in Montreal. The average net price f. o. b. Fredericton was $6.36 per barrel. I do not think that I need say more in emphasizing the value of thorough spraying in your New Brunswick orchards.

What to Spray with in New Brunswick

There seems but little doubt in view of the results of the past three years, as compared with those of previous years when you were using lime sulphur that where possible it is best to use 3-10-40 Bordeaux. That is, Bordeaux of that formula should be used for all excepting the calyx application. In most seasons it is probable that two applications of Bordeaux before the blossoms will give better results than one. One pound of arsenate of lime to 40 gallons is the proper quantity to use in Bordeaux.

For the calyx spray use almost anything excepting Bordeaux, as Borlime ¾ pound, hydrated lime, 5 pou deaux russets at this period. Any of the following may be used:—

1. Dry lime sulphur 4 pounrs, arsenate of lime ¾ pound, hydrated lime 5 pounds, to 40 gallons water.
2. 3 pounds dry lead arsenate to 40 gallons of water, adding two pounds of hydrated lime.
3. 1 pound of soluble sulphur, ½ pound of arsenate of lime, 5 pounds of hydrated lime to 40 gallons water.

Whichever of the above three are most convenient to you may be used for the calyx application.

For the application two weeks after the blossoms 3-10-40 Bordeaux and one pound of arsenate of lime to 40 gallons of water should be used.

How to Mix Bordeaux

For these growers who have poor sprayers the finely crystalized copper sulphate, that Mr. Turney has on hand, will prove a decided time saver. You can weigh out the right quantity of copper sulphate and put it into your strainer before filling or if your pump is equipped with a paddle agitator you can dump it directly into the tank and then run the agitator while filling the tank. When the tank is two thirds full dump in three times as much hydrated lime as you used of bluestone and stir rapidly so as to mix the lime thoroughly through the solution before it dissolves. This will give you the same effect as pouring dilute solutions together. Last of all add your poison. It is best to use arsenate of lime for Bordeaux for the apple, as it is the cheapest of safe poisons for the purpose, and is a most satisfactory killed in Bordeaux.

The most essential point in making Bordeaux for the apple is never to use less than three parts of lime to one of copper sulphate.

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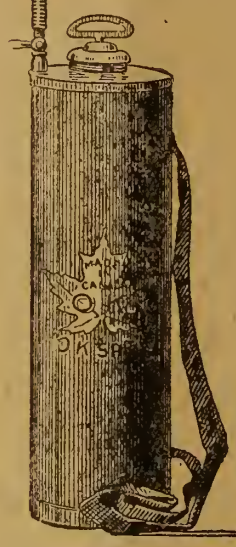

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2

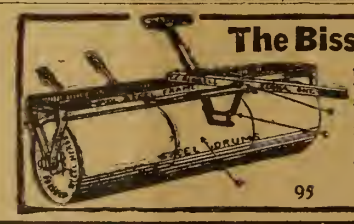
The Apple Maggot

Many of these present know the apple maggot or railroad worm, which damages fall apples to such an extent all through New Brunswick. The adult of the apple maggot is a small fly which emerges from the earth in July and deposits its eggs under the skin of the apple. The young larvae emerging from the eggs tunnel all through the flesh of the fruit reducing it to a pulp. Apples infested with maggots are as you know unfit for human food. When the apples drop to the ground the maggots leave, and enter the soil there to change to puparia. About two thirds of these will emerge as adult flies the following July, and about one third will not emerge until one year from the following July. In order, therefore, to clean up an orchard one should spray for two consecutive years.

This year we carried on a demonstration in apple maggot control in Mr. Isaac Stephenson's orchard. The following article on the results was written by Mr. P. C. Gilliatt, who had charge of the experiment. The method followed is that outlined by Prof. W. H. Brittain, of Truro, N. S.

APPLE MAGGOT CONTROL IN NEW BRUNSWICK, 1919

This demonstration took place in the orchard of W. I. Stephenson, Maugerville, N. B., where apple maggot had been a pest to the extent of practically ruining the crop for sev-



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We WANT your order for STRAWBERRY PLANTS this coming season. Of course you are planting a larger acreage than usual,—everybody's doing it, for strawberry growing at the prices now days is a sure fire money maker. The Canning factories are anxious to buy all the berries they can secure, so we now have no fear of over production. Get our plants and be sure of big crops. Senator Dunlap, Warfield, Beder Wood and Dr. Burrell, six dollars a thousand. Sample, Glen Mary, Premier and Bubach seven dollars a thousand. We allow one dollar a thousand discount from these prices on all orders of four thousand or over of one variety. Send for Catalogue. It's Free.

CYRUS & MANNING ELLS, Port Williams, N. S.

eral years previous. The orchard consisted of mixed varieties, in sod, rather scattered, but in a thrifty condition. Two applications of arsenate of lead were applied, first application July 12th, ten pounds of arsenate of lead (paste) to one hundred gallons of water. Second application July 24th, using 4 pounds of dry arsenate of lead to one hundred gallons of water. (Ten pounds of paste are equal to five pounds of dry lead arsenate in killing value). Wire cages had been set over a quantity of badly infested apples the previous fall so as to catch the maggot flies if possible, and then apply the first spray as soon as the first fly emerged in the cage, but for some unknown reason at no time during the season could a single fly be found in the cages.

On account of the orchard being eighteen miles distant from Fredericton it could not be watched as closely as it should have been, but no flies could be found in the orchard when the first spray was applied on July 12th. From this date until the second application the rains were frequent and considerable washing off of the poison was the result. On July 24th quite a number of flies could be found on the trees as well as a few punctures on the Crimson Beauties, the second spray was at once applied. The height of the emergence was evidently around this date, for a visit was made every week after this second spray during the emerging period, and there was only noticed a stray fly on one or two occasions. It is absolutely necessary for success to spray all trees in the orchard whether bearing or not, for though the fly feed chiefly on the surface of the apple, it also feeds to a certain extent upon a waxey material on the leaves, in which case it could after feeding, fly over and do some puncturing of apples on bearing trees. It is also necessary to spray from all sides of the trees, and not from one side only.

The following results were obtained in this orchard:—

Variety	Apples with one Punct.	Apples with more than one Punct.	Total Apples Counted	More than 1 Punct. %	More than 1 Punct. %	Total Punctured %
Crimson Beauty	195	56	4320	4.5	1.3	5.8
Duchess	28	42	2800	1.0	1.5	2.5
Dudley	109	32	3210	3.4	1.0	4.4

In an orchard belonging to Mr. Denning two rods distant, which received no spray, it was impossible to find an apple not punctured, most of them so badly that it was difficult to make correct counts. The following are from counts taken:—

Variety	Apples with one Punct.	Apples with more than one Punct.	Total Apples Counted	More than 1 Punct. %	More than 1 Punct. %	Total Punctured %
Duchess	0	890	890	0	100	100
Irish Peach.....	0	540	540	0	100	100
Gideon	0	950	950	0	100	100
Alexander	0	1100	1100	0	100	100
Red Astrachan..:	0	420	420	0	100	100

Comparing the crop in Mr. Stephenson's orchard for the past three years.
1917, total crop 120 barrels, 90% affected with apple maggot.
1918, total crop 130 barrels, 80% affected with apple maggot.
1919, total crop 600 barrels, 2% affected with apple maggot.

The varieties that were attacked in 1917 and 1918 were 100% affected, totally unmarketable being only fit for feeding, the small percentage of sound apples being due to a few varieties that were more or less immune from the attack of the apple fly. Some of these varieties were Gane, Ben Davis, and Salome. For the past few years the money returns from this orchard have been practically nil, whereas this season he took the top prices on both the St. John and Montreal markets with his Crimson Beauty. With his other fall varieties he did almost as well. The splendid results of this work and its great practical value is seen in comparing the crops and other values for the past three years in Mr. Stephenson's orchard. Taking into consideration the overhead and standing charges and expenses Mr. Stephenson's orchard gave practically no returns in 1917 and 1918, whereas this year the crop sold for about $1800.00 and might have been sold to still greater advantage.

Green Apple Bug

A few years ago we were surprised to find an infestation of Green Apple Bug here in New Brunswick. This insect was first discovered in Nova Scotia a few years ago by Prof. Brittain and to-day it is one of our important pests there.

The Green Apple Bug lives over winter as an egg in the twigs of the apple, and emerges in the spring to feed by sucking at the opening buds, flowers, and twigs. Most of the attacked apples drop, but some remain on the trees as gnarled and twisted culls. The result of the work of the Green Apple Bug closely resembles that of the Curculio.

Being a sucking insect it has to be controlled by contact sprays. Last year we followed the formulas and periods laid down by Prof. Brittain in the orchard of Mr. A. G. Dunphy of Douglas and secured excellent results.

The following summary of our spraying programme and the results from it was drawn up by Mr. G. P. Walker, who had charge of the experiment:—

(Continued on page 556)

STOP THIS WASTE!

Grow better fruit and vegetables

Spramotor

It isn't a SPRAMOTOR unless we made it

Kills Rot and Scab
Kills Blight and Pests
Kills Bugs and Worms
Kills Weeds

THIS All-Canadian spraying machine has been on the market over 25 years, and proven best for Canadian use. In that time it has repeatedly met the world's best in competition and captured over 100 Gold Medals and First Awards, including the coveted Canadian Government spraying contest award.

A Spramotor will double and treble your yield of apples, pears, peaches, grapes, plums, etc., and get you better fruit. It will do the same with potatoes and row crops, kill mustard in the growing grain, spray paint, whitewash and disinfectant on barns, stables, pens, etc., six times as quick as by hand. All styles and sizes, $7. to $400.

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Bruce's Giant Feeding Beet. In two colors, White and Rose, a cross between Sugar Beet and Mangel, splendid croppers and unequalled for feeding, easily harvested, and keep well. ¼ lb. 25c, ½ lb. 40c, 1 lb. 75c, 5 lbs. $3.50, postpaid.

Bruce's Mammoth White Carrot. Half Long Variety, heavy cropper, splendid quality, easily harvested, grand keeper. ¼ lb. 35c, ½ lb. 60c, 1lb. $1.00, postpaid.

Bruce's Giant Yellow Mangel. An intermediate variety, heavy cropper, good keeper, of splendid feeding quality and easily harvested. ¼ lb. 25c, ½ lb. 40c, 1 lb. 75c, 5 lbs. $3.50 postpaid. Also Yellow Leviathan, Giant Yellow Globe, Golden Tankard and Mammoth Long Red Mangels at same price.

Bruce's New Century Swede Turnip. A grand purple top variety, splendid for the table and also for feeding cattle, a grand keeper and shipper. ¼ lb. 35c, ½ lb. 60c, 1 lb. $1.10, 5 lbs. $5.25, postpaid.

Also Bruce's Selected, Bruce's Giant King, Hall's Westbury, Elephant, Magnum Bonum, Kangaroo and Hartley's Swedes at ¼ lb. 35c, ½ lb. 60c, 1 lb. $1.10, 5 lbs. $5.25, postpaid.

Also Aberdeen's, White Globe and Greystone Turnip, at ¼ lb. 30c, ½ lb. 55c, 1 lb. $1.00, and 5 lbs. $4.75, postpaid.

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JOHN A. BRUCE & CO., LIMITED 224

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DAIRYING.

PURE BRED VERSUS GRADE DAIRY CATTLE

(Experimental Farms Note)

The old question "would you advise me to start into the pure bred dairy cattle business", is being asked as frequently these times as ever before, and is receiving just as many negative replies as formerly. There are so many factors which enter into the problem that one has to study the question from every angle. Good pure bred cattle of either sex are selling for such good prices now that men who have proven themselves successful with grade stock, cannot afford to continue without pure breds. We all know of certain grade herds making more money for the owners than some pure bred herds in the same locality, but every community has examples of men in the pure bred business who never should have invested money in live stock.

The most economical and the most satisfactory way for the average farmer to start into pure-breds is to purchase good females to start with. Care should be taken to see that they are good. They should be healthy, of the proper type, and either proven producers or with proven ancestors. It is better to have only one good cow than several medium quality animals. A comparatively small outlay is necessary when starting in this manner.

It is remarkable how quickly a herd can be built up from a few foundation cows. The dairy herd on the Agassiz Experimental Farm was started by the purchase in December, 1911, of twenty-eight grade cows and the following year three pure bred cows. Then in the fall of 1915 two pure bred heifer calves and the next year a pair of two year old heifers also pure bred were purchased. Today there are forty-two pure bred females in the herd including the above and their descendents. As the pure bred herd increased in size, we have gradually decreased the number of grades, until at present, only twenty-one are on hand.

A yearly comparison has been made during the last three years, of the five most profitable pure bred cows and the five most profitable grade cows. In each instance the pure breds have been the more successful from a commercial standpoint. On the average, the pure breds produced 4.476 pounds more milk and 153 pounds more fat per cow per annum, and yielded an average profit over feed cost of $27.64 more per cow than the grades.

After a pure bred herd reaches a suitable size, the most money is made by selling the surplus stock for breeding purposes. The Holstein bull, Inka Sylvia Beets Posch, 5563, was used as senior sire in the Agassiz herd from December 1916 to July 1918. From his service during that period fifteen grade and twelve pure bred females were raised and are in the herd at the present time. Putting the very topmost value on the fifteen grade heifers they are worth $1875.00, while the dozen pure bred heifers are worth just about twice that amount, yet they cost no more to raise than the grades. The pure bred male calves born in the herd during the same period were sold for $100.00 each and up, while the grade bulls were sold for veal.

Not only is it more profitable to produce pure bred cattle than grades, under suitable conditions, but the pleasure and interest are much greater.—W. H. Hicks, Superintendent, Experimental Farm, Agassiz, B. C.

THE INFLUENCE OF AYRSHIRE SIRES

I have become reminiscent this morning and my mind carries me back to my boyhood days, and I recall the class of dairy cows in my home communty, some were solid red, some red ,with white bellies and faces some brindle. The latter had upturned horns, but the majority had inturned or crumpled horns. The cow that gave a three-quarter pail of milk in flush was considered a wonderful cow and would be worth at least $30. Suffice it to say the best of them would not give 4,000 lbs. of milk in a season. Their weight would range from 800 to 1,000 lbs.

Fifteen years later I reall a different class of cows, at least 1,000 lbs. heavier in weight, stronger, more vigorous, with upturned horns, red and white in color, and with a larger milk capacity.

Thirty years later.—The old style cow has almost disappeared. She has been supplemented by a strong, vigorous cow of fine type, white and red in color with upturned spreading horns, deep body with well sprung ribs, shapely udders and good teats,—a contrast from the shapeless udders and immense tapering teats of the old stock. The weight had increased by 200 to 300 lbs. and the average milk production from 2,000 to 3,000 lbs. per season. What made this change? The universal use of Ayrshire bulls.

The first Ayrshire bull to be brought into the communty was "Sir William," bought at 2 weeks old by my late father for $30.00. This was in 1868. What ridicule he had to endure. Prejudice had to be broken down. It was the bane of progress then, and unfortunately, it is still a hindrance to present day progress. With Scotch determination my father outlined it and ere long saw the fruits of his efforts in improved dairy cows in the community, as this bull was widely used, as well as his progeny.

A few years later Mr. James McFarlane brought in "Sir Philip," another Ayrshire bull of wonderful strenfith and prepotency. This bull mated to the progeny of "Sir William" brought wonderful results in cows of strong Ayrshire type, character and increased production.

The community was studded with cheeseries,—one at almost every cross roads—and from the milk of these Ayrshire cows a pound of cheese could be made from less than a 10 lb. milk average for the season. About this time I was census enumerator in the community and particularly noted the production of many of these high grade Ayrshire herds, which ranged from 6,500 to 8,000 lbs. of milk per cow for the season,—a good aevrage for those days when summer dairying only was carried on.

I have heard many favorable comments on the class of dairy cattle in this particular community. Frequently I have heard men say, "I never saw such fine dairy cows as you have here." All because Ayrshire bulls were universally used. Their fame as herd builders spread to other communities and the whole district became noted for its high class Ayrshire grades. So noted did t become that men came from far and near for cows for foundation stock. A few years ago a dairy firm in the United States, that supplied certified milk for New York City, came over and took away 220 head, ten car loads, all tuberculin tested and came back six months later for 50 head more. Sufficie it to say this firm has been coming back every years since for new blood. Ayrshire bulls built up the dairy interests of this particular community as nothing else has ever done and will build up the dairy herds of any community, if given an opportunity. The use of Ayrshire bulls on our grade herds always lead upwards and to prosperity.

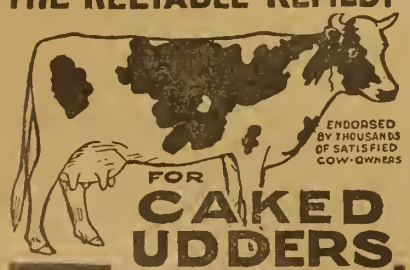
HOW TO RAISE THE HAND-FED CALF

The growth of the calf during the first year of its life depends much upon the start it gets the first month. It seems to be a common belief among dairymen, and cattle breeders in particular, that if a calf is neglected during the first few weeks of its life no amuont of feed and care can make up for that setback. Therefore it is important to take good care of the young calf, and do not allow it to suffer in any way. The calf should be removed from its dam when two or three days old and taught to drink. Some successful dairymen recommend taking the calf away from its dam as soon as born, but it is no difficult matter to teach a calf to drink when only a few days old, and the calf seems to do better if allowed to nurse for a few times. It is also noticeable that the cow's udder is helped by allowing the calf to nurse if it is not too rough.

The calf should have warm whole milk for ten days to two weeks, then skim milk may be gradually substituted till at three weeks of age the calf is receiving no whole milk whatever. It is necessary to supply some substitute for the fat of the whole milk, and this may be done in several ways. Howeverfi flaxseed jelly is about the best, and it is not difficult t oobtain. This is made by simmering a lb. of ground flaxseed in three quarts of water till a thick jelly is formed. This jelly should be added in small quantities at first and slowly increased till, at three months of age, a cupful is being fed twice daily.

As the calf gets over three weeks old it will start to nibble at a little hay, and this should always be kept within reach of them at all times. At about the same time it will commence to eat a ltitle grain, and for this purpose there is nothing better than equal parts of bran and oats (whole oats preferred) fed in addition to flaxseed jelly and skim milk. In feeding calves skim milk it must be remembered that great care must be taken to have the milk always fed at the same warm temperature and to keep all pails and feeding utensils perfectly clean.

THE RELIABLE REMEDY



FOR CAKED UDDERS

DOUGLAS' EGYPTIAN LINIMENT

"I have now used Douglas' Egyptian Liniment for 2 years, and find it gives the best satisfaction for man and beast. I tried the liniment on 4 cows during the winter for lump in bag, and a sample bottle cured each case in 36 hours. I also found it good for muscular rheumatism and lumbago." (Signed)
Allan Schiedal,
New Hamburg, Ont

This Liniment will also stop bleeding at once and prevent blood poisoning

35c A BOTTLE

SOLD BY ALL DEALERS

DOUGLAS & CO., Manufacturers, NAPANEE

Where skim milk is not available, calves may be raised on hay tea. Boil cut clover, or even timothy, in water till a strong tea is obtained. Wean the calf from milk to this tea precisely as described from whole to skim milk. The same supplementary feeds may be used in somewhat larger quantities.

Pasturing the calf under six months old is not to be advised. The digestive system of a young calf requires a more concentrated food than that supplied by green grass, unless they eat an overdose of it. Moreover, the young calves are affected in their growth greatly by the heat of the sun and by flies. They will do much better if they can have the use of a darkened pen or shd during the day, as this will greatly reduce the annoyance from flies.

A strict observance of the following simple rules will generally prove satisfactory and cause very little trouble:

1.—Treat calves kindly and carefully.

2.—Use scrupulously clean food and pail, throughs, etc.

3.—Make all changes in food gradually.

4.—Feed only wholesome food in sufficient quantities, and feed regularly.

5.—Keep the pens dry and clean.

HEIFER HAS ITCH

I have a heifer that has what is termed a barnyard itch. I have used many different treatments, but she is still as itchy as ever.—G. F.

Barnyard itch is a wide term and does not convey any idea of the cause or variety of disease. One thing certain, if the heifer is allowed to rub herself against any post or obstruction in the barnyard the trouble will readily spread to other cattle. Such a disease dequires persistent effort in applying the remedy till it is cured. An evcellent and chap oily preparation is lineeed oil, four parts; common creosote, one part. Mix well together and rub on frequently at intervals for a day or two. Another very good prepartaion is made as follows: flowers of sulphur, on lb.; oil of turpentine, half a pint; train oil, four pints. Mix the sulphur with the train oil by gentle heat, and when old stir in the turpentine.

WATCH THE MILK CANS

There is nearly as much damage done to milk and cream by not watching the cans closely, as there is from lack of cooling. Do not put the cream or milk into cans after being returned from the ceramery or factory before thoroughly washing them. Although they are washed at the creamery, they become stale and smell bad usually before reaching the farm. Wash and thoroughly scald all cream cans before filling.

To produce the best milk and cream, adopt the following simple measures:

1. Keep the cows clean. The udders and flanks of the cow should be brushed regularly to remove dirt and dust. If the udder is wiped with a damp cloth just before milking, much dirt and dust will be kept out of the milk.

2. All utensils should be clean and sterilized. All pails and cans should be washed with a brush, cleaning powder, and finally rinsed with boiling water or sterilized with steam.

3. Keep the milk and cream as cold as possible, by putting the can containing it into a tank of cold water and ice and stirring frequently. Milk and cream should be held at a temperature of 50 degrees F.

4. The can of milk or cream, should never be left uncovered so that flies or dirt blown by the wind can enter.

5. Straining out the flies and dirt from milk does not leave the milk in a wholesome and clean condition. Bacteria when once introduced into milk by unclean methods will spoil the milk.

AGE OF HEIFER BY HER TEETH

How many teeth has a two-year-old heifer? Does she lose them all, and at what age? Should she be fed on bran and chopped oats and have her hay cut?

In general the age of the animal at the time each pair is up and in full wear may be estimated as follows: First or middle pair of permanent teeth at eighteen months; second pair at twenty-seven months; third pair at thirty-six months. Cattle have eight teeth in the front row. They lose two every year till atfer four years of age. It is not necessary to cut hay for them as the back grinders look after that duty. If given roots these should be pulped or sliced.

DE LAVAL

THE EVERLASTING CREAM SEPARATOR

There are thousands of voluntary letters in the De Laval Company's files, similar to this letter from Mrs. Pilgrim of Ontario, bearing out the statements made in connection with the long service of DeLaval Cream Separators.

In fact, by averaging up the years of use, it has been found that the average life of a De Laval is more than 15 years; and that during that time they have required little attention or repairs, and have produced the highest possible quantity and quality of cream with the least time and effort.

"We have used our De Laval for the last seventeen years and have had every satisfaction with it. Outside of rubber rings, it has never cost five cents for repairs.

'It is easy running, easily washed and kept clean, and when we need a larger separator it will be a De Laval."

MRS. G. H. PILGRIM,
Ontario

That is why there are more De Lavals in use than all other makes combined. Sooner or later you will buy a De Laval.

The nearest De Laval agent will be glad to demonstrate a De Laval If you do not know his name write to nearest De Laval office

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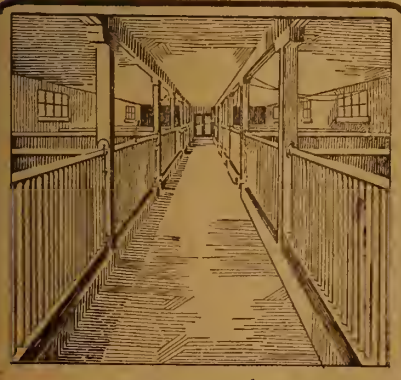
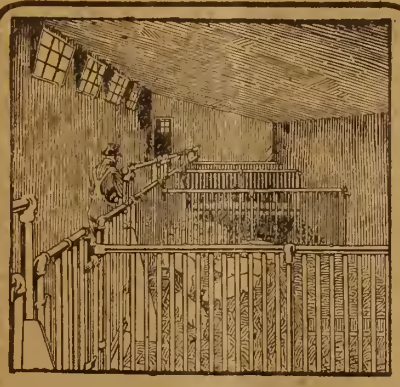
50,000 Branches and Local Agencies the World Over

CANADA LOSES ONLY 33,000 POUND COW

It is announced that Zarilda Clothilde 3rd, DeKol, Canada's first and only 33,000 pound cow, has been sold by Colony Farm, Essondale, B.C., to Mr. John A. Bell, Jr., Coraopolis, Pa., for $15,000. Mr. Bell has now purchased over $100,000 worth of the best Holsteins Canada could offer, and in Zarilda he has secured one of the greatest, if not the very greatest milker the world has ever known. Her year's record of 33,145 pounds is surpassed only by a small margin by Tilly Alcartra, while her record of over 93,000 pounds milk for three consecutive years has never been equalled by any cow of any breed. While one cannot help but regret the loss to Canada of such cows, there is some satisfaction in knowing that she goes to a herd where only the best sires are in use and where she will have an excellent opportunity to reproduce herself. Just imagine what a bull calf from her would be worth, sired by Mr. Bell's $75,000 son of May Echo Sylvia.



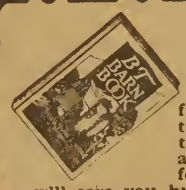
1. If your hog barn caught fire, could you use the pens again? The drawing above shows BT Galvanized Steel Hog Pens in the barn of the Ontario Hospital in London. This barn was burned to the ground, but the pens were used again.



2. Of course this saved the owners a big loss. Besides, BT Galvanized Steel Hog Pens are durable under ordinary wear and tear. There is nothing to rot; nothing to wear out; no planks to pull loose; no repairing to do.

3. Wood equipment is a constant worry and expense. Lumber is dear and carpenters scarce. Wood pens are not durable and in a few years must be renewed.

You can save money by putting in Steel Hog Pens. Send the coupon for details.



Send this coupon for our 352-page Barn Book. Tells how to plan, build, frame and ventilate the Hog Barn. How to save time, labor and feed in caring for the hogs. It will save you hundreds of dollars and is free.

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LIVE STOCK.

CALF DISEASES AND THEIR REMEDY

If the death rate of calves and young cattle is to be kept down to where it should be, stock men should inform themselves regarding the causes of their present losses and some of the newer facts that have been found out as to the cause and the materials perfected for controlling these diseases.

Take white scours, for instance, a disease of new born calves which destroys nearly all the calves dropped on some farms and is such a serious menace to our cattle industry. The first signs of this disease are usually seen during the first few days of the calf's life and are noted first by the listless attitude the calf assumes, preferring to be down most of the time at first and taking no interest in the teat. He may show some signs of pain and cramps in the abdomen. He shows a hot, dry muzzle, indicating fever. Soon a whitish, foamy, bowel discharge is seen. Its smell is repulsive and characteristic. The tail and hind parts of the body are usually extensively soiled with this discharge.

Careful study has shown that this disease is due to a general infection of the whole digestive tract of the calf sometimes even before birth by materials swallowed so that in some cases the symptoms are apparent almost from birth. More often it is acquired in the mouth, to be subsequently swallowed because the teats of the mother are soiled from lying on the infected stable floors so that in suckling the calf is sure to get the infection.

If far advanced when recognized as ailing and the scouring profuse, the calf rapidly weakens and dies. In those cases tagen in hand early, however, and given curative doses of anti-white scour serum, good results are usually obtained.

The best control of this disease on the farm lies in the prevention of its starting at all. This can be accomplshed by remembering if it has occurred in the past that the stables and farmyard are well seeded with the germs sthat cause it and in consequence every effort should be made to clean up. This is especially true of stalls or sheds in which calving is to occur.

Throw out all old bedding, scrape the walls and clean the floors, thoroughly. Let in the sunshine, the best disinfectant we have. For places sunshine cannot reach use a generous spray of a good antiseptic in whitewash to floors and walls. Just before using the stall for calving, bed it well with clean bright straw that has not been tramped by the soiled feet of other animals.

Next remember to wash with soap and water, and later with a one per cent. solution of good dip in water the tail, udder, teats and hind limbs of the dam daily for the last few days before dropping the calf. When the calf comes it should be the aim to receive it on the cleanest surface possible to provide and at once have it vaccinated with anti-white scours bacterin which seems almost specific preventon of this disease during the past several years of trial.

Navel Ill Cause of Heavy Loss

This disease is often seen of late years in our calves and by some is called "Joint Ill," because it shows its most prominent symptoms as a swelling of come joint, usually the hock. It is due to germ life that enters the animal's body at the navel, hence its other name. These germs seem to live in the blood and finally localize in a joint where they produce pains, swelling, and often extxreme lameness followed by a general depression and frequently produce death.

All of the antiseptic precautions suggested above, if practised, will materially lessen the loss from this trouble as well, but in additon the navel cord should be tied off immediately after birth with a cord soaked in a strong antiseptic. It is a good idea to disinfect the stump by painting with tincture of iodine and let the cord be kept as dry as possible by the frequnt use of an antiseptic dusting powder.

A system of vaccination has also

Simonds saws

are guaranteed to cut easier, saw faster and stay sharp longer than any other brand of saw at any price. S-56-1

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More Milk Profits

FEED and labor are too costly to devote to "robber cows." If you are to make a profit, each animal in your herd must pay her keep and earn something.

Pratts COW REMEDY

makes good cows better—puts many "robbers" in the profit-paying class. It is a specific for cows, a tonic and conditioner which tones up the entire system and induces maximum production. It overcomes the effects of heavy feeding, improves digestion, regulates the bowels and increases the milk flow.

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International Grofast Calf Meal supplies the young calf with all the elements necessary for quick growth—and keeps them sleek, thrifty and lusty.

Grofast Calf Meal will raise your calves just as well as new milk and at one-third of the cost. It is endorsed by successful farmers and breeders throughout the Dominion.

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THE shoes for aching feet—light in weight, durable, roomy and comfortable. Made from selected waterproof Skowhegan leather with waterproofed leather sole and solid leather insoles. The ideal shoe for farmers or others working on the land.

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John Palmer Co. Ltd.
Fredericton, N.B., Canada

42

been produced for this disease which is materially aiding in the prevention and cure of navel ill. Have your veterinarian use it early in any cases which may occur in your herd.

Thursh or Sour Mouth of Calves

Thursh is anotoher disease that is due to filth infection. It is usually localized in the mouth and manifests itself by loss of apetite and fever and a profuse slobbering. Close examination shows the mouth lining to be red and swollen, but in places showing yellow patches which easily slip off under pressure and leave a raw surface. Because of lack of appetite and absorption of poisons from the sore mouth many calves die from this infection.

Since this disease is due to infection with many filth germs getting in the mouth, the bucket fed calf is of course far more oftener affected than any other, since the dirty utensil is often the source of the trouble. Dirty udders may cause it in calves with the cow.

Its scontrol lies in practising greater cleanliness in handlng the food intended for the calf. Clean thoroughly by scalding the utensils which are at any time to hold food. Make provision that insures the protection of his food from contamination by any stable dust or filth, removing all articles from the stall or shed that calves can suck at, and lastly, isolate thoroughly all sick calves from the healthy ones. Do not handle healthy calves or their food after working with the sick ones until the hands and all articles likely to be contaminated in the hospital stall are well washed with antiseptic solutions.

For the sore mouths a little potassium permanganate solution in water used as a wash every few hours is good with salol in half drachm doses internally three times daily if diarrhoea is present, constitutes a good treatment.—J. A. R.

TO GET RID OF LICE ON CATTLE

Raw linseed oil is one of the best materials to use in treating cattle for lice. It is cheap and harmless if properly use. This oil is especially recommended for use during winter and under condtions such as our reader describes.

The oil is applied with a stiff brush having bristles of uneven length so that the hair will not become matted with the oil. The idea is to have the oil get to the skin and reach the lice. It is not advisable to rub vigorously when applying as this may cause the skin to burn. Neither must the animal be permitted to run out in the bright sunlight after oiling. The raw linseed oil and not the boiled or refined is the kind to use. The latter may injure the skin.

Four or five cows can be treated with a pint of oil for each treatment. The treatment should be repeated in from twelve to thirteen days and again in a month.

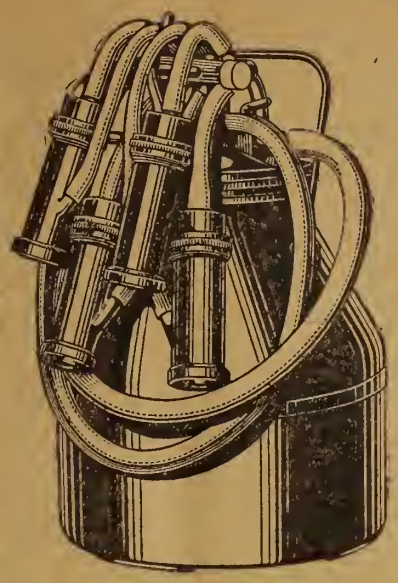
There are a number of dusting powders on the market under various trade names that can be used for treating cattle for lice but they are not considered by some authorities to be as effective as the oil mentioned above. Equal parts of powdered sabadilla or pyrethrum, sulphur and tobacco leaves makes a powder that can be sifted on the animals in cold weather as a makeshift until more thorough treatment can be given.

In addition to ridding the cattle of lice, the stables or stalls where the infested animals have been kept should be thoroughly cleaned and disinfected as a precaution against reinfection from dislodged lice and eggs. The littter and manure should be removed and the walls, flooor and all the woodwork sprayed with a good disinfectant.

Lice thrive during the winter when the hair on the cattle is thick and long. When the animals shed their old hair, the lice usually decrease in numbers or disappear entirely. For this reason treatment should be given as early in the fall as the presence of lice is noted. And the treatment should be thorough, the entire body of the animal receiving attention, even the inside of the ears, for a few lice left untouched will breed and soon reinfst the body again.

I have a pig that has all along done well, but about ten days ago it seemed to lose the use of its hind legs. It weighs about one hundred and forty pounds. It refuses to eat; I have been feeding it on whey, with oat and barley crop. W. J.

Your pig has been too well fed, with too little exercise. Barley should not be fed to pigs until they are about five months old. Your pig ration should include some green foods. You should let the pig have a free range for a while and withhold the grain ration. It will take a long period of time—if ever—for the pigs to regain its usual health, and at the weight of one hundred and forty pounds it might be the better policy for you to put him in the pickle barrel. If once a pig is overfed he will never consume as much feed thereafter as he otherwise would.



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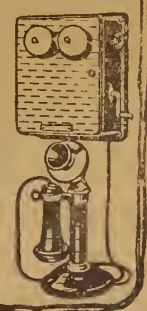

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THE HORSE

HOOF OF THE FARM HORSE AND TREATMENT IT NEEDS

About the foot of the horse much has been written, and it is safe to say that this part of the horse is less understood than any other. Furthermore it is the part of the animal that should exercise the greater part of the interest that all farmers or horse owners should take in their animals. The foot of the horse is so perfectly adapted for the purposes for which it is intended that it would be impossible to improve upon its formation. What weakness is found in the feet of horses is not due to natural causes but rather to the treatment they receive in their domesticated state. The conformation of the foot gives good indication of what the tendency of the animal's quality is for standing up or breaking down under heavy strain. Feet that might not be seriously objectionable, if the horse is to be used at slow work in the soft fields, might be totally unsuited to fast work on hard streets or roadways. Some horses have naturally erect hoofs and rather high heels. If allowed to develop naturally this type of hoof may not be objectionable, but they are often spoiled in the shoeing, the heel becoming so contracted as to cause lameness. On the other hand, there are feet that are flat and open at the heel, and the shell of the hoof so weak as to endanger the usefulness of the horse. The happy medium is to be found between feet that are too narrow at the heel and too erect, and those that are too open at the heel, and too flat and deficient in bony structure.

How Good Hoofs are Spoiled

Many animals that are born with good hoofs are found, when in the prime of life, to have their value reduced fully one-third, owing to the bad condition of their feet, through lack of intelligent interest being taken in them. In a case like this, even the selection of good footed parents in order to produce good footed offspring, will not overcome bad management of the feet of that well bred and well footed offspring at birth. In the management of the hoof, breeding right is the first duty, but it is not the only one. A colt born right, and of good inheritance must receive feet attention ere he finishes at the marketable stage to get the greatest value or is placed in the team in the fittest condition for hard work. Instead, not infrequently the colt is kept in the stable for half a year, and the feet consequently wear away but little. The place he has to stand on during that time is largely composed of his own manure and straw impregnated with urine. The ammonia thus generated stimulates the growth of the hoof, the parts that should be hard and firm are softened, and the frog of the hoof, that is soft and elastic in the best quality of hoof, is rendered abnormally soft and tender. This is the history of far too many horses, and animals that had by their birth the best chance in the world to become high-class animals. Abnormal growth in the hoof in winter confinement is one of the greatest known causes of subsequent diseases that arise in horses' feet when taken on for active service.

The Brittle Hoof

The most striking feature of the horse in domestication is the dry, brittle, and broken appearance of his feet at work in city or on farm. This is not natural to the horse. The hoof in nature is perfectly adapted to the animal's life, and the brittle quality of hoof comes by the usage they get in service. Time and again we have been asked the cause of brittleness in hoofs, and what to do to remedy the evil and restore them to natural growth.

There are many forces at work that cause the dry brittle hoof, and the broken and diseased condition that follows. Foremost among these is the general health of the horse. A hoof that is very much ringed and groved on the surface gives evidence of irregularity in the care and feeding of the animal. In stomach founder, the feet give the first indication by lameness, and when the attack is over a hard crusted ring is formed at the coronet, that remains till it is worn off by the growth of the hoof. Regularity of feeding, watering and exercise is the foundation for hoof building and any other artificial method cannot overcome the damage done by careless attention to the general health of the horse.

Among the duties included in attending to the horse, is that of the care of the hoof during sudden changes of condition and work that horses are liable to on the farm where severe work for a period is followed by a time that the horse is left to stand on a hard dry floor. The feet are transformed from a period in which perhaps a wet or damp condition has prevailed, as is found in the field or roadway, to a period in which the plank or cement floor of the stable keeps them in an overdry condition, in which the hoof slightly contracts. Even a few days' standing on a hard dry floor after a period of work is enough to damage the quality of the hoof. To modify this condition has not, as yet, become a practical science with farmers, and lack of this consideration tends to keep down the value of the horse, owing to his hoof condition. The front feet should be kept on clay, moderately damp, but not so damp as to soil the horse. Box stalls are best adapted for keeping the feet of horses in natural growth during idle days.

What Causes Hoof Trouble

The three causes of hoof trouble already mentioned, viz., selection at breeding, irregularity in feeding, and the alternate, wet and dry period, are all under the direct control of the farmer, but there is another cause that comes under the direct control of the blacksmith in the shoeing of the horse.

The hoof is developed by secretions from the coronet downwards. It consists in a pouring out of a plasma that forms a beautiful outer coating, that is almost impervious to moisture. The wall or outer covering of the hoof grows from the superior border to the inferior, and the increase of the wall being solely from above downwards, it does not require any reduction on its external surface. This natural coating of the hoof is all that is required, but some blacksmiths remove it with the rasp and then try to find a substitute in tar, oil or similar concoction. There is no substitute that can be found to take the place of the natural oily protective covering. When the natural oily surface is destroyed by the blacksmith's rasp, the moisture gets into the hoof rapidly and becomes too wet when exposed to wet conditions, and dries off as rapidly when dry conditions prevail.

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COOKSHIRE, Que. 101

about the very congested city districts where trucks will never be profitable on short hauls, the long winter months, in most northern sections, during which tractors will necessarily be idle, the hilly or even very rolling farms where too much power is lost in propelling the machine itself, it is clear that the horseless age is still very far distant. That the automotive industry is rendering a service to the country at the same time as it is piling up dividends is certain; that it will in time crowd the horse away from farms is not believed by anybody who has given the question serious consideration.

Drafters have always and will always be profitable to the breeders who produce them. But there are a large number of farmers who like a good general purpose animal, one that can be hitched to a carriage without looking out of place, and that can take his turn at farm work with a willing disposition, a fast walk, lots of courage and endurance. To pretend that draftes are the only class of profitable horses to raise is to go too far, just as it is not right to say that tractors or trucks are always the most economical for the farm or the city.

The old time French Canadian pany, as he was called, was admitted to be a little horse of iron. The first animals of this breed came to Canada from France where they were chosen amongst the best to be had. Through natural selection, by the survival of the fittest, only those remained which had the most vitality, enough to withstand the cold climate and the deep winter roads of their new country. This made of them a breed which can probably develop and keep on developing more power per hundred pounds of live weight than any other one. Their qualities were so well known that they were used to form certain families of the Morgan and of the Standard Bred, so that their blood is flowing in the veins of some of the gamest and fleetest horses in America. The Honorable Sydney Fisher has well said of the French Canadian: "He never gives out, it does not matter what he is at."

There are now four stallions with fifty mares and fillies, all pure bred and registered, at the Cap Rouge Station and at the new St. Joachim Horse Farm. These are used to study problems of breeding, feeding, housing and management. They form, it is freely admitted by all, the largest and best stud of the breed in existence to-day. One of the points towards which efforts are concentrated is the production in a fairly consistent manner, of a breed of horses weighing between 1200 and 1300 pounds, which may be used either on the road or on the plough, a low-set, thick animal, with a short back, a strong loin, giving him a general conformation whirh will make him an easy feeder and a sheap producer of power.

Whoever is interested in this class of horses will be quite welcome either at Cap Rouge or at St. Joachim. Both Farms are under the superintendence of the writer, who will be pleased to give by mail any information required by those who cannot visit the two above-named Farms.

Gus Langelier, Superintendent,
Exerimental Station,
Cap Rouge, Qhe.

WORMS IN HORSES

There are three different varieties of worms in horses each requiring a different treatment. There is the stomach bot, the intestinal worm, and the pin worm.

For the stomach bot and the intestinal worm give the horse twice daily in the feed a tablespoonful of a mixture of two parts of table salt, and one part of flowers of sulphur and dried sulphate of iron. Continue this for a week, then stop for ten days and repeat again for another week. Omit the iron for a pregnant mare and increase the salt and sulphur.

For pin worms that live in anus the treatment should be by injections up the rectum, and for the injection mix two drachms of turpentine in a pint of raw linseed oil. Do this every morning for a week. The injection will be aided by a purgative dose of five to six drachms of aloes, also by cleanliness and smearing the anus with mercurial ointment.

HORSE HAS THRUSH

I have a horse that is troubled with thrush. I am washing his feet out with warm water every day and dusting them with a solution of sulphate of copper. Will this treatment effect a cure.

Ans.—The treatment is incorrect, as frequent washing tends to aggravate thrush, or at least hinder healing. The disease is caused by the horse standing in wet and filth in the stable. Perfectly cleanse the stall, then keep it clean, dry and bedded with sawdust or shavings. Cleanse the cleft of the frog and on each side of it, and cut away all loose, under-run or rotten horn of frog or sole. Then pack into the cleft of the frog and other crevices a mixture of equal quantities of calomel, powdered alum and tannic acid, and cover with pine tar and oakum. Remove the packing once daily until well.

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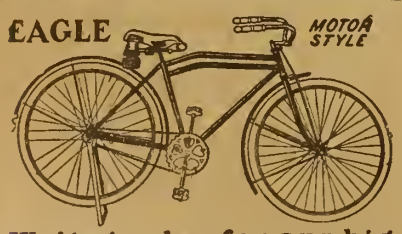
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POULTRY.

MARKETING POULTRY

I seriously regret my inability to appear before you to-day, not only because it is my first opportunity to meet the membesr of the Farmer's and Dairymen's Association in convention assembled, but because of the great world-wide interest being taken in marketing problems to-day. Never before in the history of any industry was so much interest directed to the marketing end. And rightly so. That applies even more so in regards to poultry and poultry products in New Brunswick than to any other industry.

The Future of the Industry

The whole future of the poultry industry in New Brunswick hinges on two points. The one is economic production through stock improvement, proper care and management, and early hatching; the other is the marketing of our poultry products so as to conserve that quality and flavor which is nature's contribution, and give as great a remuneration to the producer as is possible.

As to the former I shall say nothing, except that it is being taken care of very ably by Mr. A. C. McCulloch, Provincial Poultryman. Through Mr. McCulloch's wide experience and his acquaintance with breeders and breeders' strains, he has been able to introduce into New Brunswick a strain of Rocks that is second to none in Canada. As to the latter I'll have more to say.

When to Market Fowl

The first problem in marketing is one that is allied very closely with the production end of the industry, and that is the marketing of fowls during latter June, July and August. Investigations in the industry have made such progress during the past five years that it is now possible to pick the profitable hens from a flock and discard unprofitable ones. After a hen has gone through a winter's production, certain observations, such as lack of yellow pigmentation in the shank, dry, harsh plumage and flexibility of the egg sac signify that she has been a producer. On the other hand the hen that passes through a winter's production with yellow pigmentation in the shank, a fresh, loose oily plumage, and a fleshy egg sac has in all probability been a loafer and not a layer. Now, when you consider that during June, July and August the price of such fowl is usually the highest of the year, it seems rather logical that that is the proper time to market. You have the best opportunity to apply the observations referred to, the price is at its best, you save further expense of keeping non-producers and instead of perpetuation a non-producing flock you can weed out the poor layers and gradually build up your flock.

Dressing for Market

There is another problem and a very important one confronting the people of New Brunswick, both consumers and producers. That problem is the mareting of poultry scalded and drawn with heads and feet off, as is being done at the present time. The skin was put on the bird for the same reason it was put on man—for protection. Once you break that skin you expose the flesh to whatever destructive decay or disease bacteria with which it may come in contact. When you open the body cavity of the bird and remove the crop, the whole interior is exposed. Nature never meant it to be exposed. If you expose it not only do you render it liable to the contamination of disease producing organisms of the atmosphere, but you detract from the flavor and wholesomeness of the flesh.

You take the case of disease itself. The head is a bird's health certificate. The internal organs are the seat of disease. Chicken pox appears on comb and wattles; tuberculosis attacks lungs and intestines; black head attacks liver and intestines. But when the head and the internal organs are in the garbage can and the carcass is on the market, how is the consumer to know he eats a healthy bird?

Other provinces outside New Brunswick and Nova Scotia market their poultry bled in the roof of the mouth, dry plucked, undrawn with heads and

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feet on. Boston and other American markets demand them undrawn. Then the development of the industry in New Brunswick depends on the method of dressing. When we can produce more than will supply our home demand—and that time is not far distant—we will have to look to outside markets. Outside markets demand poultry undrawn, so it becomes essential that New Brunswick supply it undrawn.

What About Eggs?

A nation's greatest market is its home market. Canada produces over 165,000,000 dozens of eggs. She exports only a few million dozen. Our problem is to look after home marketing and our export trade will look after itself. We, in New Brunswick, do not need to worry about export because so far we are importers of eggs. We are not self supporting in our egg trade. We import from other provinces, and the only figures I can obtain of importations go to show that we are importing storage eggs and the lower grades of fresh eggs, which are being retailed out as fresh eggs. The egg, of course, is a commodity which no manner of storage or handling after it is laid can improve its quality. The egg is not like cheese. It does not improve with age. Then the problem is to get that egg from the producer to the consumer, with as much despatch as possible.

Our Present System

Under present conditions where every farmer keeps a few hens, no one has enough eggs to make it worth while to market regularity. Eggs are kept two or three weeks and then they are marketed at the local store. The store-keeper has no cold storage as a rule and eggs are liable to deteriorate in his keep. So it is all along the line. The quality deteriorates as the egg goes on its journey. We cannot help that, but we can shorten the journey.

At present eggs are bought at a flat rate per dozen regardless of quality. A dozen rotten eggs bring as much money as good eggs. Who knows what is inside the shell? There is no incentive for the producer to take better care of his eggs. But you go into a store and everything you buy you buy according to quality. You pay according to quality.

The Solution

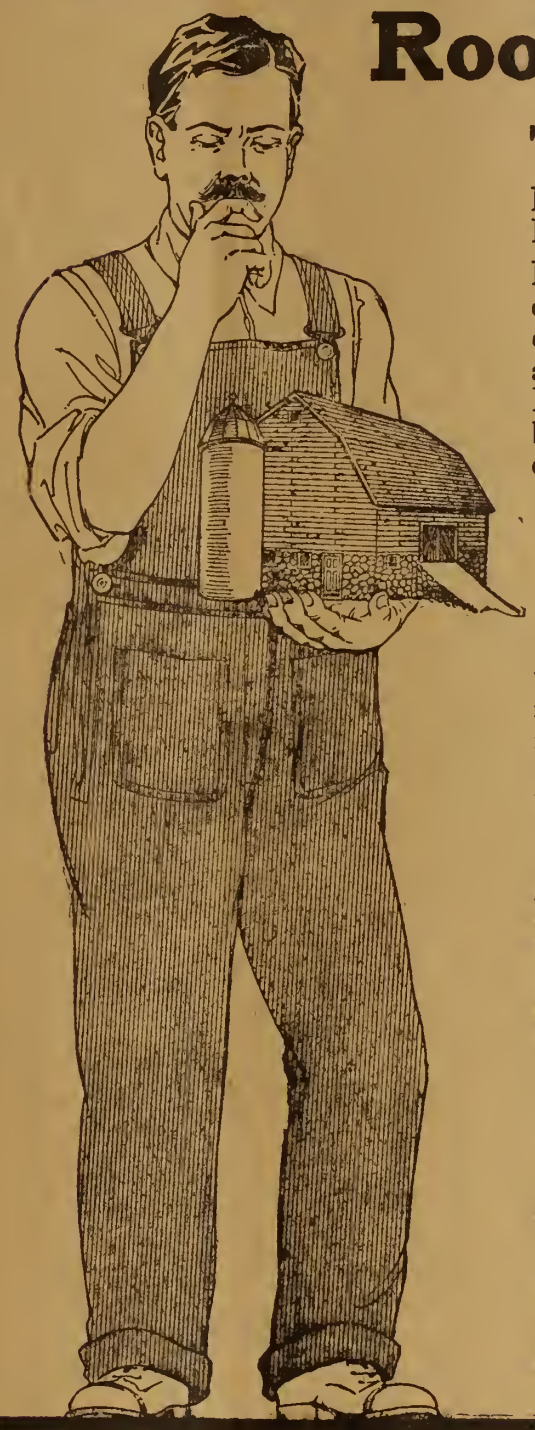
The problem then is to get volume of eggs sufficient to make regular frequent marketing possible, and to have quality payment so as to induce better care of eggs on farms and in transit. The logical solution seems to be organization of Co-operative egg circles. An Egg Circle is simply a local organization with a manager who collects the eggs from the farmers door weekly and markets them to the best advantage possible. That gives quantity sufficient to make regular marketing practical and gives the man with a few hens as good a chance as the man with many. As organization goes on we would, no doubt, have volume enough to start a candling station as is operating in Prince Edward Island. Then we can see what is inside the shell and pay the producer for the quality he produces.

Conclusion

To you men here assembled in convention let me say this. The marketing of your produce is your problem. It is not sufficient for you to listen to addresses from this platform. It will avail you nothing if you do not act for yourself. Let me ask that you consider the marketing of your poultry products in your own section and if any suggestion I may have dropped will apply by all manner of means apply it. We must have your co-operation in our work. Your markets have to be improved. When a suitable market is available, production usually looks after itself.

GEO. R. WILSON.

Paroid Solves Your Roofing Problems



TO receive roofing satisfaction whether on a Barn, Warehouse, Railroad Building or large Industrial Plant, consider the following points.

Roofing must primarily give continuous service under every weather condition. It must be easily laid—adaptable to every description of roof. Further, roofing once laid should not become a liability through requiring constant repair.

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withstands hard and continuous wear, and is adaptable to all roof surfaces. Cheapness of first cost, as compared with wood and metal shingles, or slate, and economy of maintenance are some of its principal features.

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NEPONSET ROOFS

INCUBATION AND BROODING OF CHICKS

(Experimental Farms Note)

Which is it to be, hens or incubators? If less than 100 chicks are to be hatched it is not generally considered advisable to buy an incubator, but if more than that number are wanted it is almost a necessity to have an incubator. If hens are used, select only birds that appear to be determined to set and are not clumsy or nervous on the nest. Do not allow hens in the same pen with setters. Be sure that your hen is perfectly free from all vermin and see that she has a supply of fresh water and some whole grain every day.

If artificial methods are used, a well ventilated cellar with a fairly even temperature makes a suitable location for the incubator. Buy a well-made machine of a well tested make. Study the general directions sent with each machine and have it started several days before trusting the eggs to it.

The first essential of a good hatch whether under hens or in incubators. is to have eggs from healthy, vigorous breeding stock. The fresher the egg the better chance of a good hatch. Select only eggs of a normal size, discarding all rough, uneven, thin shells or any peculiar or abnormal shape. Do not allow the eggs to become chilled before being set. Give the hens or incubators a fair chance with good hatchable eggs and under most conditions they will produce good healthy chicks.

To be successful in the brooding and rearing of chicks requires constant care and attention to details. If chicks are hatched by hens, let the hen remain quietly on the nest until the chicks get so lively that they insist on leaving it, then remove the hen with her brood to a coop previously prepared for her. All coops should be thoroughly disinfected before use each season and also between broods.

A hen should be given no more chicks than she can keep comfortably warm. The artificial method requires a brooder so made that it will be possible to produce and hold heat enough to provide for the comfort of the chicks in any weather, easily and well ventilated. The chicks should be left in the incubator until perfectly dry and great care must be taken to avoid chill in changing them to the brooder. The brooder must be almost the same temperature as what they were accustomed to in the incubator for a start. Extremes of heat or cold are very disastrous.

Chicks require no food for 48 to 60 hours after being hatched, as a chick when it leave the shell has a sufficient supply of nourishment to last it for several days. Feed small quantities

(Continued on page 554)

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Shbjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N. B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

ARE YOU ONE?

There are people in the world who have the gift of finding joy everywhere and of leaving it behind them wherever they go. Their influence is an inevitable gladdening of the heart.

WHEN LOVE CAME TO PEGGY LOU

By May A. Feehan

(Continued from last issue)

THE STORY

When John Charles Turner was four years old, he prayed for a baby sister. Imagine his joy, then, when one day his father came down telling him he had a new baby sister up-stairs. Peggy Lou grew into a beautiful girlhood and then was taken with a terrible fever which threatened to make her a permanent invalid. She recovered sufficiently, however, to be carried down every day to the big front porch, where a sort of shrine had been established for her. This was called Peggy Lou's Corner. A great many friends came here daily to worship at Peggy Lou's shrine.

DR. GORDON became a frequent caller at Peggy Lou's corner. Dr. Thomas' practice was not large, and just now, there was little sickness in Terella. Peggy Lou found Dr. Gordon delightful; she encouraged him to talk of his work in Louisville and surprised him by her knowledge of just such subjects—her family had not been able to stifle her in her reading, thank heaven for that. Leaving the corner, Dr. Gordon wondered at himself; egotism was something he despised and yet, for the better part of a morning, he had been discoursing on Philip Gordon, M. D.

"I really never did this before," he laughed one day. "I believe it is your fault; you are a witch, Miss Peggy Lou!"

Peggy Lou smiled happily, a warm glow at her heart. No man had ever called her that before in just that tone—Something woke in Peggy Lou. That night in bed, she wished more than ever that she could be like other girls, could go to dances and stroll at night under the big, spreading trees and, in her pictured strollin, alas, her companion was not John Charles!

There was one strange thing about Dr. Gordon. Peggy Lou spoke to John Charles about it.

"He never waits on me; he's lax almost to rudeness. I dropped my handkerchief today and he let me pick it up myself and when I wanted to show him an article in a magazine I had to reach to the table for the book.

"That is strange, for he seems a nice fellow; I like him," John Charles said. "Perhaps he just doesn't know—"

But Peggy Lou did not agree. "No, it isn't that; he is most courteous to everyone else; I don't understand it."

Peggy Lou received many just such shocks and, at times, was reduced almost to anger that she was obliged to wait on herself when Dr. Philip Gordon called. Even Mammy Turner failed to appear to look after her "honey chile."

"I go out on that veranda with that loctor a'sittin' a'frowin' at me? Not this yere nigger," she announced to her clientile in the kitchen. He's a bad man." She had never seen a doctor like this.

Dr. Gordon attempted to suggest that Peggy Lou exert herself; he even proposed her taking a few steps one day, to Peggy Lou's dismay.

"Please don't ask me,' 'she begged hating to refuse him. "I did it once. I really am not able; my heart, you know."

Dr. Gordon wisely said nothing, but Susie McAllister calling at that moment, he devoted himself to her and took his departure when she did. Peggy Lou, with a tightening round her heart, looked after them as they strolled homewards. Susie was said to have a way with the men, and, watching them as far as she could, Peggy Lou even sat up unaided the better to see; Susie was living up to her reputation, for Dr. Gordon was looking down at her, laughing at her remarks.

IT was Peggy Lou who that night announced to her family that she intended having Dr. Gordon examine her heart. Dr. Gordon said nothing when John Charles called during office hours and repeated Peggy Lou's request, but he had difficulty in repressing a smile.

The next morning as he went up Maple Street and entered the Arnott gate, he was aware of an uncanny stillness. Peggy Lou's corner was vacant and Mammy Turner, trembling of hands and wildeyed, opened the door and whispered that "The fambly's up in Miss Peggy's room."

"What's wrong, any one dead?" Dr. Gordon questioned cheerfully.

"Ain't nobody dead, it's the examination." Mammy Turner broke into loud weeping and fled toward the vicinity of the kitchen.

"Great Jumping Jehosophat!" the doctor mumbled as John Charles, hearing his step on the stair, quietly opened the bedroom door. On the bed lay Peggy Lou; beside her, holding her hand, sat her mother, while the Judge filled the same offce on the other side of the bed and all about was th stillness of death.

"Hello, everybody," the doctor said unceremoniously, "what are you doing up here? You should be down in Miss Peggy Lou's corner this beautiful day."

Whispers were his only answer, and attepmted further remarks in conversational tone brought forth such subdued replies that the doctor, to his disgust, found himself imitating his audience. His examination was very brief, then he looked about him. At the mother, sitting beside Peggy Lou, a monument of complacent martyrdom; at the Judge with his satisfied expression of "I told you so;" at ohn Charles hanging breathless over the foot of the bed with Mary Cleveland close beside him. Dr. Gordon swallowed hard and prepared for the storm.

"You know what is wrong, don't you?" he said shortly. "Nothing is wrong!"

He expected an avalanche of protest, a storm of remonstrance, and his anger rose at the sight of the pitying incrdulity which smilingly appeared on the face of every one of the five in the room. Would nothing rouse these people! Well, he would save Peggy Lou in spite of them, in spite of herselm, lying here and smiling at him with her big eyes as though to say, "You poor dear, you are very nice and I like you, but as a physician—!"

Dr. Gordon could be brutal if necessary. He looked at them again and glanced once more at Peggy Lou—he would fight for her if necessary—His heart smote him; he was going to hurt her.

"Miss Peggy Lou is just too lazy to live!" He snapped out the words.

There was a terrible pause, a pause so long that Dr. Gordon counted the toilet articles on Peggy Lou's dressing table twice. The pause was broken suddenly, broken by a great sob from Peggy Lou. Mrs. Arnott, with a look of hatred at Dr. Gordon, gathered Peggy Lou against her breast while Mary Cleveland ran to the bed and encircled them both with her arms. Judge Arnott fairly towered in his anger.

"I shall ask you to leave my house, sir," he said, pointing an accusing finger at the door which John Ccharles held open, looking past the doctor, who made as graceful an exit as possible under the circumstances. But he was far from pleased, even though he reassured himself that he had done the only thing possible: roused these people to anger, for Dr. Gordon knew that action often followed once anger has cooled. But Peggy Lou's sobs followed him, dear little Peggy Lou of whose head he would not harm one hair!

Old Dr. Thomas was much worried that evening to find that his nephew ate nothing and started nervously whenever the telephone rang.

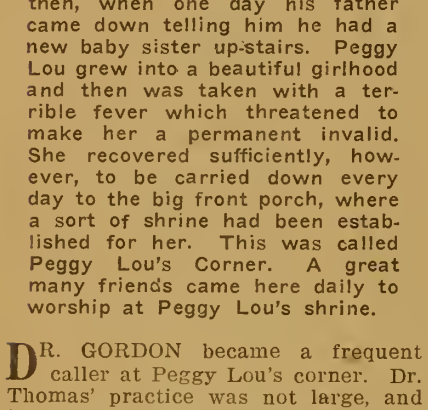
The next morning's mail brought a check for professional services from Judge Arnott which Dr. Gordon promptly destroyed, and he heard nothing further until, sitting quietly reading some evenings later, old Dr. Thomas having retired early, he was startled by the figure of John Charles in the doorway. John Charles was much embarrassed, so much so that he disturbed the equanimity of the older man, who managed somehow to push John Charles into a chair and take his hat.

"I—she—that is, we, owe you an apology for the other morning; we shouldn't have been so—" John Charles began nervously, to be interrupted by the doctor's laughing, "Nonsense, I didn't blame you one bit!"

That was all that was said, even though John Charles remained some time, the doctor realizing that John Charles wished to say more but forestalling him with one anecdote after another of his Louisville experiences. As his visitor rose to go, Dr. Gordon remarked. as though the eventful heart examination had never taken place:

"Please tell Miss Peggy Lou the book I promised her has arrived and I shall be up with it in the morning." And at the brightening of John Charles' face Dr. Gordon learned the reason for this unexpected visit. If his heart beat faster as he stood in the doorway watching John Charles' slim back disappear in the moonlight, it was but natural. Peggy Lou wanted him to come back. John Charles, with al lhis attempted subtlety, had let that fact slip. Only a request from Peggy Lou would cause John Charles to humiliate himself. A strolling couple caught the doctor's eye and he looked after them dreamily, wishing that he, too, were walking under the shadowing trees, but the companion of his little romance was not Susie McAllister.

And the world revolving around Peggy Lou's corner went on its untrammeled way, apparently. In reality there was an undercurrent of change there. Judge Arnott caught himself, more than once, looking at Peggy Lou critically, a wondering in his mind, dismissed as disloyal almost as soon as lodged there, if she might exert herself a little more. Mary Cleveland, catching that glance, flushed guiltily. Mrs. Arnott worried an



ROYAL YEAST CAKES

are now packed in square packages. Each package contains five cakes, which are equal in quantity to six round cakes. All dealers are authorized to guarantee that the quality of the round and square cakes are identical in every respect.

entire day because Peggy Lou, in bed that morning, had insisted on sitting up and aranging her hair herself, using as her guide a New York magazine. Later in the day, hearing Dr. Gordon's praise of the new style rather than the old fashioned of two braids down her back, Mrs. Arnott was enlightened, but she worried all the more and shed many bitter tears for poor Peggy Lou who could never marry.

To John Charles everything was the same, everything peaceful and happy. Mary Cleveland had extended her visit another month. If marriage was not for John Charles, at least he could look at Mary a whole month longer; he loved to look at her, to watch the play of light on her hair, to see her faice brighten at his approach. Peggy Lou saw these things, too, saw them and grew more determined.

Yes, everything was the same to John Charles until one night, fearing burglars in Peggy Lou's room at the sound of stealthy movement, he quietly tiptoed and looked in the door. John Charles received a shock. Peggy Lou was walking! Clinging to the foot rail of the bed, it is true, but taking uncertain steps, now the length of the foot rail, now back. At John Charles' whisper of astonishment she sank to the floor but when he, terror in his heart, reached her, Peggy Lou was not fainting, she was laughing! John Charles' world tumbled about his ears.

"Don't tell anyone, don't tell," she begged, between laughter and sobs. "He said I was too lazy to live. Well, I'l lshow him."

"But little sister—" John Charles began as he helped her to her feet.

"I've been walking for a month. At first I was terribly frightened, I crawled to the foot of the bed and touched one foot to the ground like a swimmer testing the water in a pool; then I stood up, hold to the foot of the bed—"

"You brave darling, why didn't you let me help you?" John Charles interrupted.

"When I found I dd not faint, I got in bed again and lay there shaking. The next night I took one step forward and one back and knew that I could walk. The tenth night I found myself at the middle of the footboard and realized that I should have to go on in order to reah my pilloy again. I have been a month doing this, John Charles, but I'm not too lazy to live, am I?"

A great light broke over John Charles. Little Peggy Lou in love—it was preposterous! Why Peggy Lou was a baby, a little round thing of filmy white dresses and dark, bobbing culrs. He looked at his sister in a new way, a feeling almost of fear at his heart; his little sister in love!

"I'll not tell a soul, I promise you, and I shall help you tll I can," he told her. "Do you think we could have Mary in on the secret? We could come up here every evening," he begged wistfully.

Dr. Gordon caller often, and less considerate than Stewart Blackman or Jonhson Bridges, he did not arrange his visits so as to avoid conflicting with their days. Stewart, hotheaded and truly Southern, amazed John Charles when they met at the noon hour, by railing and storming at the doctor, while Johnson Bridges, driving his car viciously out the Calvert Turnpike, complained bitterly that, "Hang it, I like the fellow, but he's been there the last five times I've called, and, for all I know, is planning to be there for five times more."

Yes, Dr. Gordon called often and rode rough-shod over the visitors. It was not that he was rude or said anything; he said very little and was polite to a degree; he even teased Susie McAllister, pulling her three bobbing curls. Peggy Lou caught herself wishing that the curls would come off and show Susie's artificial nature. Then realizing that she herself was a wretch, she repented promptly and punished herself by begging Susie to remain and have dinner with her in the corner, the reward for this virtuous act being a heavy scowl from Dr. Gordon which fortunately Susie did not see. As a result of such cavalier behavior Dr. Gordon was not asked to stay and he certainly expected an invitation. But he needed a lesson; he was becoming entirely too masterful.

"Have you always got everthng you wanted?" Peggy Lou asked one morning after Stewart Blackman left an hour earlier than usual.

Dr. Gordon laughed heartily.

"Caught in the act," he confessed. "How did you guess that I have been sitting here wishing Stewart away? I am beginning to believe that you are a mind reader, and I, something of a hypnotist."

"You are a dreadful person. I am

Spanking Doesn't Cure!

Don't think children can be cured of bed-wetting by spanking them. The trouble is constitutional, the child cannot help it. I will send **FREE** to any mother my successful home treatment, with full instructions. If your children trouble you in this way, send no money, but write me to-day. My treatment is highly recommended to adults troubled with urine difficulties by day or night. Write for free trial treatment.

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Do Not Neglect The Bad Cold OF TO-DAY IT MAY BE SERIOUS TO-MORROW

May Develop into Bronchitis, Pneumonia and perhaps Consumption.

Miss Mary Prouse, R.R. No. 1, Cedardale, Ont., writes:—"I had the Influenza in November last, and it left me with a terrible cough. I did not attend to it until it got so severe people warned me it was time to see about it. I went to the doctor and got some medicine. He told me it was a bad attack of bronchitis. I could not sleep, and would have to sit up nearly all night, it was so difficult for me to get my breath. The doctor's medicine did not seem to be helping me the least bit.

One of our neighbors came in one day, and told me about Dr. Wood's Norway Pine Syrup. I tried it and took two bottles. No person could believe how it helped me. I have recommended it to different people since, for I believe I have reasons for doing so.

Dr. Wood's Norway Pine Syrup has been on the market for the past 30 years, and stands out by itself as a remedy for all coughs and colds.

Be sure and get the real "Dr. Wood's" when you ask for it. Put up in a yellow wrapper; 3 pine trees the trade mark; price 25c. and 50c.

Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

beginning to believe that I am afraid of you; you may try your arts on me," Peggy Lou said, to be silenced by Dr. Gorodon's "I wouldn't harm you for the world, little Peggy Lou, you know that."

He Has Tried Them And Got Results

WHY J. A. MacLEOD PRAISES DODD'S KIDNEY PILLS

Nova Scotia Man Gives the Reason Why He Advises Sufferers from Kidney Trouble to Use Dodd's Kidney Pills.

River Dennis, N. S., April 27th. (Special.)—"Dodd's Kidney Pills helped me wonderfully. My back is better and as I haven't taken any other medicine since starting to take them, they must have done me a lot of good."

In these words Alexander J. MacLeod, a well-known resident here, gives his reason why he praises Dodd's Kidney Pills and why he says, "I would advise anybody who has kidney trouble to give Dodd's Kidney Pills a trial."

The reason Dodd's Kidney Pills are popular all over Canada is that the people have tried them and found them good. Dodd's Kidney Pills have been in use in Canada for more than thirty years. They have been used by thousands of people suffering from various forms of kidney trouble, such as rheumatism. dropsy, sore back, weakness, diabetes and Bright's disease.

Ask any one of these thousands to give you his opinion of Dodd's Kidney Pills. It is on the relief afforded sufferers from kidney trouble that Dodd's Kidney Pills have built their reputation as the soveriegn remedy for sick kidneys.

He had never called her Peggy Lou before nor talked in that tone of voice. Peggy Lou feared that he could hear the beating of her heart or that its vibration would shake her off the couch on the veranda floor. He no longer said Miss Peggy Lou. She wanted to sing but it would never do to let Philip Gordon know her joy. Philip! What a good sounding name it was! Peggy Lou decided that she loved it and was about to comment on it when something she saw in Dr. Gordon's face made her say hurriedly:

"But you haven't answered my questoin." Still dangerous ground, but one had to say something.

Dr. Gordon settled back in his chair and smiled as though to say:

"I see through you, young lady, but thre's another day coming." Then he suddenly leaned forward.

"No, I haven't had everything I wanted. Some people might say so, but the biggest thing in life has been denied me—a home! I haven't had a home since I was ten years old, almost too long ago to remember. And I do want one. You can't imagine how I haev pitcured my home; my desires are modest. I don't want a marble palace," he laughed. "I want a little house, all on one floor, with great windows and a wide veranda all round, and inside I want pretty hangings. You know, the kind that women know how to buy, roses and things like that in the pattern. I want lamps with soft, rose-colored shades all over the place. I've always liven in a man's rooms; now I want something different. I must have a big open fireplace, too. It grows cold here during the winter, doesn't it," he asked anxiously.

Peggy Lou's heart sang, "He is going to stay in Terella; he is going to stay," but she answered his question quietly:

"We haev very cold weather sometimes.

"That settles it," Dr. Gordon said happily. "Now my house is furnished."

"But you haev forgotten chairs and tables and pictures and—and other things," Peggy Lou said, vainly trying to think just what people did buy in order to furnish houses.

"That can wait. I am going to buy the house tomorrow."

"You intend to stay in Torella?"

Dr. Gordon looked off toward old Dr. Thomas' house, the red roof of which could be seen through the trees. "Yes, I'll not leave him," he said. "My house is to be the one just next door to his, the old Johnson place. Dr. Thomas s much improved now, but he has lived alone so long with old Mary to look after him, that I feel that I bother him, but the ideo of having me near him is a joy to him, I know. The dear old gentleman can't live many years longer, another stroke will mean the end, and I shall feel safer nearer him. No, I havent't had everything I wanted, Peggy Lou," (again he forgot the Miss, to Peggy Lou's joy) "but now I have a home planned and—and—no, I haven't everything I want—" he swallowed the remainder of the sentence.

And for the first time in her life Peggy Lou wished that John Charles did not come home so early at noon.

John Charles looked after Dr. Gordon as he hurried away.

"Funny fellow, Gordon. Sometimes when I come home he appears to be delighted to see me, just now he looked as though he could wring my neck. Where's Mary?" he asked suddenly changing the subject to Peggy Lou's relief, and went off singing and calling for Mary Cleveland.

It was late afternoon a week later that Susie McAllister rushed up the steps and fell into a chair in Peggy Lou's corner.

"Oh, Peggy Lou," she gasped, "I am on my way home from the club but I just had to stop to tell you, Dr. Gordon is going to live in Terella.

Isn't it grand! I just met him; he is having the old Johnson place fixed up and he wants me to come ond see it in a few days. He was on his way there now to open boxes, lamps and things," and Susie was off, but she stopped on the lowest step to call back, "You look darling in that new dress, Peggy Lou."

Peggy Lou's lip curled as she looked after Susie, the three bobbing curls fairly bouncing under Susie energetic heels. Susie McAllister see that house fiarst; see the lamps with rose-colored shades, select the hangings with roses and things like that in the pattern—! John Charles roadster was at the curbstone. Many a night recently, John Charles had helped her to the car and togefher with Mary Cleveland squeezed in the seat they had ridden far out on the Calvert Turnpike. John Charles had taught her to start the car and stop it.—Susie McAllister might think she was going to see the house first—!

Peggy Lou clung to the railing as she went down the front steps, but the low car offered no difficulty in getting in. She looked up at the win-

Live To Old Age in Comfort

Much care is advised to men and women who are just turning forty.

At forty, many ailments that have lain dormant, become active. Kidney and bladder troubles show themselves, and it is only through exercising great care and caution can these dread diseases be overcome.

At the first sign of pain in the back, or across the groins, or when dizziness, constant headaches, swollen joints, rheumatism, sciatica or gravel bring suffering or discomfort take

Gin Pills FOR THE KIDNEYS

Gin Pills, taken in time, will prevent serious complications. They strengthen weakened kidneys, relieve congestion, soothe inflammaton, and help the vital organs to purify the blood so that the poisons, uric acid and waste are duly elimiaated.

Gin Pills contain no alcohol. Their great efficacy depends on the valuable principle derived from the Juniper Berry, which, combined with seven other valuable diuretics and antiseptics, result in a pill that is, we believe, the best ever prepared for allaying the pain caused by deranged kidneys.

Get Gin Pills from your druggist or dealer—they are sold for 50c. a box—with a money-back guarantee.

Free sample sent on request to

THE NATIONAL DRUG & CHEMICAL CO. OF CANADA, LIMITED, TORONTO

U.S. Address: Na-Dru-Co., Inc., 202 Main St., - Buffalo, N.Y.

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dows of the house; no one saw her go. Fearfully she did as John Charles had taught her and almost screamed as she felt the wheels turn under her. It was amazing and exhilarating the way she turned the corner into Main Street. Peggy Lou increased the speed and droev down the street so quickly that people looked after her; no on recognized her and a report went around that a new and wonderfully good-looking girl was visiting in town.

If she shouldn't be able to stop! Visions of riding, perhaps for days, until the gas would exhaust tself, rose before Peggy Lou. But no, the roadster behaved beautifully; it came to a halt just at the gate of the Johnson place. Peggy Lou timidly opened the gate and went into the yard, a yard rather tumbled and torn but with great possibilities of being a perfectly proper garden some day.

As she neared the low, rambling house, fear overtook her; she could think of nothing to say, and was about to turn back when a vision of Susie and Susie's bobbing curls rose up before her. Susie McAllister see that house first! Not while Peggy Lou had breath left in her body!

Once in the hall she paused, then the sound of a whistling and of the prying open of a wooden box turned her footsteps towards the second room. She made no noise and stood for some time watching Dr. Gordon. He had a rose-colored lamp shade in his hand and was holding it up to the window so that the rays of the setting sun shining through it sent a warm glow into the unfurnished room.

Peggy Lou watched him lovingly, then "Hello!" she said suddenly.

Dr. Gordon turned, recognizing the sound of her voice, incredulity on his face; his mouth opened but no words came.

Peggy Lou gave a delightful little giggle.

"Aren't you glad to see me?" she said demurely. She had read that in a book and she thought it sounded well, gave one the mastery, as it were; but when Philip Gordon started toward her, a great light breaking over his face, terror seized her; she wanted to run.

"You said I was too lazy to live and I am not. I've knit for the Serbians, made clothes for the Belgians and—and Susie McAllister said you were going to show her the house! I just wouldn't let her see it first—"

But Philp Gordon's arms were around her by this time and Peggy Lou's remarks, her laughter and her half sobs, were lost in his embrace.

"Oh, Peggy Lou, darling," he said as he held her tighter, "then you did learn to walk for my sake?"

An hour later, with rose-colored lamp shades, and hangings with roses in the pattern scattered about them, they still sat on the same packing box talking things over.

"I think this chintz will look best in the dining room," Peggy Lou's voice could be heard. "Oh, Philip, my dear, when I think of the years I have wasted! If it hadn't been for you, I never should have learned to walk," and she sat up closer to him.

"Never mind, darling," Philip Gordon comforted in just those ways in which a girl loves to be comforted, "we can work together. I have the most wonderful plans and you must help me. Those poor children in Louisville—I think of them so often. My plan is this—to get the ground next here, put up some sore of barracks and bring these city youngsters down here in the summer."

"What's that tall box?" Peggy Lou demanded irrelevantly, not without first, however, giving Philip's arm a squeeze to assure him of her help and sympathy in his philanthropy.

"It's a victrola and in the other box are records. Peggy Lou, let's have a dance this minute, a house warming." Philip laughed boyishly as he attacked the casing around the victrola.

The six o'clock whistle blew but they did not hear it, nor were they conscious of the fact that John Charles and Mary Cleveland, having met down town and taking the longest way home past the old Johnson place, were standing spellbound beside John Charles roadster.

"You had better wait here for me, Mary," John Charles cautioned as he quietly started up the walk.

But Mary Cleveland would not wait. If John Charles was to be murdered by auto bandits, she wanted to be murdered too. As they tiptoed up the steps the sound of a victrola rather dissipated the burglar theory. A girl's laugh came to them through the open window. Mary Cleveland gasped.

"It's Peggy Lou," she whispered.

"Nonsense!" John Charles whispered back. "How could Peggy Lou—"

The victrola had stopped and Mary and John Charles looking in the window saw a strange sight. They saw a flushed Peggy Lou fall happily on a large packing box; they saw Dr. Philip Gordon sit beside her and slip his arm around her; and they saw Peggy Lou fit herself into the hollow of that arm as if this were the twentieth time she had done it instead of the second. John Charles was about to speak when Peggy Lou's voice floated out to them.

"I am so glad that you love me, Philip dear, because I love you, that's first, of course; but John Charles loves Mary Cleveland; he loves her very much, but he won't ask her to marry him—he feels that he shouldn't leave me. And Mary Cleveland loves John Charles. I know because she told me so. And now," she added shyly, "we can have a double wedding, can't we?"

The eavesdroppers started guiltily. Then as Mary Cleveland attempted to slip her hand from John Charles', she felt his grasp tighten. Together they tiptoed down the steps again, and by common consent, sat down on the lowest one.

"Is that true, Mary Cleveland, what Peggy Lou has just said?" John Charles asked in a trembling tone.

Mary Cleveland turned her face away from John Charles but that availed her nothing, for John Charles quietly got up, stepped behind her and sat down on her other side.

"It is useless for you to turn from me, Mary," he said gravely, "for each time you do, I shall cange my position and—"

Mary Cleveland buried her face in her hands, then she suddenly looked

Food Value and Appetizing Flavor *pledged by this trademark*

BEAVER MILLS — PATENT FAMILY FLOUR — MANITOBA — BLEND — Chatham Ont. — THE T. H. TAYLOR CO. LIMITED

WHEN you buy Beaver Flour you obtain flour that is ideal for all baking purposes—flour containing the food value and wondrous richness of the world-famed Ontario Winter Wheat, combined with the strength of Western Hard Wheat.

For 50 years Beaver Flour has been daily proving to Canadian women that it contains the qualities which make bread, pies, cakes and pastries that are real food treats.

Bakings made with Beaver Flour have that light, fine, even texture and crispy, flaky crusts—sought after by all conscientious, good cooks.

Beaver Flour is the old reliable blended flour, used for half a century by thousands of Canadian housewives.

Profit by the experience of others. Improve your bakings by using

BEAVER FLOUR

Sold by your grocer. 233

THE T. H. TAYLOR CO. LIMITED
CHATHAM ONTARIO

A MESSAGE TO WOMEN!!

LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.

Mrs. M. Summers, Box 309 Windsor, Ont.

I was cured of Acute Bronchitis by MINARD'S LINIMENT.
Bay of Islands. J. M. CAMPBELL

I was cured of Facial Neuralgia by MINARD'S LINIMENT.
Springhill, N. S. WM. DANIELS.

I was cured of Chronic Rheumatism by MINARD'S LINIMENT.
Albert Co., N.B. GEO. TINGLEY.

COOKERY COLUMN

COCOA BISCUIT

2 cups flour
4 teaspoons baking powder
½ teaspoon salt
2 tablespoons sugar
4 tablespoons Cowan Cocoa
3 tablespoons butter
2/3 cup milk

1. Mix and sift dry ingredients.
2. Rub in the butter with the tips of the fingers.
3. Add milk gradually, mixing to a soft dough.
4. Toss on floured board.
5. Roll lightly to one-half inch in thickness, cut into small biscuits.
6. Bake in a hot oven 12 to 15 minutes.

up and smiled at John Charles.

"Oh, John Charles," she said with a catch in her voice, "you are the quaintest, the funniest, but the very dearest boy in all this world!".

* * *

And whether it was the wind or whether it was not, a sigh of contentment passed gently over the old Johnson house; a happy sigh of thankfulnesss that the lonely, empty days of these many years were to g've way to days of young life and laughter. Of merry voices in the rooms and soft laughter on the stairways; of evenings rid forever of their uncanny darkness by steady light shining out through rose-colored lamp shades. The old house would no longer be lonely. And the poor, tired ghosts of generations of Johnsons, their vigil over, silently folded their long, white clinging garments about them and prepared to find rest for their weary souls.

LIGHER IRONING DAY

In many households where one woman has everything to do, ironing day is looked upon with dread. Yet half the drudgery of ironing day is banished by the practice of intelligent methods and use of proper conveniences.

The irons should be perfectly clean and free from ashes and soot. Soap wrappers and coarse salt are good to rub them off. They must be hot to do good work. The gasoline iron has come into great favor as a time, labor and back saver, and it is always clean.

The height of the board should be regulated to suit the convenience of the ironer. Good adjustable boards can be found in almost any market and are not expensive.

In the summer, when there are heavy dews, cloths left over night on the line and taken off before the sun is up are in fine condition for ironing. At other times sprinkle overnight. In sprinkling use warm water it insures a more even dampness and leaves the clothes stiffer when ironed.

Table linen, pique dresses and all heavy fabrics should be very wet and ironed thoroughly dry with a very hot iron. The woolens should be only slightly dampened and the iron moderately hot. Too much ironing will yellow thing garments. When a garment is yellowed put it in the sunlight.

The secret of good ironing is ironing till the fabric is dry. No matter how smooothly the clothe are ironed, they will wrinkle when put in trunk or closet unless they are dry when taken from the board.

Thin pieces dry out quickly and it often happens that the garment is dry before th iron has been all over the surface. In such cases wring a clean cloth form the bowl of water and dampen ahead of the iron.

HANKING CURTAINS ON BRASS RODS

I haev been greatly annoyed for years when putting my lace and muslin curtains on the rods after laundering, to have the rods continually cathing in the lace, sometimes tearing it. Having discovered a method of overcoming the difficulty, I pass it on to others. When putting up long or sash curtains draw a small-sized rubber nipple over the end of the rod, and it will slip through the curtain so easily that you could put on six quicker than the usual way of forcing one through.

When Home Seems Good

A BLIZZARD OUTDOORS—warmth and comfort within. There is nothing in the home so necessary as a good furnace. Stoves and base burners are unequal to the task—they choke the air with dust and only warm parts of the house.

And buying a furnace is a matter of knowing how. The warm air heating system is the least costly. It is the most effective and healthful too. The

ENTERPRISE BLAZER WARM AIR FURNACE

will keep every corner of your home delightfully comfortable in all kinds of weather. It draws in the pure fresh air from the big outdoors, warms and moistens it and sends it on its way to you. Stoves and radiators can only heat the same air over and over.

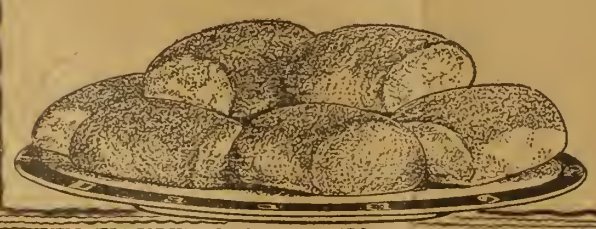
Every part of the Enterprise Blazer Furnace is made just a little bit better than is necessary—the grate bars a little stronger—the fire-pot a little heavier. These are the things that enable us to guarantee that the Blazer Furnace will give you entire satisfaction.

Go fully into the matter with your dealer and write us for our free booklet "Warmth and Comfort"

The Enterprise Foundry Co.
Limited
SACKVILLE, N. B.
Makers of the well-known lines of Enterprise Stoves, Ranges and Furnaces 22

Cream of the West Flour

the hard wheat flour that is guaranteed for bread



Homey, hot breakfast rolls
—Crisp, inviting, delicious!

Maple Leaf Milling Co., Limitcd,
Toronto, Canada.

11

Heart Pains So Bad

SAT UP MANY NIGHTS.

A large majority of the people are troubled more or less, with some form of heart trouble, and that distressed feeling that comes to those whose heart is in a weakened condition causes great anxiety and alarm.

On the first sign of any weakness of the heart Milburn's Heart and Nerve Pills should be taken, and thus secure prompt and permanent relief.

Mrs. Thomas Hopkins, Crowell, N.S., writes:—"I had heart trouble for several years, sometimes better and sometimes worse, but a year ago last fall I could not lie down in bed for that distressed feeling, and had to get up and sit up a great many nights, and when I did lie down it was with my head very high. I purchased two boxes of Milburn's Heart and Nerve Pills and feel a lot better. I can now lie down quite comfortably and the pains have gone too."

Milburn's Heart and Nerve Pills are 50c. a box at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

CARE OF THE HAIR AND HANDS

Really beautiful hair—and its beauty may be of color or texture—possesses a witchery all its own, is quite capable of redeeming many a plain face and even deluding us into the belief that it has a certain attraction. The condition of the hair is largely a matter of physical health, yet certain characteristics are the result of fastidious care and cultivation. No uncared for hair can be beautiful and in nothing is personal neglect more plainly manifested. Unkept "tousely" hair, powdered with dandruff is, indeed, a repulsive sight.

A brush should never be touched to the hair other than with a gentle, caressnig motion; its first duty is that of a polisher to spread the natural oil exuding from the scalp over the hair and give it a satiny gloss; and, secoindarily, as a cleaner to wipe off the surface soil. Coincident with the rage for over-brushing there has been a mania for over-shampooing. But one has been as fatal to fine heads of hair as the other; and to both have, as over-irritants, much to answer for.

In cases where there is a tendency to baldness and great loss of hair, shampooing should be omitted except when cleanliness absolutely demands it, for you deprive it of its natural oil and fairly wash the life away.

There is no better shampoo for the hair than an egg well beaten with about an ounce of water, and rubbed thoroughly into the scalp. It is not only a detergent, cleansing the scalp and hair of dirt, but is tonic in its effect and strengthens the tissue of the scalp. It should be thoroughly massaged into the scalp with a rotary motion. It should not be á harsh motion nor pull the hair in the least. The palmer surface of the nail phalanges of the fingers must press the scalp firmly but gently so that you will feel it move under them. This massag restores elasticity to the scalp, and stimulates both it and the hair follicles remarkably.

The hair must be thoroughly rinsed, first in warm water, then—if preferred—in cold, to secure reaction. Wipe the hair as dry as possible in warm towels. In warm weather it is a simple operation to finish the task in the open air and sunlight, but in winter it is often necessary to hold the head in a current of warm air and to fan it to facilitate drying.

Finish the operation with a dry massage, and when every particle of moisture has evaporated, if the tendency of the scalp is to dryness, rub in a little olive oil or vaseline.

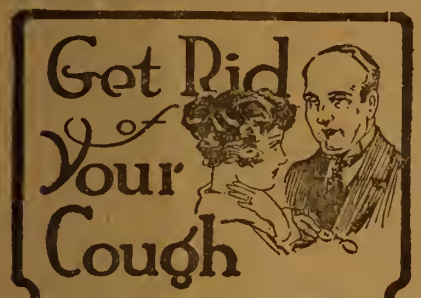
Not all the tender care in the world, upon the skin of the hand will make it attractive unless the nails receive special attention and training. The condition of the nails in their shape and color and sheen is the crowning attraction of a beautiful hand, and if they show the slightest neglect, we are apt to judge of a stranger's culture and refinement by these indisputable evidences of personal care and fastidiousness. The dainty woman cannot take too good care of her nails as thew either beautify or disfigure the fingers and an attractive hand is imyossible without pretty nails. They improve rapidly with culture. Every woman with average common sense and adaptabliity can train herself to do her own manicuring and she does not need an elaborately fitted manicure case for the task either.

As a preparation for manicuring the nails the fingers should be held for a few minutes in a bowl of warm, soapy water. This softens the nails so they can be filed without breaking. They should be kept just the length of the fingers and trimmed in a graceful curve. After trimming the nails, and while they are still soft from the action of the warm water, push the scarf skin down closely about the roots with an orange-wood stick. If the scarf skin has grown up on the nail, do not trim it off as some direct for thereby trouble begins. It will take time and patience to correct the neglect, but a few weeks' attention will accomplish wonders. Push the skin back gently and carefully.

If tinted cosmetic powder is used on the nails, it must be with great discretion, for a deep tint, giving an artificial appearance, is vulgar. A little polshing powder may be used once or twice a week, and a light rubbing with the chamois polisher every day gives the finishing touch to the manicuring.

Chapped hands are usually the result of neglect or carlessness and their relief will require twice the care and attention, which bestowed daily would have precented the discomfort and pain. An application of a good hand lotion each night will keep the hands soft and will tend to whiten them.

The astringent lotions and emolient pastes which refine the skin of the hands will perform the same service for the arms. But nothing else has so much influence in giving the flesh firmness and elasticity and exquiste curves, and to the skin every quality of beauty as the daily cleansing bath.



Ordinary Remedies won't reach a deep-seated cough or chronic Bronchitis. What you should take is a strength-and-body-builder like OLIVEINE EMULSION, to make good, red blood, firm flesh and increased vitality, so that your system will have the power to throw off the cold.

OLIVEINE EMULSION

The Great Health Restorer

will help you just as it helped this lady in DeSables.

"I cannot recommend your excellent medicine highly enough: It has done me so much good. I had a cold; was weak and run-down; but OLIVEINE EMULSION has completely relieved me and I feel better than ever."

KATIE McDONALD.

Druggists and General Stores have this reliable tonic, blood purifier and body builder. Insist on having the genuine OLIVEINE EMULSION.

Prepared by 6

Frasier, Thornton & Co. Ltd, Cookshire, Que.

COMFORTABLE BEDS FOR THE FAMILY

Since the night's rest or unrest has everything in the world to do with the quality of the day's work, comfortable beds for all the family should be the care of every good housewife. Sagged springs and lumpy mattresses are the worst foes to bed comfort; it doesn't pay to tolerate them. A claw hamemr or a wrench may be all that is necessary to tighten up that slacked wire which plays havoc with the comfort qualities of your bedsprings. The best thing for a lumpy mattress is to send it directly to the renovator or to the junk man. If, however, it be but slightly uneven, a folded blanket placed upon the springs under the depression will correct the unevenness. Good, well-made mattresses are cheapest in the long run. The comfort features of the shoddy article are shortlived. Having invested in the good article, the next thing is to use it well. Turn it frequently, end for end, and if wool padded on both sides, turn over as well. Don't shake it. Shaking it tears the ticking and disarranges the padding. Puff up the mattress by gentle blows or bringing the ends together.

It is a good plan to cover the springs with an old quilt or blanket, that in damp weather they may not rust the mattress. Always use a substantial protector on top of the mattress, something that can be tubbed without too much trouble, yet thick enough to afford satisfactory protection. The quilted ones are highly serviceable in that respect.

Remembering that your motto is "bed comfort," do not have your pillows extremely large or stuffed too full. Even goosedown pillows can be made uncomfortablly hard by crowding too many feathers into the ticks. The immense pillow may give the bed a luxurious appearance, but the small pillow hich does not unnaturally bolster the neck and shoulders is more comfortable. It is well to enclose the pillow tick proper in a second tick made easily removable for laundering—this in addition to the outside muslin slip—because of the difficulty of washing feathers. The muslin slip does not afford sufficient protection to the tick, which will in time become soiled.

The thoroughly comfortable bed is the well-aired bed. However carefully ventilated the sleeping room at night, beds should not be made up in the morning without first being conscientiously aired, frequently sunned, Open wide all the windows, spread the bedclothes on chairs in such manner that each piece will be exposed to fresh aid; turn back the protector from the mattress. The sleepin-porch and the sun-parlor are ideal for such purposes. Where they are lacking, frequently hang the bedclothes on a line out of doors where they will get the bright sunlight. Sunshine is a wonderful deodorizer. Mattresses especially need to be often sunned. This practice will be more easily carried out if the two-piece kind is used. The mattress in one piece is awkward to lift, and for that very reason generally does not receive the airing it should have. Always select a dry day for putting the mattress out, and never make up the bed with damp mattress or coverings. Not only does careful attention to this detail make for bed comfort, but neglect of it invites serious physical ills.

Cleanliness throughout is one of the first necessities to the comfortable bed. Soiled pillow slips, dirty bed-clothes, dingy spreads, spoil the attractivesness of any bed, and consequently detract from comfort. The dainty bed invites to a night's repose.

Teh doctors tell us that, if we are to have healthy bodies, we must sleep eight hours out of twenty-four. Some few favored individuals may be able to spend more time than that in bed, but most of us gnd it difficult enough to allow ourselves the stipulated eight hours. Therefore, we cannot afford to waste any part of the precious moments in sdeepless unrest because of uncomfortable beds.

Let the asesrtion be repeated: It is the duty of every good housewife to see that all the beds in the house be made just as comfortable and as sanitary as circumstances will permit.

Rheumatism Stiffness and all Pain

Minard's Liniment has given satisfaction for three generations. It quickly relieves sore throat, bronchitis, neuralgia, sciatica and any kind of pain.

An Old Reliable Remedy

Mrs. S. Fawcett, Hamilton St., Collingwood, Ont., writes,—Minard's Liniment surely is an old reliable remedy. I always keep a bottle in the house and have recommended it to quite a number of my friends, to whom it gave great relief. In most cases it was used as a cure for rheumatism.

Minard's King of Pain Liniment

Yarmouth Nova Scotia.

LAYING LINOLEUM WITH CEMENT

In the choice of a kitchen floor, several possibilities offer. Without a doubt, the most practical floor, at the price, for the average kitchen, is a good inlaid linoleum. Such a floor, if an attractive design is chosen—one in which white or light colors predominate—is extremely good-looking, and, if properly laid, is sanitary, easily cleaned, and most durable. In addition, it is sound proof, and comfortable to stand on. The laying is important. To give the best results, linoleum should be accurately measured and carefully cut and laid by an expert. When cutting or piercing is necessary it is wise to have the edges cemented, so that no water may get under the surface when washing or wiping it up. An ideal way is to coat not merely the edges and seams, but the entire back with waterproof cement. The manufacturers of high grade linoleum recommend and supply a cement for this purpose. A narrow molding which covers the edge of the linoleum where it meets the wall is an added protection. This is advisable whether the cement is used or not. If linoleum is lightly shellaced occasionally, or rubbed with a good polish or floor wax, it will last longer and the bright colors may be indefinitely preserved.

NOTES FROM THE NOVA SCOTIA AGRICULTURAL COLLEGE

(Continued from page 530)

question of financing and making plans for future development have been submitted to the Agricultural Departments of the three provinces. To date no move has been taken and the question is now as far as I am concerned in the Government's hands and in the hands of the Board of Directors, and I trust will be given your consideration.

In the meantime, while I am convinced that something has been accomplished in our present accommodations, I feel that it would be unfair to the Dairy interests of these provinces to continue under such conditions and I will therefore recommend that no further courses be attempted until such time as suitable quarters can be established, moderntly equipped in such a way as to make it practical to put on such courses as the importance of the business demands.

Respectfully submitted,
W. A. MacKAY, Supt.

Two important promotions have recently taken place within the Experimental Farms System. Mr. George B. Rothwell, who has been Acting Chief of the Animal Husbandry Division since the spring of 1919, has been promoted to the position of Dominion Animal Husbandman. Mr. Rothwell has been a member of the staff of the Experimental Farm since 1912, when he was appointed Assistant Dominion Animal Husbandman. He is a graduate of the 1905 class of the Ontario Agricultural College.

Mr. N. D. MacKenzie has ben promoted from the position of Acting Superintendent of the Experimental Farm at Indian Head to the position of Superintendent. Mr. MacKenzie first entered the staff at the Indian Head Farm in 1917. He was later granted leave to finish his course at the Ontario Agricultural College from which he graduated in 1919.

GLEANINGS OF AGRICULTURAL PROGRESS IN N. B.

(Continued from page 531)

turns are not yet completed, it is thought that the Club's strength will number in the neighborhood of thirty-five during the initial year of its activity, and efforts will constantly be made to further add to the membership of the Carleton County Holstein Breeders' Club. Intending purchasers of Holsteins in, and outside of, Carleton County would be well advised to get in touch with the Club's Secretary, R. W. Maxwell, Woodstock, N. B., who will be pleased to help you decide in the matter of conetmplated purchases.

WHEN SHOULD THE FARMER BUY HIS TRACTOR?

(By Earl B. Stone, Asst. Adv. Manager of The Cleveland Tractor Co.)

Records sof retail tractor sales for more than five years past show that the farmers of America buy more tractors in April and September than at any other time in the year. And since these two months mark the opening of the busiest season of seed bed preparation, we are forced to conclude that our farmers wait until the very last minute before selecting their tractors.

But this is a practice which sooner or later will cost the majority of tractor owners a whole lot of trouble and delay and it has already brought riscredit upon more than one worthy tractor. If our farmers are to get full value from their tactor investments they cannot wait until the season is on befoe buying.

A tractor like any other piece of hauling machinery, whether it is mechanical or alive, must be worked in gradually to bring out its full efficiency. No farmer would think of driving his horses at a mid-season pace after months of inactivity in the barn. He knows their limitations and so works easily for only a few hours at first, gradually increasing the load and the hours as sinews harden and their wind improves. This method of building up horse flesh is such common knowledge to the farmer that he forgets or neglects to apply it to his tractor. But when the tractor gives way under the sudden strain of spring work, he refuses to consider himself in any fault.

Even the lesson learned from their first automobile experience fails to impress our farmers as applicable to tractors. The auto dealers wisely cautioned them to take it easy at first. Some heeded the caution and became enthusiastic over their first machines, while others "stepped on the gas" right from the start and they got nothing but trouble and expense in return.

How much this take-it-easy warning should be observed when starting a tractor is evident from the fact that a tractor motor does more than 20 times the work of an automobile engine in travelling the same distance. If it paid to give the automobile a thorough working in, it will pay ten times over to give your tractor the same care and attention.

No farmer will ever get all he is entitled to get fom his tractor if he buys it the day or the week before he starts to plow. The tractor will do its lvel best of course, perhaps it will go through one whole season without a hitch, but he has shortened its life and in the end he will pay dearly for his last-minute purchases.

The time to buy a tractor is a month or two before it will be needed for the hard job of breaking ground and fitting the seed bed. The farmers who are going to purchase this spring will save money by making their purchase now. A month or omre of easy work will get the new tractor "fit" for the strenous day when it must sometimes work 24 hours without a stop.

There is no end of odd jobs which the tractor can do before spring work opens up and each day it is used will help to make it more dependable when the heavy work comes along.

Most wood lots have some fallen timber which should be snaked to the barn yard and sawed. The tractor will do both jobs and welcome the chance to limber up its gears. Or there is corn to shred, feed to grind, manure to haul, roads to clear of snow and ditches to run.

These odd jobs do two things which insure the successful operation of the tractor in the future. First of all they acquaint the owner with his tractor as nothing but actual use can do. They give him the "feel" of his machine and develop an "ear" for its song of satisfaction or cry of pain. Secondly, they give the bearings a chance to work and help the valves to seat more snugly. They fit piston rings to cylinder walls more perfectly than the most exact machine can do it and they limber up every gear and pinion much as the first days of easy work take the kinks out of a horse's back and legs.

Once worked in and properly maintained, the tractor is as far ahead of the horse as the Twentieth Century Limited is ahead of the olden stage coach. But it cannot do its best without a chance to limber up. When the farmer buys his tractor a month or more ahead of the busy season and works up to his peak load gradually, he will get the maximum return from his investment. He cannot expect it in any other way.

N. B. BEE KEEPERS HOLD ANNUAL MEETING

The seventh annual meeting of the New Brunswick Beekeepers' Association took place on the 17th in the Provincial Normal School building, President George H. Pugh, of Nashwaaksis, in the chair. The usual routine business was transacted, officers were elected for the ensuing year and L. T. Floyd, Provincial Apiarist, presented a very interesting report of the year's work.

Officers were elected as follows:

President—George H. Pugh, Nashwaaksis.

1st Vice President—Ludlow Hoyt, Prince William.

pnd Vice President—T. H. Manzer, Aroostook Junction.

Sec.-Treas.—L. T. Floyd, Fredericton.

County Directors—Albert, Cecil W. Steeves, Forest Hill; Carleton, Harry G. Miller, Tracy Mills; Charlotte, A. T. Reed, Rolling Dam; Gloucester, Maynard Smith, West Bathurst; Kent, J. B. Vautour, St. Louis; Kings, Franklyn Y. Wetmore, Clifton; Madawaska, William J. Moran, Edmundston; Northumberland, W. H. Davidson, Newcastle; Queens, W. T. Inch, Hampstead; Restigouche, Rev. J. H. McLean, Dalhousie; St. John, Harry Armstrong, 40 Summer street, St. John; Sunbury, J. B. Young, Oromocti; Victoria, A. L. Green, Plaster Rock; York, David Hiscoe, Fredericton; Westmorland, Prof. W. G. Watson, Sackville.

Mr. Floyd, Provincial Apiarist and secretary of the Association, reported

THE ROYAL BANK OF CANADA

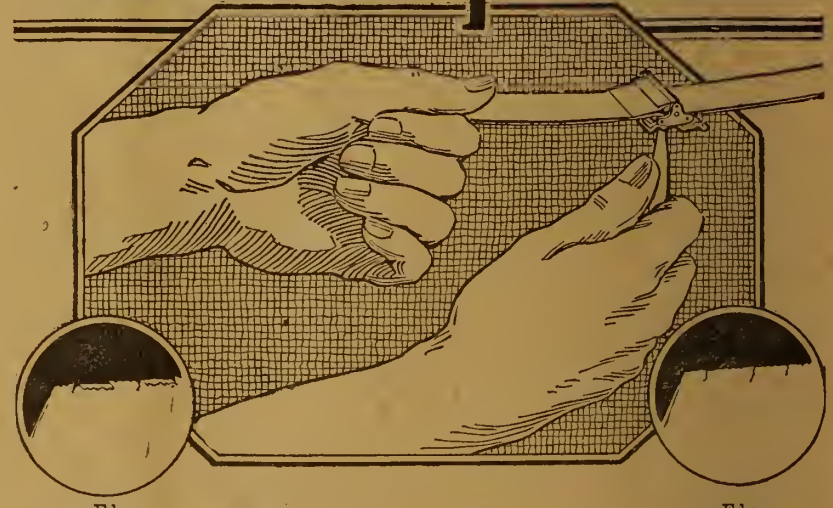
Give Your Boy a Chance! You will Not Miss the Small Monthly Amounts

On the first day of every month draw a cheque for $10 for the credit of your son's Savings Account. Do this regularly for (say) ten years.

You boy will then have $2,083.43. He can own a farm when other boys are still working for wages.

CAPITAL AND RESERVES $35,000,000 TOTAL RESOURCES OVER $500,000,000
640 BRANCHES.

AutoStrop Razor



Edge Before Stropping (Magnified)

Edge After Stropping (Magnified)

IT'S the stropping that counts! Any razor is soon ruined by unskilled stropping. There is one and one only razor that sharpens itself—the AutoStrop Razor. You can't strop it wrongly—just slip the strop through the frame and a few strokes to and fro will renew the blade edge.

Any dealer will demonstrate the AutoStrop Razor to you, guarantee satisfaction, or refund of purchase price. Only $5.00—complete with strop and twelve blades in an attractive assortment of cases to suit any purpose.

AutoStrop Safety Razor Co., Limited
AutoStrop Building, Toronto, Canada

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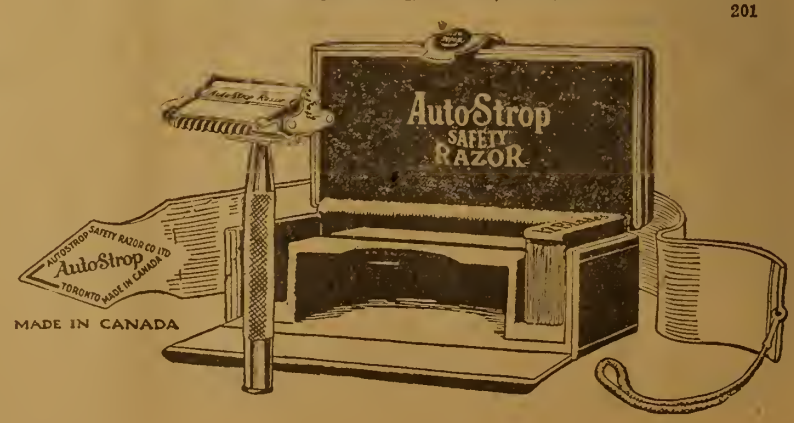

that during 1919 the honey crop in New Brunswick had more than doubled and that there was every evidence that bee-keeping was one of the most profitable sidelines of farming. Dealing with marketing he pointed out that hiney must be well graded to compete with honey from other sections. He urged that the best of style package must be used and that in order to build up a market a difference must be maintained between retail and wholesale prices. Mr. Floyd announced that in the whole province the number of hives had greatly increased. In the North Shore counties little attention had been given to beekeeping but a number of people in that district had made a beginning. Efforts to establish beekeeping there would be continued. During the year the Association had handled supplies to the amount of $1,452. This had been with a saving to members of 10 per cent. on supplies and 25 per cent. on containers.

PREPARING FOR THE BREEDING SEASON

(Experimental Farms Note)

By this time it should be fairly well decided what birds are to be used in the breeding pens.

In the main, dependence should be placed on hens, but it is always well to use some of the best pullets, as by so doing a year's time is very often saved.

As none but the best pullets should have been carried over the second season, there should be very little culling of the hens required. However, there are always a few that have not kept in prime breeding condition, some may have put on too much fat—others may have shown a tendency to colds or other undesirable qualities. These should not be put into the breeding pens.

The hens intended for breeders should be carried through the winter in a normal condition, without forcing or stimulation of any kind, so that they come to the breeding season full of vim and vigour. To obtain and retain this condition, green feed should be plentifully supplied. Chopped clover, sprouted oats or mangels are all good.

The pullets used should be early hatched, vigorous and well matured.

To these selected females should be mated either vigorous cock birds that have already been proven as breeders or strong, vigorous, well-matured cockerels that are not only the sons of high-producing hens, but the brothers of pullets that have shown by their performance that they carry the quality for high production.

Do not make the matings too large. A good, vigorous cockerel of the general purpose type on free range may successfully look after 15 or 20 or even more females, but the same bird in confinement might "fall down" lamentably with more than half that number. Do not expect a cock to attend to the number of females that a cockeerl would, and if you are looking for early chickens, use cockerels at the head of the breeding pens, as they are much more reliable early in the season.—George Robertson, Assistant Dominion Poultry Husbandman.

ROTTED MANURE BEST GARDEN FERTILIZER

Vegetables are gross feeders and require a large amount of plant food to give maximum results. Well rotted manure is the ideal garden fertilizer.

In small gardens, particularly where the soil is light, if manured and dug over in the autumn, a second digging in the spring will be advisable only of such portions as are to be devoted to such crops as cabbage, tomatoes, egg-plant, lettuce. A stirring of the surface will be sufficient where beets, carrots, etc., are to be grown, and this should not take place until the time for planting and sowing arrives, as freshly worked soil is best for both operations. It is important that soil should not be worked in too wet a condition, otherwise it will dry in lumps, and much time and labor will be necessary to repair the damage.

The secret of success with early planting of such crops as peas, beets, beans, is to sow the seed at only half the depth of later sowings. This is particularly the case on heavy soils. Seeding on light soil should always be at a slightly greater depth than on heavy soil. Remember that in dry weather cultivation should be continuous. When watering is necessary, it should be applied to the roots and not sprayed or springled over the surface. A trench may be opened up with a hand or wheel hoe along each row, water poured in from a pail, and the earth thrown back. In this way two hundred feet of row may be thoroughly watered by two persons in half on hour, and cultivating and watering are performed in one operation.

Good wood-ashes form an excellent general fertilizer for the garden. They should be applied in the spring when the land is not too wet. Sifted coal ashes will be of great benefit on heavy soil. They improve the texture of the soil and help set free food for the plants.

Soils that have been under cultivation for some time need lime. Crops will not grow well if the soil is acid, and lime correct acidity and liberates plant food. It should be applied broadcast early in the spring, at the rate of say, one pound to ten square feet.

Have a garden, if possible, not only for the fresh wholesome food that can be priduced, but also fod the pleasure of it. Plant a few flower seeds and watch them grow.

Precious Hours and Dear Labor Saved With

LOUDEN

HAY TOOLS

HAYING is one of the heaviest jobs on the farm. Are you going to have the necessary labor to harvest the crop? Added to the labor scarcity is the uncertainty of the weather.

Hay which is cured and ready to haul into the barn loses much of its feeding value if it becomes wet.

Works Like A Giant

With a Louden Haying Outfit to work like a giant for you, you are not only enabled to reduce the labor of harvesting your crop, but you are relieved of much of the anxiety of being caught by catchy haying weather. It will enable you to get through your haying in one-half the usual time—with one-half the help—and with fewer horses.

Five to Seven Minutes

A Louden Sling Carrier Outfit will handle your biggest loads in from five to seven minutes. Lifting the load straight up from the wagon it is deposited well-spread and cross-wise of the mow, which makes mowing back easy. It does not matter how high your barn is, it can be filled to the peak with a Louden Outfit.

A Louden Outfit not only means less work for you, but may mean the saving of enough more good well-cured hay to pay for the whole outfit in one year.

Bound Grain Also Handled

Hay, Bound Grain, Straw or any other forage can be handled quickly and equally well. An all-year-round equipment is what you get when you use a Louden Sling Carrier Equipment.

If your barn is unsuited for a sling carrier equipment the next best thing is the Louden Senior Fork Carrier and Giant Grapple Fork. We are the Pioneers in the manufacture of Haying Tools and years of specialization well fits us to take care of your needs.

A man on the load—one in the mow or on the stack—and a boy at the hoist. That's all the help you need to run a Louden Sling or Hay Fork, a Louden Hay Carrier and a Louden Hoist.

CATALOGUE—BARN PLANS—FREE

The Louden Illustrated Catalogue tells all about Louden Hay Tools. Write for it. If you are building or remodelling your barn send coupon for Louden Barn Plan Book prepared by leading specialists.

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of Canada, Limited
Head Office: 658 Crimea St., Guelph, Ont.
Branches at:—Winnipeg, Man., St. John, N.B., Quebec, Que., Vancouver, B.C.

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Please send me the book(s) checked below:
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I expect to build or remodel a barn about (date).....
for.....cows.....horses. Am interested in .....Hay Tools
.....Carriers.....Stalls.....Stanchions.
NAME.....
Post Office..... Prov.....

INCUBATION AND BROODING OF CHICKS

(Continued from page 547)

at a time and often during the first two weeks. Dry breadcrumbs slightly moistened with milk, rolled oats, pinhead oatmeal and finely cracked mixed grains may be allowed, but all changes should be made gradually. Give them plenty of green food and place grit, water or sour milk where the chicks will have free access to it. Self feeding hopper containing cracked grains and dry mash are the best means of feeding the growing stock while on a good grass range.

J. D. LANG, Poultryman,
Lennoxville Experimental Farm.

BROODING AND FEEDING OF CHICKS

(Experimental Farms Note)

Brooding methods have undergone considerable changes of late. For small flocks the portable hover is undoubtedly the most satisfactory, but even with comparatively small flocks some are now using stove brooders. The advantage of these stoves is that they can brood large flocks at a comparatively small cost. The pipe brooder was the system that was formerly used on large plants and is still quite largely employed. It gives excellent satisfaction but is so expensive to install that the stove brooders are largely supplanting it.

These stove brooders can be used in any ordinary colony housé, thus avoiding the necessity of a special brooder house. They are made in different sizes and will accommodate either large or small flocks. Five hundred chicks can be attended in a colony house with almost as little labour as 50 in a small brooder, and the additional cost is comparatively low.

When the chicks are removed from the incubator, care should be taken to avoid chilling them. The brooder should be so heated that they will be able to get a temperature of 100 degrees.

If the hovers are heated to 90 or 95 degrees before the chicks are put in them, the heat generated by the chicks will bring it up to the desired temperature. The idea is to give the chicks as low a temperature as is consistant with their comfort. The temperature should be gradually reduced but never so quickly as to cause any discomfort to the chicks.

With the brooder stoves the chicks can select their own temperatures. If they want a little more heat they can get a little closer to the stove, if they get too warm they can spread out a little more. It is advisable when the chicks are first put into the house to make a ring around the stove in which the chicks are confined until they become used to their new quarters and get accustomed to the source of heat, then the fence may be removed. For this purpose a strip of ready-roofing—half width—answers to perfection, as it is easily handled and it breaks the draughts, which are liable to be along the floor and which are one of the dangers that should be guarded against in this method of brooding.

Feeding:—When the chick is hatched it comes into the world with a sufficient supply of nourishment in the form of egg yolk to last it for several days. What a chick requires at the start is not feed but warmth and rest. When the chicks show positive signs of hunger, which will be in about two or three days, give them a feed scattered on a little coarse sand or chick grit. For this first feed, hard boiled egg and bread crumbs in the proportion of about four of bread crumbs to one of egg is used. Feed little and often, alternating this feed with scratch grains and dry mash. Supply tender green feed such as lettuce or something similar. After the first week hoppers of dry mash should be kept before them, and by the time they are about ten days old, the egg feed may be discontinued. Place grit, water and a dish of sour milk where they will have free access to them. Nothing provides animal food in better form than does sour milk.

GEORGE ROBERTSON,
Poultry Division.

MACDONALD'S
PRINCE of WALES
A Favorite Chew Since 1858
Typical Lumber Mills St. John, N.B.,—one of the 255 odd in active operation. This industry gives employment to about 5000 in the Province and represents an aggregate investment of over 21 million dollars.
Macdonald's tobacco—New Brunswick's favorite.
"The Tobacco with a heart"

APPLE SPRAYING IN NEW BRUNSWICK

(Continued from page 539)

Bethel Block, A. G. Dunphy's Orchard Green Apple Bug Control

Firt spray applied when the leaf buds were opening, May 19th, material 3-10-40 Bordeaux and one pound arsenate of lime. Second spray applied just before the blossoms opened. May 27th.; material soluble sulphur one pound, nicotine sulphate 2/5 pint, to 40 gallons of water. Third spray applied just after the blossoms fall, June 11th.; material, used soluble sulphur one pound, nicotine sulphate 2/5 pint, to 40 gallons of water. Fourth spray 3-10-40 Bordeaux, one pound of arsenate of lime, applied ten days after the third spray, June 21st and 22nd.

Total apples counted.....2758
Total apples affected with Green Apple Bug.....5.8%
Total apples un-affected with Green Apple Bug.....94.2%
Total apples affected with side worm 2.8%

In 1917 Mr. Dunphy's crop of Bethels amounted to five barrels of marketable apples. In 1918 the crop was 12 barrels of marketable fruit. This year, 1919, Mr. Dunphy picked over one hundred barrels of excellent Bethel apples.

The most essential thing in Green Apple Bug Control after getting the solutions right, is the pressure or force with which the spray is driven at the tree. Drenching at high pressure is essential to success, as the insect is usually hiding in crevices of the bud where no ordinary spray will touch it.

Dusting

You have undoubtedly heard of the progress that dusting is making in Nova Scotia. We had Mr. William Fox try the dust in a small way for us last year with rather unsatisfactory results. We are going to keep on testing the dust here in this Province in full expectation of developing a dust spray which will prove of value. On account of the large number of McIntosh that you grow, and on account of your climate being a particularly bad one for fungus diseases, I would recommend that you continue spraying for the present. If you ever want to change to dusters you can use the same engine as you are now using for spraying, and buy only a blower, which is not a very expensive apparatus.

Address by Geo. E. Sanders, Entomologist in charge Insecticide Investigators, Entomological Branch, Ottawa, Ont., at the recent N. B. Fruit Growers' Association.

AUTUMN VERSUS SPRING PLOWING

(Experimental Farms Note)

There are so many different soils to plough and so many kinds of ploughs to plough them with that no definite rule can be laid down as the best method for all soils.

We plough to bury vegetation and manure, so that they may decay and feed the future plants. We plough to pulverize the soil and fit it to receive the seed. No other implement will do so much in one operation toward the making of an ideal seed bed, as a good plough in skilled hands. We plough to increase the water holding capacity of the soil. We plough to destroy weeds, insects and rodents.

Why Should We Plough in the Autumn

Because this comparatively slow operation may be performed more economically when horse and man power are not at such a premium as they are during the rush of spring seeding. Early autumn ploughing enables the heat from the September sun to hasten the decomposition of one season's refuse plant growth so that it may feed the succeeding one. Late autumn ridging with a plough greatly benefits many soils by exposing the greatest possible surface to the action of freezing and thawing, nature's most wonderful pulverizer, which has made most of the seed beds throughout the ages, and is today our greatest agent in producing the tilth so

necessary for large crops. In the autumn a dry soil may be ploughed without causing the same injury that would follow ploughing a soil in that condition in the spring. It is also possible to plough land so wet in the late autumn that there is a gloss or sheen from the mould-board, knowing that the frost of winnter will turn what would make clods at other seasons, into mellow seeds beds in the spring.

Soils That Should Be Left and not Ploughed Until Spring

Light coils that blow, and soils on steep hill sides that wash, should not be evposed to the gales and heavy rains of winter and early spring. Some heavy clay soils that puddle during the heavy spring rains are better left and ploughed when they have reached the right degree of friability to crumble under the mould-board.

Land that Barely Needs the Plough to Prepare It

Land tht hs produced a hoed crop such as potaoes, turnips, mangels or vegetables, usually produces a better crop if the seed bed is formed for the following grain crop without the use of the plough. Ribbing in late autumn has been the only use of the plough that has increased such crops at Charlottetown.

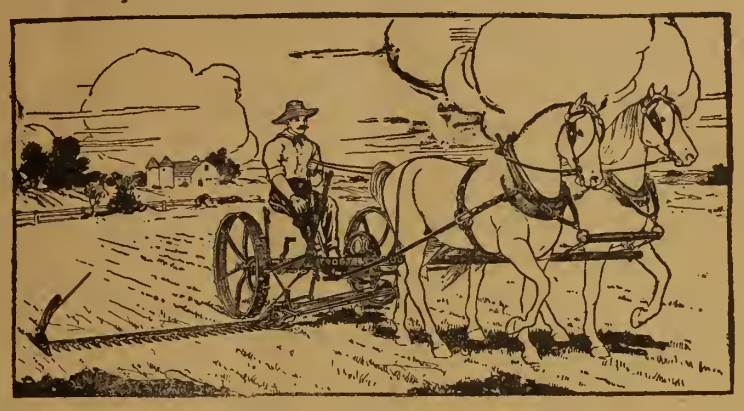
Experimental Data

A few results from the cultural experiments at Charlottetown, that bear directly on this problem, are of interest. The figures secured are from average yields covering four seasons form fields of oats on a comparatively level, sandy loam soil. Sod ploughed in August gave 47 bushels and 14 lbs.; sod ploughed in November (no other autumn work), 42 bushels and 32 lbs.; sod ploughed in spring, 34 bushels and 9 lbs. Loss from spring ploughing compared with August plowing, 13 busels and 5 lbs.; compared with November ploughing, 8 bushels and 23 lbs. There were 45 pltos in this particular five-year rotation, and the spring ploughing of sod averaged 6 bushels below the poorest autumn method of breaking sod. Therefore plough your sod in the autumn, and as much of your stubble as you can. Leave your land after a hoed crop without ploughing, except to rib it.—J. A. Clark, Supt. Experimental Sta., Charlottetown, P. E. I.

Frost & Wood

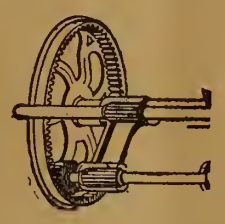
A money making machine for a money making crop.

With feedstuffs climbing in price you can't afford to take chances with your hay crop. Scrap that old mower and get real efficiency with a



Frost & Wood Mower

The longer you own one, the heavier the crop you put it at and the rougher and more hilly your land, the more enthusiastic you will become over the many splendid merits of the Frost and Wood Mower. Its high quality roller bearings ensure light draft. Its cutter bar strength and superior cutting mechanism guarantee long service, good service and service when you want it. All levers easy of control and handy to reach. Thousands of farmers have good reason to swear by the F. & W. Mower.



F. & W. "Internal Drive" gear means real efficiency

Look for this Frost and Wood feature. The pinion which takes the operating power from the big drive wheel, "runs on the inside." The two wheels turn in the same direction. No tendency to fly apart, become rattly and break cogs. Always ready for work and a quick start into a heavy crop doesn't bother this gear at all. The knives keep on cutting when bar is raised to clear obstructions, saving time—and crop.

We don't want you to judge the Frost and Wood Mower by this meagre description. Write us today for special Mower Pamphlet. See the Mower, and the rest of our big, complete line at our nearest Agents.

THE FROST & WOOD CO. LIMITED

TRURO CHARLOTTETOWN ST. JOHN

NOTES ON FERTILIZERS AND THEIR USE

(Continued from page 537)

The Alsatian muriate of potash is of excellent quality—quite equal to that from the Stassfurt mines. Alsace does not produce sulphate of potash. The sulphate has been preferred to the muriate for tre potato crop, but our experiments have shown no appreciable deterioration in quality from use of the muriate—and both forms have proved equally valuable and effective as to yields.

There is some potash on the market from other sources. That from the best sugar factory—a limited amount—has given excellent results—though if in the form of a liquid—the "mother liquor" is only applicable, or perhaps I should say usable, in mixed goods. The "ash" from the liquor is rich in potash compaund and is a product of excellent quality for fertilizing purposes.

The ash of tobacco waste from tobacco and cigar factories contains high, but variable percentages of potash. It is a valuable potassic fertilizer, and one well suited for tobacco and garden crops generally.

The potash as deposited by the Cottrell process from the fumes of cement works is another excellent source, now largely used on the Continent and is destined undoubtedly to find a place on our markets.

There is also some potash from American sources—from saline deposits and the waters of certain lakes in California, Nebraska and other western states. This is being used largely today in the United States. Certain of the brands have been found to have an injurious effect on crops owing to the presence of appreciable percentages of borax. This has necessitated a regulation on the part of the United States Federal authorities to the effect that the limit of safety is 2 pounds of borax to the ton of fertilizer. This is the maximum amount allowed unless without a definite labelling of the percentage present.

Though we could not advise the direct application of wood ashes for potatoes—as their alkalinity might favor the development of scab—there is no better potassic fertilizer than this natural source. If used for the preceding crop, say clover, as a top dressing—or if applied with superphosphate, we can see no objection to their employment as a source of potash by potato growers. There are assuredly large quantities of wood ashes produced annually in the Maritime provinces, and every care should be taken that they are not allowed to go to waste or to be leached of the valuable constituent through imperfect protection during storage.

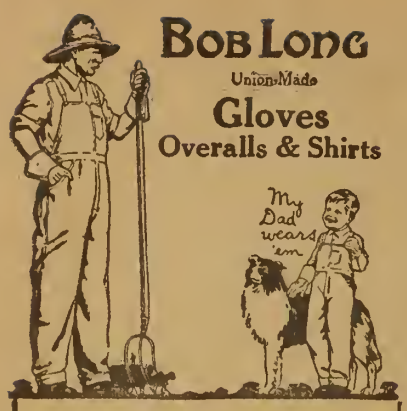
As a word of comfort on this potash quejstion, it may be said that results during the past four years indicate that we have placed too much importance upon potash as a fertilizer. It is very doubtful if the very large applications made in pre-war time were profitable. It is seldom that there is any profitable return from potash dressings on clay loams. The case with sandy and mucky loams is different; potash on them especially for certain potash loving crops as for instance, potatoes, will usually give a good response. But speaking generally we may conclude that the cutting off of the potash supplies has not been the disastrous thing we thought it would be.

These fragmentary notes may be concluded with urging upon you two matters. The first is, make an effort to learn on your own land what your soil requires by direct experiment, and what is the limit of profitable fertilizing under your own conditions of soil and season. It would be well that every farmer should have a series of plots or strips so fertilized as to bring out the effect of the various fertilizers, but failing this he should at least leave an unfertilized strip in his field and note the yield therefrom as compared with that from an area of similar or equal size from the remainder of the fertilizer field.

The second point is, consider fertilizers as supplementary; don't depend upon them solely to feed your crop or to keep up the fertility of the soil. The humus content of the soil must be maintained, probably increased, if the best results are to be obtained with fertilizers. Barnyard manure contains considerable amounts of nitrogen, phosphoric acid and potash, but its value does not solely depend on these; its action on the tilth of the soil and of increasing its water-holding capacity is invaluable. Further, it is the source and mainstay of the microbic life of the soil—a matter of the highest importance. Our advice is, produce all the manure that the size of your farm and conditions of farming will permit, and get it into the soil or on to the soil as quickly as may be while it is still fresh. The clover sod has already been spoken of as furnishing both humus and nitrogen. Adopt a rotation which includes this most valuable crop and enricher of soils. Other sources of humus are the so-called green crops turned under—buckwheat, rye, rape, etc.; their addition to the soil constitutes one of the most economic means we have for soil improvement. Fertilizers have a legitimate place in soil management, especially in intensive farming, but for their most profitable employment the soil must be kept in good "heart"—and this can only be done—whether the soil be sand or clay—by constantly replenishing its store of humus by the means we have indicated.

CO-OPERATIVE ASSOCIATION'S RESPONSIBILITY

Co-operative Associations desiring to market fruit in open packages bearing the association brand, and without the name and address of the original packer, must in addition to the association's brand place on the package a number or other mark, which will designate the original packer of the fruit. This number or mark must receive the approval of the Minister of Agriculture.



BOB LONG
Union-Made
Gloves
Overalls & Shirts

Bob Long Says:—

"My overalls and shirts are roomy and comfortable, **and made especially for farmers.** I designed them with the idea that you might want to stretch your arms and legs occasionally."

BOB LONG GLOVES

will outwear any other make of Glove on the market, because they are made by skilled workmen from the strongest glove leather obtainable.

Insist on getting Bob Long Brands from your dealer—they will save you money

R. G. LONG & Co., Limited
Winnipeg TORONTO Montreal

BOB LONG BRANDS
Known from Coast to Coast
248

BUY RED CLOVER SEED EARLY

Prime red clover seed was quoted at $35.55 per bushel on the Toledo market of the 6th instant. Toronto prices then ranged about $3.00 per bushel in advance of Toledo prices. Clover seed that would grade "Prime" on the Toledo market could be bought in Toronto at $38.50 and, because of exchange conditions, delivered to United States points at approximately $33.00 per bushel, or about $2.50 less than the Toledo price. The money situation, short supplies, and an earlier demand in the United States, will explain the heavy exports of clover seed.

The price of red clover seed has advanced almost $14.00 per bushel on the Toledo market since May last. The world supply will not be sufficient to meet normal requirements. In these circumstances, Canadian farmers who delay the purchase of their red clover seed requirements until seeding time may be unable to obtain supplies at any price.

THE BEATTY BARN BOOK

We have just received a copy of the new B.T. Barn Book, recently published for distribution to farmers and others who purpose building new barns or remodelling old barns and stables, by Beatty Bros., Fergus, Ontario.

The B.T. Barn Book is looked upon as a text book by Canadian farmers on the subject of planning, designing and equipping barns and other farm buildings. Neither time nor expense has been spared in accumulating the best information and illustrations. It is bound so as to form a permanent work of reference.

It matters not, reader, how good a plan you may have in your mind for your remodelling or building operations, it will pay you to get a copy of the B.T. Barn Book. From it you will glean ideas that will give you the last word in construction and convenience. The book is free for the asking, only tell the Beatty Bros. some idea of what you wish to build or remodel.

WATER SUPPLY SYSTEMS FOR FARM HOMES

Every farm home should have a water system which wfll furnish an ample cupply of good water for cooking and washing purposes. Carrying water for household purposes by the "water pail route" is hard, tiresome, labor.

Running water on the farm is not a luxury which may be had only by those who have means, but some type of water system is in the reach of all. In considering any water system, one should ask himself the following questions:

Is it simple and dependable?

Is it safe and sanitary?

Is it reasonably low in cost and upkeep expense?

There are two general classes for all water systems:

Gravity systems: Simple, durable, low in first cost, upkeep and expense.

Pressure systems: Require constant attention. Keep water cooler. More sanitary.

Types of Water Systems

Cistern Pump in the Kitchen:—One of the simplest and least expensive types of water systems is where water is pumped from the cistern directly into the kitchen by a hand pump in the sink. This scheme is a great improvement over carrying the water by hand. Every farm house should have this much if no more.

The well should be within 50 feet of the house and the water in the well should not be over 20 feet below the kitchen pump, for water cannot be lifted more than 20 feet with a common cistern pump. Be sure the outdoor pipe is below frost line and the pipe above ground should be protected against freezing.—Miriam M. Haynes.

PROTECTION AND CARE OF FARM WELL

The well is the usual source of the farm water supply, and a good well—that is one which supplies plenty of pure, fresh and wholesome water the year round—is certainly one of the most essential and valuable assets of the farm. Without it no man could live there for long, to say nothing about bringing up a healthy family or building up an efficient dairy herd. The well must be there first, last and all the time, and we cannot conceive of any intelligent man buying a farm without a good well if he intended to live on it and may it pay dividends.

Fortunately most farms are well supplied with water—in fact it is a rare thing to find a farm where it could not be secured in sufficient quantities by drilling to reasonable depths. The supply, therefore, will probably never cause us any serious worry, but judging by a recent report on analysis of many well waters from this province, one seems justified in concluding that there is still need for education of the rural public in regard to the protection and care of the farm well. The following suggestions wil be found helpful to any farmer desirous of making his water supply safe against possible underground and surface contamination:

The first step in the solution of this problem of purer water supply is the location of the well. This should be by all means on ground higher than any source of contamination, such as barnyard, cesspool or outside privy. If there should be no choice in location and this cannot be done, then the well should be kept a considerable distance from such contamination, at least 100 feet in clay, and 200 feet in sandy soils, and the cribbing and top of the well specially protected, as detailed later, against the entrance of any seepage and surface washings. In the second place the cribbing for at least 10 feet below the surface should be made impervious to water so that any contamination in solutions reaching the well would have to pass down through this extra depth of soil before getting into the well, when in all probability it would be taken up by the soil and never reach the well water. This may be done in case of an old well by putting in a wall of puddled clay one foot thick and 10 feet deep around the well cribbing, and in case of a newly-dug well or recribbing an old one by using large concrete tile for the cribbing and setting the joints thoroughly in rich cement. Before the tile are placed in the well, the outsides should be washed with pure cement plaster in order to fill up all pores and make the tile absolutely impervious to soil waters. Thirdly, the cribbing should be extended at

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least one foot above the ground level and the soil banked up to the top of it to provide good surface drainage away from the well. Fourthly, the well should be provided with a strong tight-fitting cover made of heavy plank on concrete, so that it will always be safe for man and beast and proof against the entrance of dirt, small animals like frogs, etc. Even better still, the pump may be placed over a shallow dry well to one side and the top of the real well made absolutely tight by a concrete cover. In this case the well should be ventilated by putting a small iron pipe, with the exposed end turning downwards, through the top or cover. And fifthly, the stock should not be allowed to tramp about close to the well.

What has been said refers chiefly to dug wells, but even the drilled or driven wells should be well drained and protected at the top for otherwise contamination may work down along the well casing and reach the water, especially if the casing is not tightly driven into the rock below.

Attention to such matters of construction and protection of the farm well as I have detailed, and an occasional pumping out and cleansing of the well with a little lime will asure a pure and wholesome water supply.—Prof. Graham, of the O.A.C. in O. J.

EGG-PRODUCTION INDUSTRY OF TIENTSIN DISTRICT, CHINA

The prepared-egg industry in the Tienstein district was started several years ago and was in a flourishing condition up to 1918, when it was severely affected by the food laws and war restrictions of various importing countries, particularly the United States. In 1917 over 5,000,000 pounds of egg albumen and yolk, dried and moist, were exported, and in 1918 only 2,000,000 poundss. On the other hand, exports of fresh eggs increased in 1918 by 472,000 dozens over that of 1917. The total export of eggs in 1918 amounted to 5,344,000 dozens.

When the dried egg industry was first promoted in the Far East, all plants were equipped with trays and drums for drying purposes made of zinc, which resulted in a metal content in the product. A new method was then introduced by means of "spraying" or blowing the egg in a fine spray into a heated chamber. The resulting product is free from metal, and the various egg-drying plants in the interior, which are largely in the hands of Chinese, are gradually converting their establishments into spray plants, the initial cost of whose installation amonts to about $20,000.

There is, however, a greater demand for moist eggs not only in Europe, but also in America, where the consumer does not take kindly to powdered albumen. Although there is in America a good demand for the powdered yolk, local manufacturers can not be expected to sell the yolk without at the same time disposing of the albumen. The result has been an increase in the exportation of moist albumen and moist yolk and of fresh eggs. Frozen eggs are not shipped from this port as yet, owing to the fact that no refrigerator steamers ply to and from Tienstin. An American company is building a plant in Tientsin and will soon have a steamer with cold storage equipment operating between here and San Francisco for the transportation of frozen meat and eggs.

There are 13 albumen factories located in this district,11 of which are Chinese, and 3 foreign. The Chinese concerns, with the exception of the Ching Sing Egg Co. named below, are of the usual type, of egg-product factory and have no machines; but the foreign companies, which are managed by American and French, have installed American drying machinery for the manufacture of their products. These companies have passed the purely experimental stage and are doing well.—Extract from U. S. Commerce Reports, Mar. 13, 1920.

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I have a horse that is troubled with worms. What would you advise?

Ans: For intestinal worms, use a vermifuge made as follows: Oil of turpentine, two ounces; oil of male fern, one drachm; linseed oil, half a pint. Give after a purge and on an empty stomach. Repeat the dose after a week, followed with a drachm of powdered sulphate of iron in the feed. For thread worms the treatment should be by injections up the rectum, made of oil of turpentine, two drachms; linseed oil, one pint. Use every morning for a week.

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9

CLOVER CULTURE AND SEED SELECTION

(Continued from page 529)

mon: One is to cut the clover late in the afternoon so that the dew will not affect the plants. The following day, with the aid of the tedder, operations should proceed as rapidly as possible and the crop be placed under cover before night.

By the other method the clover is cut in the forenoon after the dew is off, and is raked into windrows and bunched into cocks in the afternoon and allowed to sweat for two or three days. When the weather is favorable the cocks are opened in large flakes and allowed to give off their moisture and then drawn to the barn.

Clover-hay loses much of its value if rained upon. Rain washes out the soluble portion destroys the aroma and favors the growth of molds—and makes the hay more woody. The chemist says that from 25 to 40 per cent. of the dry substance can be extracted by cold water. A sample of clover hay allowed to lie a fortnight in the rain lost one-third its content of fat and soluble starchy matter.

When grown for seed the crop must be allowed to get fully ripe. The seed will not ripen in any way after the hay is cut. The heads should be dead brown, and the seed well colored and plump when shelled out in the hand before harvesting is begun.

Cutting had better be done early in the morning as there is likely to be less loss of heads than if the work is done later in the day when the clover stems become dry and brittle. The cutting can be done with a mower or grain reaper or with the binder. If the mower is used it is advisable that two men remove the swath so that the horses will not trample it.

It has been argued by entomologists that were insects uncontrolled for two years and permitted to multiply that man would be starved off the earth. In so far as the clover crop is essential to man's existence this statement would hold true, for the presence or absence of certain insects has a great deal to do with seed formations and were the seed crop destroyed for two successive years we would be without means of reseeding our land as clover is a biennial plant. Generally speaking it dies at the end of the second year. These insects are the bees and the clover-flower "midge." The first is essential as a polenizing agent, for the clover plant is sterile to its own pollen, while the second insect destroys the flower and prevents the formation of seed.

Red clover is the chief food plant of the clover flower midge. It is rarely found on either white or alsike clover and never in sufficient numbers to affect seed production. The midge is a small mosquito-like fly which lays its eggs in the young clover heads. The tiny maggots that hatch from the eggs destroy the seed producing parts of the flower. As the forage value of red clover is not impaired by the midge it is of economic importance only in seed growing districts.

It has been quite destructive in certain parts of the Province for a number of years and in one instance last summer it almost ruined the crop of one grower. Control measures are easily applied: Before starting the seed crop pasture the field with cattle or clip or mow the field and either allow the clippins to lie on the ground or feed the green stuff, or place it in a silo.

The object of these methods is to destroy the first brood of midge maggots by the cutting off and drying up of their food supply. The midge emerges about the first of June from an egg that has remained over winter in the soil, and lays eggs in the young green clover head. These eggs hatch out maggots within 5 days and these destroy the blossoms and remain in the head for about 4 weeks, when they drop to the ground and emerge at varying periods, depending upon the amount of seasonal rains, from two to four weeks, when the fly emerges and lays eggs in the heads of the aftermath crop destroying the seed in this crop also. By cutting the first crop when the blossoms are showing and when the maggot is salmon pink in color they can be starved out and killed. Consequently the second crop does not become infested.

The yield of seed per acre, or ton of clover hay, ranges from one bushel to five. One grower, Mr. McLaughlin, of Perth, had 3,000 lbs. of seed from about 24 acres, a yield of 125 lbs. per acre. At the present trend of prices he is sure of $100.00 per acre. Other growers have secured lager yields on smaller areas.

Up to the present this season the clover-huller has threshed out about six tons of seed and there still remains a great deal of thrashing to be done in the counties of Kent, Kings, and Northumberland. The clover seed growing industry is rapidly expanding and, with the increased knowledge of clover culture acquired by the farmer in recent years it is reasonable to expect that one day our dependence upon outside sources of clover seed will be removed.

DO NOT NEGLECT THE BEES

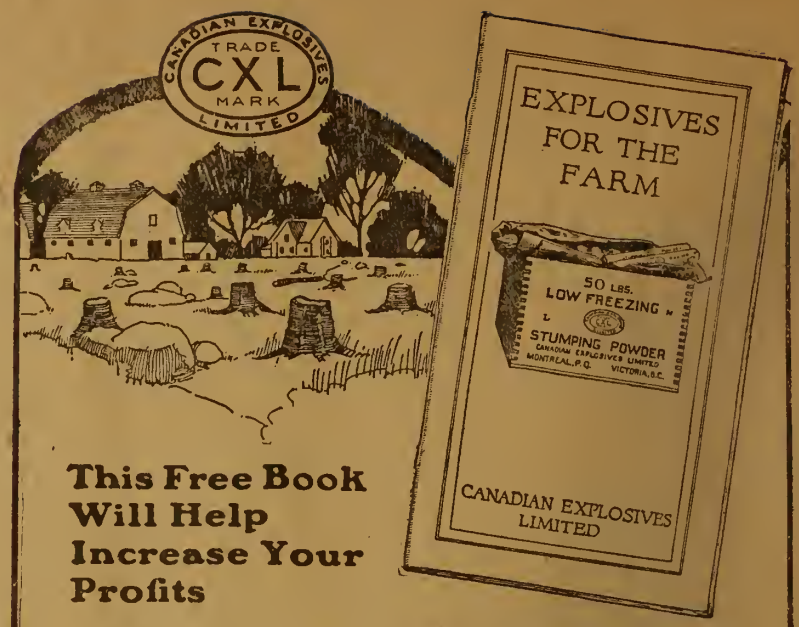
(Experimental Farms Note)

The present high price of sugar reminds us that Canada produces natural sugars that are still more valuable than the product of the refineries. Fortunate are those who not only possess bees at this time, but understand them and have supplied their needs.

The early spring months are the most critical period of the year in the life of the bee colony. At the same time, the pressure of spring work of cultivating, seeding, etc., on every fine day on the farm too often leaves the bees forgotten.

There are several reasons why the bees are more liable to be neglected than other things on the farm. Hidden away in their hives they do not require daily feeding like other animals. Such attention as they need is in the nature of a surgical operation, and the opening of the hive is not always anticipated with pleasure on account of the risk of receiving stings. Yet, on many farms, the bees have been found to pay better than anything else, considering the small amount of capital and labour expended.

The principal danger to avoid at this time of year is starvation. If each colony went into the winter strong, with a good fertile queen and a plentiful supply of stores in the combs, the first examination of the hive had better be deferred until the weather is warm and nectar is being gathered. But if the stores are run-



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ning short, a cake of bee candy or a comb of honey laid over the combs if the bees are still in the cellar, or, if spring is opening, a superficial examination of the hives on the first favourable day, combs of honey from heavy hives being then given to those that are light, may save the loss of colonies and increase the value of the honey crop by many dollars.

A bulletin on the care of bees may be obtained on application to the Central Experimental Farm, Ottawa.

F. W. L. Sladen, Apiarist,
Experimental Farm,
Ottawa, Ont.

WHAT FACTORS INFLUENCE SEED YIELDS IN ROOTS?

(Experimental Farms Note)

During the last few years considerable quantities of field root seed, including Mangel, Swede turnip, and Carrot seed, have been raised by the Dominion Experimental Farms' System for the purpose of safeguarding against a threatening shortage in the supply. Much valuable information has been accumulated on the subject of root seed production, the more so because, while engaged in seed growing as an emergency undertaking, the Experimental Farms' System at the same time desired to gain reliable data bearing on the possibilites of making root seed growing a permanent agricultural industry in Canada.

One of the more important subjects in connection with root seed growing which have been investigated is the question of under what conditions the heaviest possible seed yields may be expected. This question is of course of particular interest, as the size of the seed yields will largely determine the profit from seed growing.

In the first place, it is necessary that the roots to be used for seed raising are absolutely sound when planted out. Our experience is that planting of roots which show signs of disease or rot, especially at the crown, leads to most disappointing results. Such roots may linger along for some time, but sooner or later they die off, with the result of course that the seed field becomes patchy and consequently gives a comparatively low yield per acre.

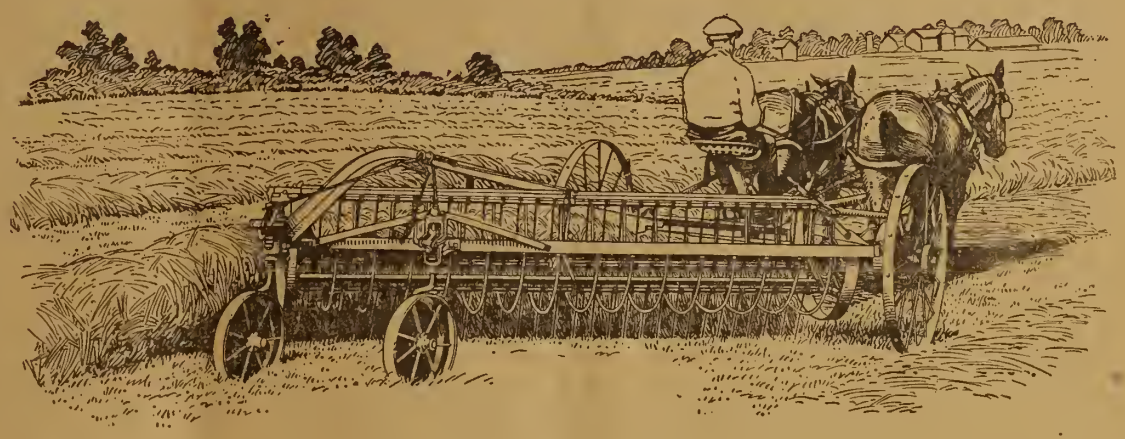
In the second place, the seed roots should be planted as early as possible in the spring. The earlier they are set out the heavier are the seed yields which may be expected. This applies to all kinds of field root seed crops, and has been demonstrated over and over again.

In the third place it is absolutely necessary that the land is in good tilth and in a high state of fertility. Several experiments conducted the last few years have most decidedly shown that the land must be in the best possible shape if good seed crops are to be expected. An experiment carried out at Ottawa in 1915 gave results to the effect that an application of 20 tons of barnyard manure to the acre, or of a commercial fertilizer, composed of 500 pounds of Superphosphate, 200 pounds Muriate of Soda, and 200 pounds of Mcriate of Potash, increased the seed yield of mangels with almost 50 per cent. Experiments carried out later have not only substantiated this result but also shown that a still greater increase in the yield may be realized if the land is given both manure and artificial fertilizers in liberal quantities.

Sound roots, early planting, and rich land are the main factors which determine the size of the yields. It should be added, though, that the yields are also influenced, to a not unimportant degree, by the supply of farm labour that may be available and by the size of the seed fields. Profitable root seed growing requires plentiful labour at certain periods and under present conditions, the writer would say that to a farmer who has not had years of experience in root seed growing, one or two acres may prove more remunerative than a large acreage, because with a small acreage, the yield is apt to be much greater per acre than if the acreage is so large that it cannot be handled conveniently.

M. O. MALTE,
Dominion Agrostologist.

Air-cure Your Hay the International Way



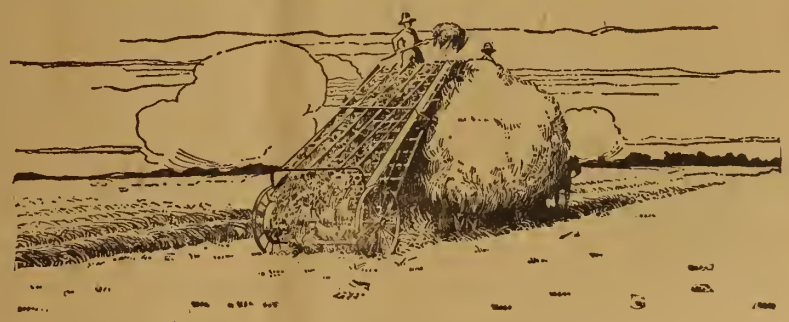
IT ISN'T sun-drying that puts quality into hay, but *air-curing*. And hay is air-cured best when side-tedded into light, breeze-sifting windrows such as those that trail off in the wake of

International Combined Side-delivery Rakes and Tedders

You can follow closely behind the mower with this machine and rake the hay before the leaves begin to wilt. The teeth strike the heads of the hay first and rake clean, picking up every last wisp — and there is no shattering of leaves. The hay is turned completely over and deposited in snug, airy windrowsthrough which the air circulates freely, curing evenly both stems and leaves with its magic touch.

There are points of mechanical excellence that distinguish this fast-working, gentle hay-handling machine from all other types of side-rakes and tedders. There are also many points of mechanical excellence that distinguish all hay machines made in the International Harvester factories — **McCormick** and **Deering mowers** and **self-dump rakes, International sweep rakes, stackers** and **loaders.**

Ask your nearby International agent about these good hay tools.



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MARKING OPEN FRUIT PACKAGES

Sub-section 3 of Section 320 of the Inspection and Sale Act, Part 9, as amended in 1918 requires that:

"Every person who, by himself or through the agency of another person, packs fruit in an open package, intended for sale, shall cause such package to be marked, before it is taken from the permises where it is packed, with the initials of his christian names and his full surname and address, or in the case of a firm or corporation, with the firm or corporate name and address in a plain and indelible manner, in letters not less than one-quarter of an inch in length. Provided that any co-operative association or person dealing wholesale in fruit may cause the package containing such fruit to be marked with his own name and address, but such packages must also be marked with a number or other mark approved by the Minister which will designate who is the original packer of such fruit."

WHOLESALE DEALER'S RESPONSIBILITY

Wholesale dealers desiring to receive consignments of fruit in open packages marked with their own name and address, and without the name of the packer, must cause such packages to be marked with a number or other mark, which will designate the original packer of the fruit. This number or mark must receive the approval of the Minister of Agriculture.

PACKER'S RESPONSIBILITY

In no case where a number or mark is used to designate the original packer of the fruit, is the packer relieved of the responsibility for the proper packing and grading. He is liable if he omits to mark his name and address on the fruit package, if a shipping number is used which has not received the approval of the Minister of Agriculture. It is therefore necessary that every packer desiring to ship in accordance with these provisions, should assure himself that the shipping number or other mark which has been furnished him by the wholesaler, has received the approval of the Minister of Agriculture.

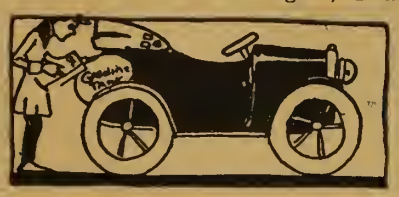
HINTS FOR THE MOTORIST by ALBERT L. CLOUGH

THE FABRIC UNIVERSAL JOINT

Until recently the universal points required to convey the varyingly directed driving force from the transmission to the rear axle as well as the flexible joint, required in some designs between the clutch and the transmission, have been more or less complicated mechanisms of the Hooke's joint, ball and socket or Oldham type, consisting of metallic parts moving one upon another and requiring constant lubrication. They have too often been neglected in this regard, with the result that their parts have worn rapidly, become very noisy and developed lost motion which entailed disagreeable and destructive jerks at starting and in changing speeds. Quite lately, however, universal and flexible joints have begun to be adopted, which embody no moving mechanical parts, but in which the required variation in direction of the connected shafts is obtained through the flexibility of fabric discs interposed as driving members between the members subject to varying direction. The service required of these fabric discs is severe and their material must be adapted successfully to withstand continuously repeated bending, but they have the advantages of requiring no lubrication, of complete noiselessness, of cushioning the driving forces and of developing no lost motion. Their successful introduction will relieve the motorist of much trouble and annoyance. Even though such joints require rather frequent replacement, their use may still prove ot be warranted.

EXTRA LUBRICATION BY MIXTURE METHOD

H. R. J. writes: Before laying up my car, I had new piston rings put in and have been advised that, when placing it in service again, I add



about a pint of oil to each five gallons of gasoline put into the tank, to furnish extra lubrication for the rings, while they were working in. What result will this have and will it effect the gasoline?

Answer: This is a good idea, as small amount of oil is brought in with the fuel mixture and deposited upon the upper part of the cylinder walls, which the splash lubrication from the crank case may not reach effectively, in case the rings are excessively tight. It will reduce the danger of the new rings scoring the cylinder walls. Before starting the engine, it will be well to inject a little oil on top of each piston through a valve cap or spark-plug opening. We think you will find that the oil mixture has no troublesome effect upon the gasoline.

PREVENTING ACCIDENTAL BATTERY DISCHARGE

L. H. C. asks: Would it not be well, on storage battery equipped cars, to install a switch, by which the battery circuit could be broken, when the car is not to be used for several days at a time, thus avoiding waste of current through accidental leaks in wiring?

Answer: The idea is excellent, but we doubt its practicability. You would have to use a switch of large capacity in order not to introduce resistance that would affect the starting current and you might have trouble in finding room for such a switch, where it could not be short-circuited or affected by dirt and liquids. Introducing unnecesssary contacts into an already complicated system is gener-

ally indavisable, especially when they are very seldom operated. Frequent inspections of the wiring; a reading of the ammeter, when you leave the car, to see that it shows no discharge and the removal of a battery connection or of the ground connection when the car is to be laid up, are precautions which will prove pretty effective against accidental discharges.

WEAK COMPRESSION AFTER OVERHAULING

J. S. S. writes: I recently decarbonized my engine and put in a new head gasket, which I know to be perfect, but did not grind the valves, as they seemed all right. Two cylinders now show poor compression although they previously were tight. How can

I tell whether the rings or the valves leak?

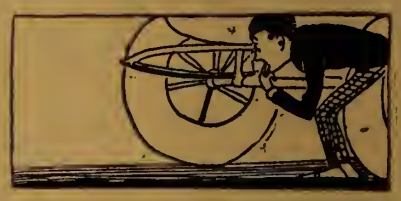
Answer: Take a piece of rubber tubing or hose and insert one end well into the crank-case breather or oil filler opening. Remove all spark-plugs except that of the cylinder being tested and have this cylinder cranked over compression, while someone listens at the free end of the rubber tube. If the rings leak, you should hear a hissing escape of air into the crank-case. By inserting the listening tube into the carburetor air intake and cranking the cylinder over, the blow back of air through a leaking inlet valve can usually be perceived, but without disturbing the piping, this test cannot be applied to the exhaust valve. If you have disturbed the push-rod adjustments perhaps some of them may be so close as to hold their valves open. Look out for particles of carbon on the valve seats and remember that unless oil has fully worked in under the rings, they cannot be tight.

LOOSE ENGINE PARTS AND THEIR DANGERS—HEED THE "POUND" BEFORE THE "SMASH" COMES

Knocking or pounding upon the part of an engine is so intensely disagreeable to the trained motorist and indeed to any mechanically inclined operator that immediate steps are generally taken to have its cause removed, but there are some drivers, who through indifference or lack of knowledge of the consequences, put off from day to day the repairs which such symptoms indicate are necessary and tolerate "pounds" until they become unsufferable or until the conditions which cause them have brought about very serious results. Pounding noises are the danger signals proclaiming that losseness exists in parts, which should be running in close continuous contact and they result from blows dealt by one part against another. The most common examples sare those of looseness in crank-shaft and connecting rod bearings, the former permitting the crank-shaft to play violently up and dawn in its bearings in the crank-case and the latter allowing the lower ends of the connecting rods to move relativey to their crank-pins, upon which they should run without slack or lost motion. Looseness capable of causing a pound is sure to aggravate itself very rapidly because the parts that strike together, under high velocity and pressure, act as hammers to batter one another's surfaces, deforming them rapidly into a state of even more pronounced looseness. Whenever two parts, moved by certain forces, strike one another the stresses produced in them are immensely greater than when they merely push one another and this makes the effect of loose engine parts most destructive The metal of the crank shaft, thus subjected to blows, tends to become fatigued and premature breakage may be the result, while the bolts that secure bearing caps in place, are prone to break under long continued pounding. When a bearing cap comes loose, especially a connecting rod cap, the engine may be almost completely wrecked, for the detached rod runs wild and is very likely to punch a hole through the crank-case or break the cylinder block casting and to get in the way of the cranks, thus springing the crank shaft, out of line—damage which is not easily repaired. The moral of al lthis is, that when a pound develops, it should be understood as a solemn warning, which should be acted upon at once and not put off. If this is not done, the looseness which gives rise to the noise will increase rapidly, damage already done to the parts will be greatly augmented but the most serious possibility is that parts may break loose and smash the engine.

ARE SNUBBERS OF VALUE

S. H. C. writes: Do not snubbers improve the riding qualities of a car and prevent the snapping of springs by the upward motion of the body after a severe jolt?



Answer: They do. In some respects snubbers are superior to other forms of shockabsorbers.

Your Protection Against Weather

"Save the Surface and You Save All"

Economy

Ready Mixed House Paint

Whether your house is frame, brick or stone, there is some woodwork about it.
The length of time that woodwork is going to last depends on the protection you give its surface.
Economy Ready Mixed House Paint is the best protection. It is scientifically compounded to resist weather attacks. Pure materials and scientific manufacture make it chemically perfect.
Use it for your farm dwelling, inside and outside. The price is moderate.

Sterling Shingle Stain

Gives like protection to your roof. Absolutely waterproof. Will not fade. Comes in attractive shades.

Longwear Barn Paint

For barns, bridges, fences, farm machinery, etc., supplies a big paint-need on the farm. Best protection for rough wood and metal surfaces.

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Fill in your name and address and mail us this coupon. We will send FREE our color card and price list.

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Please send me FREE of charge your Color Card and Price List for Economy Ready Mixed House Paint, Sterling Shingle Stain, and Longwear Barn Paint.

Name.....
P.O. Address.....
County.....Province.....

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STREAMLINE HOOD
Puts Your Car in $1,000 Class
Covers Brass Radiator
Only $17 Complete with Cap
WHY BUY A NEW CAR?
Fits Cars previous to 1917
Ask your Garage or write for Circular
The Burrowes Manufacturing Co.,
611 King St. West, TORONTO

LAMP BULB SIZES AND GEAR SHIFTING

J. K. H. sks: (1) Will it do any harm to use, in my headlights, stronger bulbs than the factory recommends? (2) What can I do to prevent that grinding noise, which occurs when shifting gears?

Answer: (1) No. But, of course, they will increase the drain of current from your battery. (2) Be sure that pou push your clutch away out, especially when changing from a lowed to a higher gear. Try to have the car speed and the engine speed so proportioned one to the other that the gears to be meshed are running at about the same speed before trying to force them together. Take time and be gentle in shifting, feel-

ing the gear edges to be sure conditions are correct, before useing force on the lever. Don't try to engage low or reverse when the car is moving. In changing from high to secong, go into neutral, let in the clutch, speed the engine slight, throw out clutch and then mesh the gears. If your car is equipped with a clutch-brake, to prevent the clutch from spinning idly, be sure that it is properly adjusted and that it produces the effect intended. Use lubricant of the right consistency in the gearbox.

AMMETER READS INCORRECTLY

T. C. asks: What caused the ammeter on my car suddenly to begin to indicate incorrectly. When the engine is stopped it now reads several ampheres "charge" and the amount of current shown, when the lamps are on, is much less than it should be. Can it be fixed?

Answer: The only thing we can

think of is that the instrument has suddenly been thrown out of calibration or the pointer has become bent by some accident, so that it fails to indicate zero when no current is passing. The most common way in which this sort of thing happens is from the effect of a short circuit in the wiring. This permits such an immense current to flow that it strikes the pointer violently against the stop on the "discharge" side of the instrument, permanently bending it. If the glass can be removed you may be able to carefull bend the pointer back, so that it zeroes correctly. If not, you better return the instrument for repairs.

ENGINE IS INCLINED TO KNOCK

H. & J. write: We have a 1914 —— engine of which has recently acquired a knock, when pulling a grade slowly or when being accelerated quickly. The best mechanics tell us that it amounts to nothing, but we lose power on account of having to retard the

spark so much in trying to keep down the knock. Can you give us any helpful suggestion?

Answer: We assume that this engine is in perfect mechanical condition, that it is free from carbon, that the fuel mixture is correct, that the cooling system is operating normally and that the ignition is properly timed. It is a well known fact that, in order to increase their power, these engines were given a compression ratio which was very near the practical limit at that time and which in many instances has proved somewhat higher than can be successfully utilized with present-day gasoline. We have known of several instances in which compression has had to be reduced to prevent knocking and yours may be a case of this kind. We suggest that you install a set of "low compression" valve-caps, which the manufacturer can furnish and, if this change does not stop the knocking, that you shim up the cylinders by the use of a liner between the crank-case and the cylinder flanges.

PESSURE FUEL FEED SYSTEM LEAKS

A. W. S. writes: The car that I am driving has a pressure fuel feed system and gives me endless trouble, because the pressure is not retained. Even after a short stop, I have to work the hand pump before I can get gasoline to the carburetor and, when the tank is nearly empty, this is quite a tiresome job. What can you suggest?

Answer: Doubtless you can in time discover and stop the leaks which reduce your pressure so rapidly, but we believe that it would pay you in the end to tear out this pressure system and install in its place a modern vacuum feed system. The expense incurred would not be great and we fear that you will experience frequent trouble with your present system, so long as you keep it. If, however, you decide to "tighten up" your old system, first locate the leaks by taking a

brush and soap solution and brushing over all joints of every description in connection with the hand and power pump, the air line and the fuel tank. Keep the pressure up, meanwhile, and wherever soap bubbles form, stop the escape by soldering, by the provision of new fitting or packings or in some such manner. Be sure that the check valves in the pumps work properly and do not permit air to blow back.

ENGINE "FALTERS" AT HIGH SPEED

H. M. Y. writes: My Ford pulls the hills well enough and I have little fault to find with it when running slowly, but when I try to get it above a certain speed, it misses, sputters and will not go any faster. Where is the trouble most likely to be found?

Answer: The following are a few of the possible causes: The timer may be so worn that, while the roller makes reliable connection with the contact segments at lo wspeed, its track is so uneven that, at high speed, it tends to jump and no longer makes infallible contact with the segments. Some of the valves may be inclined to stick in their guides, owing to roughness or warping of their stems and they may

fail to seat in time when the speed exceeds a certain value Weakness of some of the valve-springs may aggravate this behavior. It is also barely possible that the gasoline line is somewhat obstructed and not quite enough fuel can be supplied to keep the mixture up to normal strength, when the engine is drawing charges fast. You better inspect the timer, test the valves and their springs and see that the gasoline pipe is clear.

Experience Saves Money in this Maxwell

THE 300,000 Maxwells built to date saves you many a worth while dollar in the new Post-War Maxwell. Those 300,000 saved in many ways.

Maxwell

More miles per gallon
More miles on tires

1. They taught "short cuts" in manufacturing.
2. They eliminated all experimental work—you don't have to pay for a single engineering mistake.
3. They developed quantity production which has reduced "overhead."
4. They enabled quantity purchases; and better materials are bought at lower costs.
5. They taught how to build an almost trouble-proof car; you seldom take a Post-War Maxwell to a repair shop.
6. They taught how to get the most mileage out of a gallon of gasoline, a pint of oil and a set of tires.
7. They taught how to build a car that the less skilled driver would find simple to operate and take care of.
8. They taught that it was better to build more and take less profit per car rather than build less and take more profit per car.
9. They taught how to put more and more value in the car without increasing the cost.

This Post-War Maxwell is next year's car. It contains features developed during the war, many of which will find their way into other cars in the summer of 1920.

MAXWELL MOTOR CO., OF CANADA, LIMITED, WINDSOR, ONT.

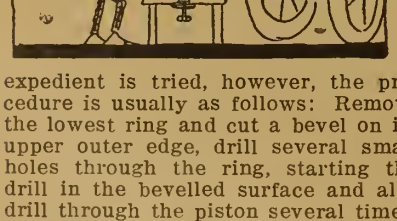
HOW CYLINDERS WEAR OUT

Cylinders and pistons made of the best metal and originally well fitted, wear with extreme slowness if only they are kept continuously well lubricated. Very often they still remain in perfectly usable conditon when the car which carries them is discarded, because its style has become obsolete or because of mechanical defects external to the engine. Mileages well up in the ten thousands may be expected of good cylinders—always assuming conscientious lubrication. The motor car engine piston acts not only to receive and transmit gaseous pressure but also to guide the motion of the connecting rods, the piston iself functioning as a cross-head and the cylinder walls as a guide and thus all the bearing pressure imposed upon these parts cause friction and wear on their opposing surfaces. All these forces act in one plane, namely in that at right angles to the crank shaft, with the result that piston cylinder wear is almost entirely in the plane of connecting rod motion and practically absent in the plane perpendicular thereto. When new, the cross sections of the cylinder bore and the piston are perfect circles, but their wear being all in one plane, both parts wear elliptical, the cylinder bore diameter in the connecting rod plane becoming elongated and the piston diameter in this plane becoming shortened so that finally the cylinder bore and piston cross sections become those of two ellipses with their longer diameters at right angles. The inaccuracy is, of course, relatively slight, but sufficient to leave two crescent shaped spaces on opposite sides of the piston which finally cannot be packed. Gas tightness being the essential condition for successful operation, when it becomes impossible to pack the piston tightly in its bore, the parts are no longer usable. Moreover, the ellipticity or ovalization, prevents the perfect functioning of piston and cylinder as cross-head and guide and the piston, as it moves up and down, vibrates from one side of the bore to the other or "coks up" so as to fill the waste space, producing the noise commonly known as "piston slap." Piston tightness is entirely dependent upon the piston packing rings and the oil which collects around them and, as these rings are circular in form, with a tendency to expand against the cylinder wall, it is not to be expected that they can pack a bore which is ovalized to any marked extent.

CYLINDER PUMPS OIL

H. W. C. asks: Will drilling one-eighth inch holes in the bottom of a Ford piston stop the oil working past it and, if so, where is the best place for them? The cylinder is not scored and I have tried an oversize piston and rings.

Ansyer: We doubt it. When this

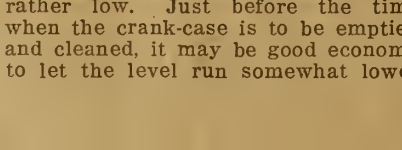


expedient is tried, however, the procedure is usually as follows: Remove the lowest ring and cut a bevel on its upper outer edge, drill several small holes through the ring, starting the drill in the bevelled surface and also drill through the piston several times, starting the drill in the ring groove. The bevel is supposed to catch oil scraped from the cylinder walls, which is returned to the crank-case through the holes. If it is the front cylinder that gives trouble, you might try drilling a small hole in the oil supply pipe, so that part of the oil will be delivered to the second crank-case compartment. In case this engine is rather an old one, we fear that the troublesome cylinder has worn somewhat oval, so that rings cannot make it tight, in which case boring out the block and fitting new pistons is the only thing likely to give you permanent relief.

WHEN TO SUPPLY ENGINE OIL

L. H. C. asks: Is it better to keep the oil indicator on the engine base at "full," by adding oil frequently or to wait until it is down to "one-half full" and then add the larger quantity required?

Answer: The former is the safer practice, since it affords a larger margin of safety in that the car, on the average, can be operated longer without attention as to lubrication and without danger than as if the level were frequently allowed to become



rather low. Just before the time when the crank-case is to be emptied and cleaned, it may be good economy to let the level run somewhat lower than usual, as less oil will then have to be thrown away but, as a general practice, we recommend keeping the system filled, by adding whatever oil may be required each morning or oftener, of course, when the service is strenuous.

DEALING WITH THE WORN CYLINDER — CIRCULAR CANNOT PACK ELLIPTICAL CYLDERS

The first sign of wear between a cylinder and its piston is lack of tightness between them, which results in the escape of the gases, when the compression stroke is being performed. When this leakage cannot be attributed to imperfect seating of the valves, faulty piston fit is indicated. Installing new rings is the natural recourse and it may restore the original tightness in case the old rings have so worn that their ends do not nearly meet, if they have become loose in their grooves or have lost their spring or have broken, but it will not give satisfactory results if piston, and cylinder wear have progressed so far as to have resulted in considerable ovalization. If the piston, when removed, does not show large areas where it fails to follow the bore (as indicated by blackened portions) and, when cleaned of oil, cannit be wabbled in its bore by force applied to the connecting rod, while, at the same time, the rings are loose, weak in spring and blackened over parts of their faces, it may be hoped that new rings of good construction and of slightly larger size may improve compression. If they fail to do so, the next step is to install pistons that are as much oversize as can be used without causing binding when they become hot. The new pistons are, of course, truly circular in section and their use reduces the total ovalizing effect—rings of the full allowable oversize being used with them. It should have been remarked that unless the cylinder bore possesses a mirror like polish and is free from scratches or scores, the above mentioned expedients are of little value. Finally, in the history of a cylinder a time may come when oversize pistons and rings do not restore compression or prevent excess oil from reaching the combustion space. The piston then usually shows large blackened areas and noticeably bright, worn areas one toward the top and one toward the bottom on opposite sides in the connecting rod plane. It can usually be wabbled in its bore, when all oil is cleaned off. Measurements taken by micrometer calipers

RESULTS

THE growing demand in motor cars is for lightness in weight without the sacrifice of strength and efficiency. Just as the light battle cruiser proved its efficiency with the British Fleet so the McLaughlin Light Six is establishing new efficiency and economy records with thousands of Canadian owners.

McLAUGHLIN MOTOR CAR CO. LIMITED
OSHAWA, ONTARIO
BRANCHES IN LEADING CITIES DEALERS EVERYWHERE

See the McLaughlin Models at the nearest McLaughlin snow rooms.

Model K-Six-63 Special M51

The McLAUGHLIN LIGHT SIX

will then show that the bore diameter in the connecting rod movement plane is decidedly greater than in that at right angles thereto and piston slap may have become noticeable. When measurements show more than 0.003 or 0.004 inch difference in the bore diameter it is generally considered that first class results as to tightness cannot be obtained without having the cylinder (and its mates) rebored, which is the only means of restoring a truly circular cross section and insuring operative tightness.

TRAILER INQUIRY

L. H. C. asks: Will a 23 horsepower auto, on low gear, pull as great a load on a trailer as will one good, strong horse? How should a trailer be fastened to a car to enable it to turn corners properly?

Answer: We have no figures as to the pulling ability of such a horse or as to the actual horsepower of an engine thus rated, and can therefore give you merely an opinion. As a guess, we should say that, on a good road and assuming the wheels not to slip, the car would pull more than

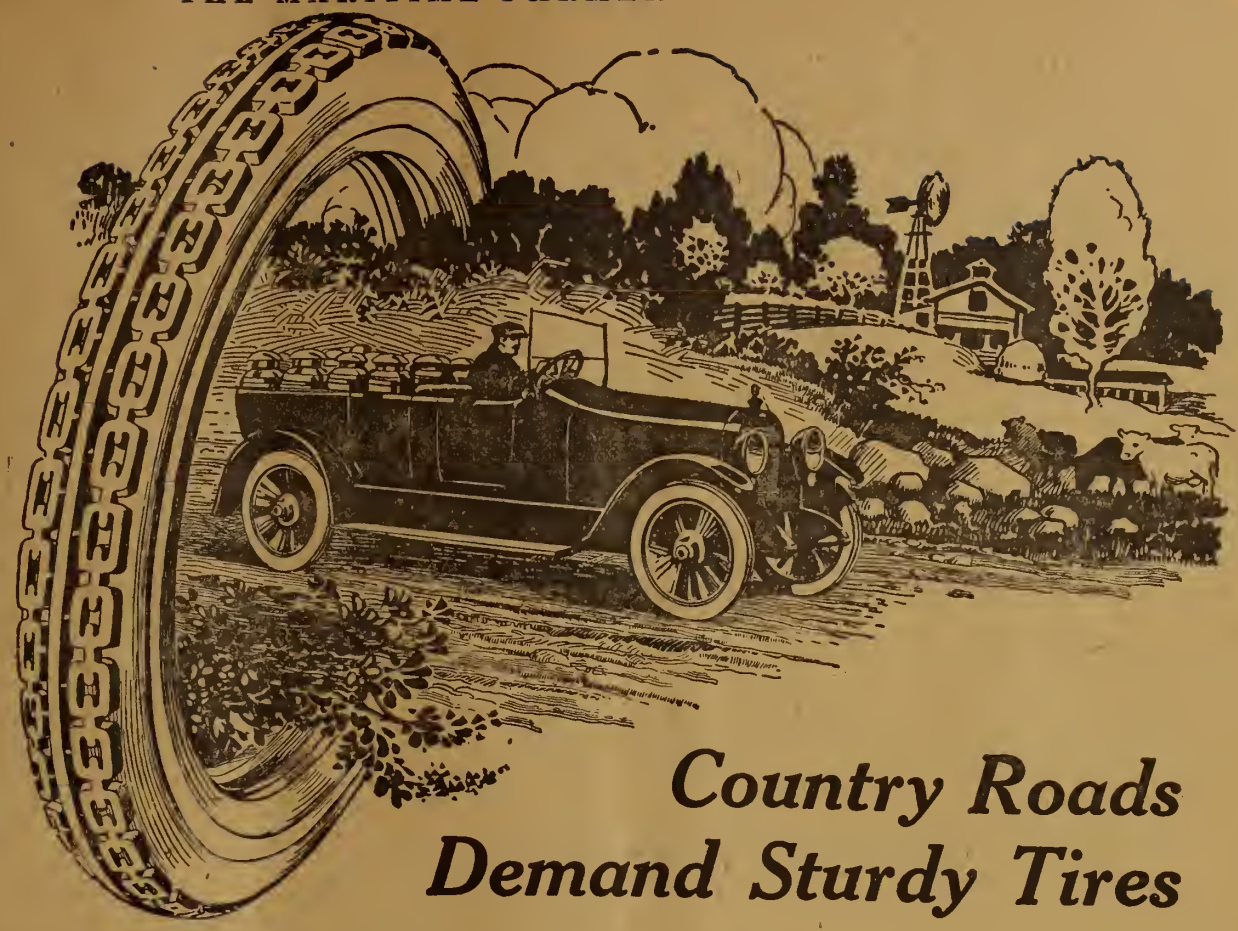
the horse could for any considerable length of time continuously, but that the horse could start and pull for short distances a greater load than the car, especially if the road were poor. A two wheel trailer is attached by fastening its tongue or draw-bar (usually through some sort of heavy spring), to a fitting, made fast to the rear cross member of the car frame. Four wheel trailers should preferably be specially constucted vehicles, with regular motor car type of steering gear, in order to follow the tractor propely aound corners, but ordinary four wheeled vehicles, connected in the ordinary fay, can be used where traffic conditions do not require sharp turns.

DETERMINING ENGINE OUTPUT

W. R. T. asks: Will you please publish an explanation of the method by which the horsepower of a gasoline engine is determined?

Answer: The engine is connected to a dynamo, by connecting its crank shaft directly to the dynamo's armature shaft and the engine is then run at full output, while the power given by it to the dynamo is measured. The horsepower delivered by an engine is found by multiplying the torque or twisting force in foot pounds furnished at its shaft by its speed in

revolutions per minute and dividing the product by 33,000. The dynamo used s generally of a special type, known as an electrodynamometer, which measures the torque directly, appropriate allowance being made for electrical and mechanical power losses, and the speed is measured by a tachometer or revolution counter. As you probably know, the horsepower rating given to a gasoline engine is purely conventional and gives little idea as to what it actually can do. It is obtained by multiplying its cylinder bore in inches, squared by the number of its cylinders and dividing the product by 2.5. The result represents what an engine may be expected to deliver when each of its pistons is moving at the rate of 1,000 feet per minute.



Country Roads Demand Sturdy Tires

If the roads you travel are as smooth as Yonge Street in Toronto, or Portage Avenue in Winnipeg, you don't have to be particular about which Dominion Tire you put on your car. Any of them will serve you well.

BUT—if you have to bump over ruts and ditches—and if you use the car for country driving—then get the Dominion Tire best suited to the roads and the loads.

There are six treads to choose from—"Royal Cord", "Nobby", "Chain", "Dominion", "Grooved" and "Plain", for every car and every purpose.

DOMINION TIRES

ARE GOOD TIRES

The steadily increasing demand for them by experienced motorists is the best proof of their leadership.

Dealers who handle DOMINION TIRES also carry DOMINION INNER TUBES and the full line of Patches, Sleeves, Reliners, Cement and other DOMINION TIRE ACCESSORIES.

CANADIAN CONSOLIDATED RUBBER CO. LIMITED
DOMINION RUBBER SYSTEM
AND ASSOCIATED COMPANIES

245

Lawndale Stock Farm

Jerseys and Shorthorns (Pure Bred)

We are at present, owing to increased demand and sales, about sold out, with the exception of one young Durham bull, dropped in July, 1919—but watch our new offerings during the summer of 1920.

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

COSSAR STOCK FARM

Lower Gagetown, N. B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

We are presently offering, one imported Clydesdale Stallion "Dunure Crag" sired by the famous breeding horse "Baron of Buchlyvie."

Also

One Canadian bred Clydesdale Stallion "Baron Cossar", rising 5 years old.
Further particulars on application.

G. C. Cossar, Proprietor. J. Meiklejohn, Agent.

Elmwood Stock Farm

We have a few young bulls to offer, sired by Dutchland Colantha Sir Rag Apple, a son of Colantha Johanna Lad. His dam is a granddaughter of Pontiac Korndyke. Thus combining the blood of two of the greatest bulls the world has ever seen.

The dams are daughters of Dutchland Pieterje Count. These calves are a nice straight growthy lot.

W. L. ETTER, Shubenacadie, Hants Co., N. S.

Bay View Farm For Sale!

PETITE RIVIERE, N. S.

About 150 acres in one block, on the east side of Petite Riviere River and bordering on the river—35 or 40 acres under cultivation—40 or 50 acres in pasture—remainder in woodland.

The house is a modern 12 roomed one, with ell, and has water piped from well.

There is an orchard of 50 or 60 trees, and the woodland contains forty or fifty thousand feet of lumber, in logs.

There are two barns (water in one), a hen house, an ice house, a large work shop and a wood house.

Can be bought at any time at a bargain—proprietor is selling because he is unable, from advancing age, to work it properly.

Apply to
E. J. WENTZEL,
PETITE RIVIERE, N. S.

White Plymouth Rock

Eggs for Hatching

We offer a limited number from prize winning, bred to lay stock.

Our matings include 1st prize N. Y. State 1919 Pullet, 1st and 4th Cockerel, 1, 2, 3, 4, 5 Pullet and 1st Pen at Moncton, 1920.

A good hatch guaranteed or we will replace at half price.

$2.50 per 15 Eggs
$15.00 per 100 Eggs

Centreville Poultry Yards,
(G. E. Wilson, Mgr.)
CENTREVILLE, - - N. B.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

"Carleton County Holstein Breeders' Club, R. W. Maxwell, Woodstock, Secretary."
F. W. C. Nase, Nerepis, N B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B

Ayrshire Cattle

McIntyre Bros., Springbrook Farm, Sussex, N. B.
E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.
C. A. Archibald, Truro, N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

YORKSHIRE PIGS

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
C.A. Archibald, Truro, N. S.
J. James Ross, Pictou, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on, as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue, which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex N. B.

WANT TO HEAR from party having farm for sale, give particulars and lowest price. JOHN J. BLACK, Maritime St., Chippewa Falls, Wis.

SELL your property quickly for cash, no matter where located, particulars free. REAL ESTATE SALESMAN CO., 530 Brownell, Lincoln, Nebr.

SEND FOR FREE catalogue of 300 Annapolis Valley farms and homes. VALLEY REAL ESTATE AGENCY, Wolfville, N. S.

LADIES WANTED TO DO PLAIN and light sewing at home, whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars. NATIONAL MFG. CO., Montreal.

FOR SALE—Registered Shorthorn bull (General Joffre 109614), colour roan, 4 years old July, 1920. Weighs 1850 lbs. Is quiet and a sure stock getter. CARL SMITH, Newport, Hants Co., N. S.

WANTED—Cheese maker, Cornhill Corner Dairy Co., coming season. Output last season, thirty-five tons, six months work. Apply stating salary and qualifications. A. T. STOCKTON, Sec.

FOR SALE—One 200 Egg "Peerless" Incubator and Brooder. Good as new. Perfect working order. Positive bargain. Apply to ARTHUR M. FRIER, Shediac, N. B.

THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and other premises. Price $4.00 per 100 lbs. Apply by mail to "NAILS," care of Office Maritime Farmer, Sussex, N. B.

HATCHING EGGS—Rhode Island Reds. Pen 1 headed by 2nd prize cock at 1919 Maritime Winter Fair mated to hens of good color $4 00 per fifteeu. Pen 2 headed by prize utility cockerel mated to large hens, good layers. $2.50 per fifteen White Leghorns Baraon strain winter layers of large eggs, $3.00 per fifteen, MOUNT PLEASANT POULTRY YARDS, 62 Park Street, St. John, N. B.

Shorthorn Cattle

High grade registered stock Of for sale

J. E. HETHERINGTON
CODYS, :: :: :- N. B.

SUNNYSIDE STOCK FARM

Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

HIGHLAND LAKE HOLSTEINS

Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.

We have young bulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows: and one ready for service from a 31-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yonge St. Radial) JEFFERSON, ONT

BELLEVUE STOCK FARM

Shorthorn Cattle and Shropshire Sheep

The early maturing and good doing sort—bred from Show stock in every cross. Offering thirty ewe lambs and shearling ewes to avoid crowding winter quarters. Also a few ram lambs not booked yet.

C. A. ARCHIBALD, Bellevue, Clifton, N. S.

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for salo calves of both sexes, sired by Dutchland Pieterje Count, a bull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Johona Lad, who was 101 A. R. O. daughters 4 over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice, come and see these calves or write for further particulars.

We will also book orders for young Yorkshire pigs for the next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - CANARD, N. S.

COBEQUID FARM HOLSTEINS

We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows have in turn been bred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter each in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a heifer calf or two. Get your orders in quick, they won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

Special Offering

Maple Green Farm Holsteins

On account of the great shortage in the supply of milk in our home town, we have decided (with regret) to dispose of our entire crop of Bull and heifer calves.

If taken inside of the next 30 days will price them away below their value.

The Dams of these calves are now running in the R. O. P., and the last official test conducted by the R. O. P. inspector showed an average test of 4.62% fat for the lot.

All are sired by our 32.32 lb. herd sire "King Korndyke Johanna", whose Dam is a full sister to Canada's Champion R. O. P. cow, "Jemima Johanna of Riverside". Milk in 365 days 30373; butter in 365 days, 1280 lbs.

Phone or write,

R, L. HICKS
DALHOUSIE JCT., - - - N. B.

FOR SALE

Pure Bred Registered Percheron Stallion "King Ferdinand", foaled March 16, 1916, pure black in color, broken to work, weight 1600 pounds, sired by Gresham, champion of Maritime Provinces. Dam, Lady Belle, equally undefeated.

This is a splendid opportunity to secure a horse of exceptional good breeding. Inspection of stables solicited.

For Price and particulars, apply

JOHN ALBERT FLEMMING,
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Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages. Have some good cows to freshen soon. Am booking orders for ram lambs for fall delivery. Write or phone for prices and description.

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Successor to J. MacDonald & Son

Five Ayrshire Bulls for Sale!

If you want the best in Ayrshires come to Hillside. Our Stock sires are a son of the great "Jean Armour" and a son of "Gardrum White Floss", 1919 Amherst champion over all breeds.

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Also span 4 year old horses, span 5 year old horses, span of brood mares and a choice driver

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Have 4 good bulls fit for service, that are well grown and are extra choice individuals, and out of gold, big, heavy producing cows. Also 4 or 5 good bull calves from one to two months, as well as a few good heifers ready to breed, and some already bred to Sir Johanna Ormsby of Hickory, whose dam has a yearly official record of 22,159 lbs. milk asd 971.25 of butter in 365 days. For description and prices write, or come and see our herd.

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Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

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Published Fortnightly in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., MAY 11, 1920 No 16.

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The best way to economize

The best way to economize is to buy roofing with the quality put into it that will make it last longer than ordinary roofings.

Asphalt is one of the most enduring materials known to science—especially if the hard, brittle asphalts are blended with the soft, pliable kind, which produces an asphalt of remarkable toughness, elasticity and durability. This is what we do to get the very best grade of asphalt for the saturation and coating of

Brantford Asphalt Roofing

The saturation of the felt in Brantford Roofing is done at the high point of more than 350 degrees. This makes the saturation complete, every fibre of the felt being soaked through and through with the asphalt.

Brantford Asphalt Roofing does not evaporate under the heat of the sun. Neither does it absorb moisture, freeze or crack. It is also a wonderful fire-resistant, the insurance companies classifying it as a non-combustible. Farmers need not hesitate to put it on barns or other buildings close by railroad tracks, because flying sparks from locomotives or threshing engines that fall on Brantford Asphalt Roofing are harmless and quickly die out without injuring the roofing.

If the interior of a building should catch fire, a Brantford Asphalt Roof acts as a blanket and helps smother the fire. It never sends embers flying through the air to spread a fire.

Brantford Asphalt Roofing has been on the market for many long years—long enough to have proven its lasting quality beyond question. The first roofs covered with it are still doing yeoman service in resisting rain, snow, hail, frost, heat and wind.

Farmers who have roofed one building with it, choose it for the next building requiring a lasting roof. Unlike most other things, Brantford Asphalt Roofing has had a very small advance in price since the start of the war. By enlarging our output and installing new labor saving machinery we have lowered the cost of production, which helps offset the increased cost of raw materials. You need, therefore, not postpone doing the necessary roofing this spring on account of a price consideration. The outstanding value of Brantford Asphalt Roofing, considering to-day's conditions, makes roofing with it a real economy.

Brantford Asphalt Roofing is made in three thicknesses. No. 1 is 60 lbs. per square. No. 2 is 70 lbs. No. 3 is 80 lbs. Both surfaces are sanded, which adds to the weight and durability of the roofing.

Brantford Rubber Roofing

has the same high quality asphalt saturation and coating as Brantford Asphalt Roofing, but it has a smooth rubbery surface instead of being sanded. It is also in three weights.

No. 1 is 40 lbs. No. 2 is 50 lbs. No. 3 is 60 lbs.

Leatheroid Roofing

Slightly lower quality than Brantford Rubber and used for same purposes. Has a leathery surface. Exceptionally good roofing at a low price. 35 lb., 45 lb., and 55 lb. weights. Samples and prices mailed on request.

Standard Mohawk Roofing

This roofing is made of same materials as Brantford Asphalt but is lighter in weight. It is the best quality of any low price roofing on the market. It is a standard that has been tested for years and given entire satisfaction. Sanded on one side. One weight only—40 lbs.

Climax Sheathing Paper

A tough kraft paper coated with high-grade asphalt. For use between footing and foundation of a building, between foundation and wall, between foundation exterior and the earth, below basement cement floors, underneath floors in houses, on walls before lath and plaster are put on—unequalled for damp-proofing and wind-proofing purposes.

Brantford Roofing Co. Limited

Head Office and Factory: BRANTFORD, CANADA

Branches at Toronto, Montreal, Halifax

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PLANTS USED FOR TANNING

(Experimental Farms Note)

The essential feature in tanning is the precipitation of gelatine by the chemical substances to which the general term "tannin'" is applied, as the result of which hides become leather.

The tannins are of very wide occurrence in the vegetable kingdom and occur in almost all parts of the plant, but not always in sufficient quantity to be of commercial importance. In the plant known as Canaigre (Rumex hymenosepalus), which is really a species of dock occurring in Texas, it is found in the root; in many trees such as Hemlock it occurs in the bark; in the Sumacs it is abundant in the leaves; while in still other plants it is found in the fruits or in certain pathological growths known as "galls", such as those on various species of Oak.

Among plants growing wild in Canada which contain tannin is considerable quantities are the following species: The bark of Hemlock (Tsuga candensis) yields nearly 14% of tannin; the bark of White Spruce (Picea canadensis), Tmarack (Larix laricina), and Balsam Fir (Abies balsamea) contains 7% to 14%; the bark of Chestnut Oak (Quercus Primus), White Oak (Quercus alba), and Red Oak (Quercus rubra) yields 12% to 15%; the wood of American Chestnut (Castanea dentate) yields 8% to 10% of tannin, while the stems and leaves of different species of Sumas contain 16% to 24%.

The Horse Chestnut (Aesculus Hippocastanum) although not a native of Canada is fairly hardy at Ottawa. Its bark yields a considerable quantity of tannin, while analyses of the leaves made in different months of the year showed a percentage varying from 2 to 6½.

While the barks collected in May and June are said to contain the largest amount of tannin, further investigation seems to be necessary before the point can be regarded a finally settled, as the analyses that have been made of some species do not seem to bear out the above statement.

Increased attention is being devoted at present to the Sumacs as a source of tanning materials; in this group it is not necessary to destroy the tree as the leaves and not the bark are used. There are three Canadian species whose leaves furnish tannin in considerabe quantities. Dwarf Sumac (Rhus copallina) occurs in Southern Ontario, White or Smooth Sumac (Rhus glabra) extends from Nova Scotia to British Columbia, while Staghorn Sumac (Rhus hirta) is found from Nova Scotia to Ontario.

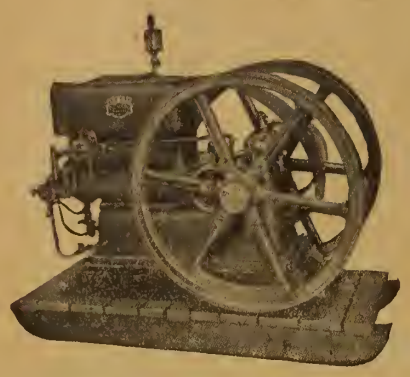
The best time to gather the leaves is during the month of July, August and September. The branch of the current year should be cut or broken in such a way as to leave a few buds at the base to continue the growth next season. The leaves contain a much greater amount of tannin than the stems. Green Sumac losses at 50% to 60% of it weight in drying.

The price paid for Sumac in the United States varies from 60 cents to $1.00 pr 100 pounds, according to the quality.

Further particulars will be found in Bulletin No. 706 of the United States Department of Agriculture, entitled, "American Sumac: a valuable tanning Material and Dyestuff," published in 1918.—J. Adams, Assistant Botanist.

The greatest important factor in connection with keeping records is that a man may know what he needs to make, and then to know what he is making. But the value of records does not end here. If a man is not making money they will help him to find out why he is not.

Brantford "Ideal" Kerosene Engines



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EIGHT PER CENT PREFERRED STOCK, NOW SELLING EX-DIVIDEND AT PAR FLAT FOR DELIVERY AND PAYMENT MAY 1. THERE IS NO UNCERTAINTY ABOUT THIS STOCK; THE NEXT QUARTERLY DIVIDEND OF TWO PER CENT. WILL BE PAID AUGUST 1, NEXT.

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Furnish the necessary plant food throughout the growing period, and make for steady, healthy, early maturing plants.

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The Maritime Farmer

SUSSEX, N. B.

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Better light saves the eyes and makes the home more cheerful and attractive to every member of the family.

The power from this plant means a wonderful saving of work around the house. It runs the pump, washing machine, churn, cream separator, and other light machines, and it does every job easily and quickly. It is so simple that it requires practically no attention to operate.

The "F" plant also supplies current for electrical appliances, such as electric iron, vacuum cleaner, toaster, percolator, fan and heater.

The advantages of the "F" Power and Light Plant in the home appeal to every rural family, and its low price and economy in operation, enable most every house owner to enjoy the great benefits it makes possible.

Let us mail you a catalogue, which will give you complete particulars of the biggest possible improvement in farm house, rural residence, or summer cottage.

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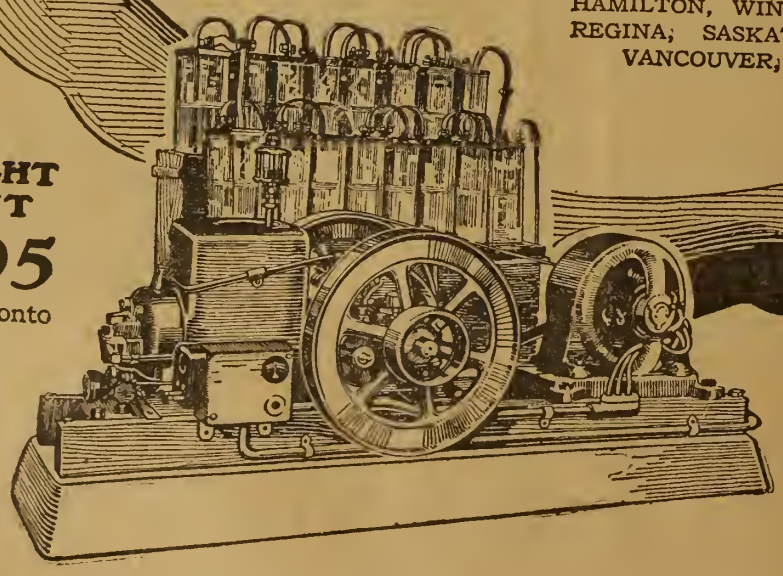

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$495

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Volume 25. SUSSEX, NEW BRUNSWICK, MAY 11, 1920. Number 15.

CHARITY vs BUSINESS

Some Surprising Revelations in Regard to So-called Co-operation--Some Promises Made to Farmers and How They Have Been Redeemed

It is always well that a man know whereof he speaks, before saying too much.

In its first issue, the United Farmer's Guide is rather severe on thousands of farmers, who it asserts are in effect a lot of boneheads, and who have been seeking charity, simply because these objects of the Guide's wrath sought by co-operative methods to reduce the cost of commodities which are largely used on the farm.

The Guide directed its remarks at the Maritime Farmer, accusing us of all sorts of doubtful practise, but in reality, hundreds of members of agricultural organizations in the Maritime Provinces, for whom the Maritime Farmer only acted as an agent—(not putting one cent of money into any of the ventures the Guide condemns) were being upbraided. It was the money of the farmers which was used in these dark-dealings, which the Guide so roundly denounces—money not only used by them directly—but money advanced gladly, and willingly by the banks of which the article condemns so roundly.

The Guide opens up the whole question of co-operation in this way:

(1) Buying from a superficial viewpoint where the buyer gets all the advantage.
(2) Buying through an organization which adopts ordinary, every-day business methods, with all its overhead charges, dividends, etc.
(3) **Buying by Charity** as it has been good enough to designate the efforts of the Maritime Farmer, to procure for farmers the advantage of the cheapest available market.

As a matter of fact the Guide might have limited its methods to two—because number one is the system long ago adopted by the New Brunswick Agricultural Societies United, and subsequently by the Maritime Farmer.

There are two leading essentials to the conduct of a business along ordinary lines, as followed by the United Farmer organizations—cash, wherewith to buy goods—and customers. Each has a relative value to the business, and the **Maritime Farmer claims that the man who has the money to spend, is by far the more important factor in the building up of a successful business.**

Robinson Crusoe might have had unlimited stocks to dispose of but—.

The New Brunswick Agricultural Societies United quickly recognized the importance of the buyer to any co-operative scheme. So they started buying fertilizers co-operatively, and have succeeded in saving tens of thousands of dollars for the farmers of this province.

They did not do it by **charitable methods,** as the Guide insinuates. In every transaction a margin sufficient to cover cost of handling is provided for, and the farmer pays the bill.

How the money is secured.

The money for these transactions is advanced by the banks doing business in this province. No responsible farm organization need fear refusal, because the banks are anxious to do this class of business, and so far as the Maritime Farmer knows, have been only too glad to meet the requests for money from Agricultural societies promptly and courteously. In fact, no less than three banks are advertising in the Maritime Farmer for this very class of business. How successful the methods followed have been, is best demonstrated by the fact that the operations of the Agricultural Societies United have been conducted at a cost of less than one per cent. The goods are delivered for cash, the bank is repaid, the buyers (not the fellow with money to invest) have saved thousands of dollars and the business is closed for the year. Such is system number one, which the Maritime Farmer has followed. There is no mystery.

Buying Feeds

When fertilizers became popular, the Maritime Farmer was asked to buy feeds, co-operatively. It has done so. At first it was hard to get a supply, but the volume of business became so great, that the business became desirable, and there are now many bids for the trade. The Maritime Farmer has bought for hundreds of farmers, (in fact we bought the United Farmers of Woodstock, into touch with its source of supply, when it had hard work to find supplies.) **We gave this service free.** Having been able to buy for our readers, we asked that a guarantee of payment be made. This is done—we write an order—the goods are delivered—the draft is paid (by the farmers) who got their feed this year, (according to stockholders in the United Farmers Companies) one hundred and twenty-five dollars a car cheaper than some farmers who bought of the United Farmers. **This is more of the charity** to which the Guide takes objection. Well, charity begins at home—and we believe that most farmers have intelligence enough to desire to save the amount indicated on a car of feed—call it charity or what you will.

The farmers asked us to buy seeds this year—and we did. They placed their orders together and we supplied them at a cost **thousands of dollars per car cheaper than the farmers of Ontario were supplied by the United Farmers Co-operative Company Limited, 130 King St. East, Toronto.** More charity? Not one bit of charity in this, for the farmers who bought the seed, paid the Maritime Farmer for its trouble, paid the freight on the seed and then saved themselves thousands of dollars. (By the way, we bought a car of timothy for the United Farmers, Woodstock, in 1919, and we believe enabled them to save money for their customers.) Charity—says the Guide.

Well, we have said sufficient to indicate our idea of co-operation. We repeat that without the buyer no business can succeed. In co-operation, therefor, the **buyer** is in our judgment the first man to be considered.

Now let us study plan number two. The Guide is quite enthusiastic for it. So are the United Farmer's stores—the Grain Growers Co-operative Company and the United Farmers Co-operative Company, Toronto.

When the United Farmer stores started in this province, storekeepers were described as robbers, crooks, middlemen and what not.

It was declared that once the United Farmer stores were started, all prices were to be reduced and farmers **on this basis,** were invited to put money into the scheme. The Maritime Farmer time and again expressed the opinion that it costs a farmer's store just as much to do business, as any other—and our contention has proved correct.

In the catalogue of the Grain Growers Limited, appears a letter from Hon. T. A. Crerar, C. Rice Jones and John Kennedy, under date of February first, which says in part:

"But don't think the Company's prices can always be the lowest. We must learn to co-operate not only when there is an immediate benefit, but all the time."

Again the Farmer's Sun, organ of the United Farmers of Ontario, pleads that farmers must not expect too low prices, and urges that if it is charging a little morsel (say like $4450. additional on a car of clover seed) more than farmers were led to expect, it is justified in so doing—because others are making larger profits.

And the United Farmers, Woodstock, joins in the chorus and invites farmers to be big business men and to forget that they can save a hundred and odd dollars on a car of feed, or a few thousands on a co-operative order of fertilizer and stand by the cause.

The United Grain Growers Limited has been boosted again and again as a great object lesson in the benefits of co-operation.

Well, let us see who derives the most benefit. The paid up capital of that concern, as published in the Guide, is $2,500,000. About two years ago, according to a statement made by one of the leading officials of the organization, **the assets stood at $6,000,000. That is to say the Company had a surplus of $3,500,000.**

Where did the money come from? It must have been earned in the way of business, and it is evident that this immense sum was taken from farmers and retained by the company. **And for what? For service** is the reason given. That is to say, a co-operative concern (co-operative, mind you) more than doubled its capital, besides paying dividends to its shareholders. What the Grain Grower's Guide has said of concerns conducted on "those business principles which generally prevail in privately owned business" who have piled up surpluses much smaller than that mentioned above, it may well apply to the United Grain Growers, Limited.

It is this kind of co-operation that the Maritime Farmer opposes. What right has the Grain Growers Limited to assets $3,500,000 in excess of its capital, **when it so roundly denounces such methods in others?** Under real co-operation that three and a half million dollars should be back in the pockets of the **buyers** and not be available for men who have already been paid one dividend.

We leave it to any sane farmer to decide the issue for himself. If any group of farmers want feeds, fertilizers, seeds, binder twine, etc., we will get them a price. If that price is higher than they can secure elsewhere, **we say to them buy at the lowest price, quality considered,** and pay yourself the biggest dividend that you can possibly earn, the saving you make through real co-operation. Long before the United Farmer's Guide was dreamed of, the Maritime Farmer did its bit for the farmers of these provinces. Thousands of farmers know this—thousands of farmers appreciate the service.

IMPORTANT

Watch the Maritime Farmer co-operative notes from week to week. We have a most important notice appearing in this issue re eggs. We think that the Maritime Farmer has opened the way for some **REAL SERVICE** to the farmers of the Maritime Provinces. We expect as time passes to have other **CO-OPERATIVE** announcements to make, which will enable farmers in some respects to act as their own **MIDDLEMEN.** We believe we have made a real move for **your benefit.**

POTATO SPRAYING

By G. E. Sanders, Entomologist, in charge Insecticide Investigations, Entomological Branch, Ottawa

Mr. Chairman and Members of the New Brunswick Farmers and Dairymens Association:—

The subject of potato spraying is one in which I know most of you are interested, for New Brunswick farmers have a well deserved reputation for the quality of their potatoes, as well as for the quality which they produce per acre.

I am here to-day to give you, as briefly as possible, some of the results which we have obtained in investigating potato sprays in New Brunswick. I will first take up the question of increased yield from spraying potatoes, and then take up the question of insecticides and decreasing the cost of spraying.

Increased Yield from Spraying

In considering spraying we must regard our potato plant as a starch factory, the normal life of which is about one hundred days, and which we spend forty days in erecting or growing before beginning to produce from it starch or potato tubers. This leaves us sixty days in which to have our crop of potato tubers stored in the earth. Putting the yield at 300 bushels per acre, which is not unusual for a thoroughly sprayed field, we can readily understand that our acre of potatoes will store tubers for us for the last sixty days of its existence at the rate of about five bushels per acre per day, if insects and fungus diseases do not interfere with the health of the plants. That IF is a very important word, for to-day it is impossible to grow a field of potatoes and be sure of having them free from insects and fungus diseases, and the only method known of protecting plants from them is to spray or dust the plants thoroughly.

A second thing to be remembered is that the potato tuber only analyzes one per cent of ash, whereas the carbohydrates, crude fibre and ether extract total eighteen per cent. The water content of the potato runs about seventy-nine per cent, while the protein runs about two per cent. The one per cent of ash comes from the soil, and the eighteen per cent of carbon products, representing about 90% of the solid matter of the tuber, comes entirely from the air, being taken in through the leaves as carbon dioxide gas, which is converted in the leaves to sugar and starch, and is then transferred to the potato tuber for storage. This indicates to you the relative importance of the potato roots and the potato tops in the production of solid matter in the potato. Your soil and cultivation must be right in order to insure a sufficient and even supply of water, for water constitutes seventy-nine per cent of your tuber. Your potato leaves must be kept whole, green and healthy as long as possible for your carbon products, which are gathered only by the leaves, constitute eighteen per cent of your tuber, and lastly you add your fertilizer in order to supply your one per cent of ash, and a small portion of your protein. The roots are most important in growing the plant, but the leaves are most important in the storage of tubers.

The potato plant stores tubers at the rate of about five bushels per acre per day during its storing period, or roughly, during the last sixty days of its growth. For every day that you allow your potatoe tops to die short of their normal maturity, you therefore lose about five bushels of tubers per acre.

Potato tops are attacked to-day by both insects and fungus diseases. There was a time, which some of the older men can remember, when one could plant potatoes and be sure of them remaining green until the frost killed them. To-day we have both insects and fungus diseases attacking the tops. We know that proper spraying will control both. On account of it costing as much to apply spraying material as the material itself costs, Plant Pathologists, as well as Entomologists, always recommend combination spraying, that is, including an insecticide in your fungicide or vice versa. It is poor economy to apply either alone.

I will now give some actual results obtained at the Experimental Farm at Fredericton in 1919.

Average of Spraying Experiment No. 4342.

Average of twelve plots sprayed with Bordeaux, in bushels per acre.

Marketable.	Rotten	Small	Total.
519.25	4.41	20.83	544.49

Average of four unsprayed plots.

Marketable.	Rotten	Small	Total.
222.75	228.25	24.25	472.75

In this experiment spraying gave
296.50 bushels more shipping potatoes.
71.74 bushels more total yield.
3.42 bushels fewer small potatoes.
224.84 bushels fewer rotten potatoes.

Large Potato Fields at Experimental Farm.

Material	Marketable	Rotten.	Small	Total
Poisoned Bordeaux	398	0	14	412
5-2 Copper-Arsenic Dust..	378	8	28	414
No Spray.....	221	77	23	321

In these Field Plots Spraying gave
177 bushels more marketable potatoes.
91 bushels more total yield.
9 bushels fewer small potatoes.
77 bushels fewer rotten potatoes.

In the same Field Plots Dusting gave
157 bushels more marketable potatoes.
93 bushels more total yield.
5 bushels more small potatoes.
69 bushels fewer rotten potatoes.

These treated fields were all either sprayed or dusted four times. The cost of spraying will vary with the location but will never run over $25.00 per acre and will ordinarily run around $15.00 per acre. Your spraying material will cost you from $5.00 to $7.00 per acre, and an equal amount should cover your cost of equipment and labour. We applied the spray to these fields at the rate of 80 gallons per acre per application. The field in which our small plots were located and where we got an increase of 296.5 bushels of marketable potatoes per acre, did not receive any fertilizer. Considering the price to which potatoes have gone this winter we could have spent $593.00 per acre on spraying in that field, and still have got our money back, as a matter of fact we spent around $12.00 per acre on four applications, and reckoning potatoes at $2.00 per bushel our profits from spraying in one field were $581.00 per acre, less cost of picking up and shipping the extra amount of potatoes.

You will say that these figures are not average figures. That is true, but they are actual figures for that field. There is no doubt but that on average fields in average years you will not get such results as we obtained in that particular instance. The average increase of shipping potatoes per acre, due to thorough spraying, runs around one hundred bushels, and the cost of thorough spraying four times can never exceed $25.00, and ordinarily costs about $15.00 per acre. That is the same as buying potatoes at 15 cents per bushel, and in most seasons you would gladly pay 15 cents per bushel for sound potatoes lying on the top of the ground.

Some argue that potatoes may be so cheap in some years that they will not pay for spraying. Let us look into this argument. The land, equipment, fertilizer, seed, and labour entering into the production of an acre of potatoes will total roughly $150.00. The unsprayed plots in our experimental field returned 222.75 bushels of marketable potatoes per acre. These unsprayed potatoes cost 67.3 cents per bushel. Spraying will cost $15.00 per acre and adding this to the $150.00, we have the sprayed acre costing $165.00, and the return from it 519.25 bushels of marketable potatoes or the potatoes from the sprayed acre cost 31.9 cents per bushel. If potatoes should drop to 50 cents per bushel, the potatoes that cost 31.9 cents per bushel could be sold at a profit, while those from the unsprayed acre which cost 67.3 cents per bushel would have to be marketed at a loss. While these figures are not average figures, they are actually true of the plots that we had on the Experimental Farm at Fredericton last year, and they will prove relatively true on any farm in New Brunswick. I bring them before you to show that it is better business to plant fewer potatoes and spray them well, than it is to plant a lot of potatoes and neglect them. The man who does not spray is usually like the Irishman who was keeping store and selling below cost. When he was told of it he replied that even if he was losing money on every article he sold, he was doing a fine large business. This is true of a great deal of farm work and particularly true of our unspraying potato fields. We grow a large number of unsprayed acres and the profits are often in red ink, whereas those same acres well sprayed would shiw a real profit.

Our claim is that any farmer in the Maritime Provinces can on an average grow one hundred bushels more shipping potatoes per acre by spraying thoroughly four times with poisoned Bordeaux mixture, and the total cost of spraying will be about fifteen dollars.

Bordeaux Mixture

My paper would not be complete without giving the formula for making Bordeaux mixture. I may say that most of the men who spray in New Brunswick mix their Bordeaux in a manner that gives one of the best mixtures possible. You slake the lime and put the proper quantity, eight pounds into your eighty gallon tank when you begin filling. When the tank is about half full you add your copper sulphate solution, which should be eight pounds of copper sulphate dissolved in about twenty gallons of water. This method is easier on your pump than if you put in your copper sulphate first, and it also gives you a greater range of Bordeaux salts. Consequently more rapid action from the most soluble of them and greater lasting qualities from the most insoluble, than if you poured your lime into your copper sulphate solution.

In regard to copper sulphate or bluestone. The coarse crystals are better adapted to potato work than the pulverized material that we use on the apple. In dissolving bluestone, say you want to dissolve forty pounds, put forty gallons of water into a barrel and suspend in it, at the top of the water, a coarse sack containing forty pounds of bluestone. Each gallon of solution will when it is dissolved contain one pound of bluestone or copper sulphate. Always stir before dipping out. In making Bordeaux for an eighty gallon tank, stir and then dip out eight gallons into a barrel, add twelve or more gallons of water to this and then pour the dilute solution of bluestone into your lime solution in your spray barrel.

Insecticides

Just what insecticide or poison to use has been one of the serious questions during the past few years since Paris Green, the old standby, has soared so in price. In discussing poisons I will start with the most expensive, and take them up in order of descending cost.

Lead Arsenate

Lead Arsenate is the most expensive form in which to buy the element arsenic. It takes four pounds of dry or eight pounds of paste lead arsenate to poison an eighty gallon tank of Bordeaux for the potato. Lead Arsenate has the advantage of being very adhesive and safe on all classes of foliage. It is slow in its action. We have nothing against Lead Arsenate on potatoes excepting the high cost.

Paris Green

This is the old standby among potato poisons. On account of the demand for acetic acid for treating wood for aeroplanes, the demand for copper for munitions, and the high and still rising price of white arsenic, and soda ash, the price of Paris Green advanced very greatly during the war. Paris Green was originally made as a shutter paint, and it was only by accident that someone about 1865 discovered that the poisonous dry color, Paris Green, could be used with a fair degree of safety on potato plants and would kill the potato beetle. There are still some 3000 tons of Paris Green used per year in America. It has had to give away to cheaper and in some cases more effective insecticides in such specialized sections as Carleton County, the Niagara Peninsular, the Annapolis Valley, etc., but in general farming sections the Paris Green trade is thoroughly organized and in the aggregate an immense quantity is used. Paris Green being an arsenate kills very rapidly, but it is the most easily washed off, of the well known poisons. Where we tested it on the Experimental Farm against arsenate of lead, arsenate of lime, and arsenoid we found that the Paris Green field was the only one on which we had to maek a second application in order to control potato beetles. Paris Green has two disadvantages, one is its high cost, and the other its poor sticking qualities.

Arsenite of Zinc

This is a comparatively new product which has made great headway in some potato sections. Its cost is rather high when compared with arsenate of lime. It should be used at the rate of 2½ pounds to an 80 gallon sprayer. The sticking and killing qualities of arsenite of zinc leave nothing to be desired.

Arsenate of Soda

This material has been known to you for a long time under the name of Arsenoid. Lately it has been offered by another firm under the name of Sol Arsate. Last year several firms were selling both crystal and fused arsenate of soda in the State of Maine. You all know that Arsenate of Soda must be used only when in combination with Bordeaux, and must never be used straight. It kills rapidly, and is safe, and sticks well when used with Bordeaux. Arsenate of soda has the disadvantage of being very unpleasant to the men engaged in its manufacture. Labourers are just now able to pick their jobs as well as dictate wages and hours, and on this account arsenate of soda is now much higher in price than it should be.

Arsenate of Lime

This is a comparatively new poison which is making a place for itself very rapidly. It is now used almost exclusively in the control of the Cotton Boll Weevil in the South, and in a few sections like the Annapolis Valley

they have learned to use it for nearly every purpose.

It is first of all very cheap, costing per unit of arsenic less than any of the poisons that I have mentioned. It is safe in combinations and straight on the potato. It sticks well to the leaves and on this account is more reliable as a poison than Paris Green. Paris Green will kill more rapidly, and when the weather is dry it can be relied upon, but in damp weather arsenate of lime is the more reliable poison. From three to four pounds of arsenate of lime should be used to an 80 gallon sprayer. For the potato grower it is the cheapest and safest of fool proof poisons.

Arsenite of Soda

We have in this material a cheap poison which does not come in the fool proof class. It must be used according to directions or trouble will result. Arsenite of soda is made in New Brunswick and sold in liquid form in glass bottles. We have found that the material is dangerous when combined with lime, but comparatively safe when combined with copper. We have found that arsenite of soda should be poured into the copper sulphate solution and stirred around for some minutes before pouring the solution into the spray tank. The addition of the arsenite of soda to the copper sulphate solution will turn it green in colour. About three pints of saturated arsenite of soda solution should be used to an eighty gallon tank. Never use arsenite of soda excepting in Bordeaux, and add it to the copper sulphate solution before you combine that with the lime solution.

White Arsenic

This material is the base from which all arsenical insecticides are made. It is produced as a by product in the refining of nickel, Cobalt, and other ores, and is by all odds the cheapest form of arsenic. Since arsenicals were first used in the control of insects, attempts have been made to utilize white arsenic as a spraying or dusting material. In most cases severe burning of the foliage resulted, but occasionally the user got good results in insect control, and no injury. In no case was any experimenter able to get similar results over a series of experiments or over a period of years. It was evident that the experimenters did not understand the reactions involved between white arsenic and Bordeaux, consequently they could not control the reactions.

Under instructions from the late Dominion Entomologist, Dr. C. Gordon Hewitt, we started, as many others before us had started, investigations with a view to finding a means of using white arsenic in place of some of the more expensive arsenicals in Bordeaux for the potato.

The advantages of white arsenic over other arsenicals are:—

1. Its low cost, varying from one fifth to one tenth per unit of arsenic over other arsenicals.
2. Its concentrated form being twice as concentrated as Paris Green, which is the most concentrated of manufactured or combined arsenicals.

The disadvantages that we had to overcome were:

1. The difficulty with which it mixes with water.
2. Its poor physical condition.
3. Its low killing value (reported by some.)
4. Its caustic action on foliage.

It took three years of experimenting to overcome all of these disadvantages, but we were able last year to use white arsenic successfully and without a trace of injury in a number of field plots.

The difficulty with which white arsenic mixed with water was overcome by mixing it with an equal quantity of hydrated lime before adding it to the water. Its poor physical condition was corrected by having the material ground more finely. Its low killing value was corrected by the addition of lime and its caustic action on foliage was corrected by adding the white arsenic in such a manner as to cause it to combine with the copper of the copper sulphate, and not with the lime.

Our formula for using white arsenic is as follows:—

To each ten gallons of water intended for a copper sulphate stock solution, add two pounds of a mixture consisting of one pounds of white arsenic and one pound of hydrated lime. After the white arsenic and hydrated lime has been stirred in, suspend in the water a bag containing ten pounds of coarse crystal copper sulphate. Stir occasionally during the twenty-four hours, which it takes for the copper sulphate to dissolve. This stock solution will be green in colour. Use it just as you would any other stock solution of copper sulphate or bluestone, and add the usual quantity of lime in making the Bordeaux. It took Mr. Kelsall, our chemist, and myself three years to understand all of the reactions and get this formula down to a working farm basis. Mr. A. A. H. Margison used it last year on his own farm, and he told me that it cost him six cents per acre for poison on his first application of spray, six cents per acre for the second application, and eight cents per acre for the third application, or a total of twenty cents per acre for poison for the season. That, of course, does not include the cost of copper sulphate, and lime. The big advantage of the white arsenic formula is its low cost. One pound of white arsenic is twice as strong as two pounds of Paris Green, and costs per content of arsenic about one tenth as much. A man can buy his white arsenic, copper sulphate, and lime for a complete poisoned Bordeaux for less than he can buy Paris Green for the same area. When we consider that Canada uses about one million dollars worth of Paris Green annually you can see that this formula may easily save the country several hundred thousand dollars per year. We are intending to demonstrate this formula in a number of places in New Brunswick this year. Mr. M. A. McLeod is working with the District Representatives of the Provincial Department of Agriculture, and they will each conduct demonstrations of the white arsenic formula in various places in their respective territories. If you want to save money on your spray bill, get in touch with your District Representative and watch the demonstrations that he carries on in your locality next season.

I have already over run my time or I would tell you of the new copper-arsenic dust that we are developing, and the duster that we are having built for treating potatoes. We hope within two years to have this dust and dusting machine so that we can recommend it to potato growers. This would mean eliminating water and instead of spraying ten acres per day you could get machines that would dust over two hundred acres per day.

In closing, gentlemen, I wish to express our appreciation of the assistance that we have received from your New Brunswick officials. Mr. W. W. Hubbard, Mr. A. G. Turney and Mr. M. A McLeod, in extending our insecticide work in the Province. This work began to bear fruit last year in lower priced insecticides to you, and we are quite sure that, we can, by working together, show you where you can make infinitely greater savings in the future.

BEAN ANTHRACNOSE

By G. C. Cunningham, B.S.A., Officer in charge Field Laboratory, of Plant Pathology, Fredericton, N. B.

Bean anthracnose, sometimes called pod spot, and incorrectly called rust, is a very common and destructive disease, particularly in Quebec and the Maritime Provinces and, some years, in Ontario. It is almost invariably present but not always severe enough to be noticeable. It attacks the stem, leaves, pods and seeds, causing dark spots, resulting in greatly decreased yields and an inferior quality of crop. It is caused by a microscopic fungus, carried chiefly by the seed. It can be greatly reduced, if not controlled, by taking proper precautions.

Symptoms

Field Appearance:—When infected seed has been planted and the weather is wet or cloudy, the disease develops rapidly. Skips or vacant spaces in the row where the seed has failed to germinate or where the young plants have died and complete disappeared. Freqeuntly considerable portions of the row may be marked only by bare stalks, or small, sickly plants bearing a few faded leaves.

However, an abundance of foliage does not necessarily mean freedom from anthracnoses. Infection under favourable climatic conditions may spread rapidly and become serious even after the plants are quite large; under such conditions it is not noticeable without carefully examining the stem, leaves and pods.

On the Seed: The seed may be slightly or badly infected and in severe cases appears rotted or weathered. Slightly infected seed may show little or no discolouration or only a light brown stain. Badly infected seed shows well marked, dark brown or black spots varying from the size of a pin head to a degree where the whole seed is involved. In such cases the seed coat is usually ruptured and the spots more or less sunken, with a grayish centre, indicating that the invading fungus is producing fruiting bodies. Badly infected beans are unfit for table consumption and even the slightest spot injures the bean for seed purposes.

On the Cotyledons (fleshy seed leaves): Diseased seed invariably produces diseased cotyledons; one or both may be affected. The lesion or canker is of a brownish colour with a definite outline and involving all or part of the cotyledon. If damp weather prevails the diseased area enlarges and the pink spore-masses of the fungus are produced in abundance.

On the Stem: The fungus may spread from the cotyledon to the stem, infecting and destroying the growing point, leaving a bare stalk. If the stem infection takes place early and conditions are favourable, the stem may rot off at the surface of the ground and disappear entirely. Infected stems show well-marked, brown or black, elongated streaks. Severe stem infection practically prevents the plant from setting any pods.

On the Leaves: The disease appears on the lower side of the leaves as black streaks on the mid-rib and veins. This condition sometimes results in a puckering of the surface. The leaves, particularly when the petiols are affected, turn yellow and fall prematurely, leaving small, weak plants incapable of producing a maximum crop.

On the Pods: The lesions are most noticeable on the pods, at first as minute, dark-red spots, which rapidly enlarge and become sunken or saucer-shaped, with a definite dark-red or black border. The sunken appearance disappears as the pods become mature and dry. In other cases, when infection has been extensive, the numerous small lesions coalesce, giving the pods a brownish, black-pitted appearance. The centre of the larger spots may be brown, black, pink or grey, depending on the age-condition of the fungus.

Casual Organism

Bean anthracnose is caused by the fungus Colletotrichum Lindemuthianum Sacc. and Magn. The vegetative mycelium consists of hair-like tubes, at first colourless but later brown; invisible to the unaided eye except in clusters or tufts such as are sometimes seen in the centre of old lesions. A net-work of this mycelium develops beneath the epidermis of the infected spot causing the characteristic appearance of the disease, and later produces small erect branches or conidiophores bearing the elliptical or kidney-shaped spores, stuck together by their mucilaginous envelopes. In masses tbe spores are pink or cream-coloured. These spores are scattered by numerous means to other parts of the plant and even considerable distances to other plants. If there is a supply of moisture, they germinate immediately by sending out one or more germ tubes, which enter the healthy tissue, and in turn its mycelium develops, producing a fresh lesion and a new generation of spores.

Life History

The fungus passes the winter in a dormant condition in the seed, in diseased bean refuse, or in the soil, but chiefly in the seed. The bean seed upon germination is pushed above the ground, both halves forming the cotyledons or rudimentary leaves, which serve as a primary source of food during germination and until the plant has become established. Consequently, infected seed invariably produces infected cotyledons. The moisture taken up by he seed during germination is sufficient to enable the fungus to commence growth and produce spores. These spores are brushed off on the soil as the cotyledons push toward the surface, and immediately come in contact with the young tender stem, ready to germinate and attack the new plant. The cotyledons remain on the stem for a considerable period, after the true leaves have appeared and, if weather conditions are favourable, such as plenty of moisture, and not too much sunlight, the spores are produced in large numbers from diseased cotyledons. These are washed down the stem by rain and spread by other means to all parts of the plant and adjacent plants. The cotyledons thus serve as the nest, in which is produced the new generation of spores and from which they can most easily be spread.

These spores now attack the leaves and stem, setting up disease and weakening the plants. By the time the pods are setting, more spores have been produced from these new lesions and the pods become infected. The fungus mycelium attacks and penetrates the pods causing serious injury and finally enters the new crop of seed in which it lives in a dormant condition until germination takes place the following spring.

The fungus is also capable of wintering over in diseased stems, old pods and leaves, and if these are applied to the soil the new crop infection will take place. Probably it is capable of living on organic matter in the soil for a few years and, if a reasonable rotation is not practised, infection

(Continued on page 604)

Notes From the Nova Scotia Agricultural College

POTATO GROWING CONTEST

Below will be found an outline of the arrangements and conditions of a potato growng contest announced last fall for the Western Counties of Nova Scotia.

The contest is being put on by the Provincial Department of Agriculture in conjunction with the management of the Dominion Atlantic Railway. The object of the contest is to increase the production of potatoes, and especally the conservation of the crps planted, by spraying for the prevention of blight and subsequent rot. Every farmer entering his field must agree to spray with Bordeaux Mixture or some equally effective preventive not less than four times during the season.

Great interest is being manifested in the contest by the districts where it applies. Mr. Comeau, General Freight Agent of the D. A. Railway, received last week from Meteghan and vicinity alone no less than twenty-four entries. If other parts of Western Nova Scotia respond as well as this district the contest wll be a big success. In any case there is every indication that there will be a big increase of potato spraying in Nova Scotia during next summer.

In this connection it is well worth while to keep in mind the losses suffered last season through rot. It is estimated that between 2,000,0000 and 3,000,000 bushels were lost, valued anywhere from $2,000,000 to $5,000,000. The greater portion of this loss by far could have been precented by the use of Bordeaux Mixture. If any potato grower is still in doubt as to methods and materials for spraying, the Department of Agriculture at Truro, will be pleased to furnish full information on application.

Contest

Preliminiary to other measures which it is contemplated to adopt for the purpose of assisting the future development of Agriculture in Western Nova Scotia, the Dominion Atlantic Railway Management and the Nova Scotia Department of Agrculture announce:

Prizes will be given for the best acre of potatoes grown in that part of Nova Scotia lying in proximity to the Dominion Atlantic Railway commencing West of the Town of Annapolis and continuing to and including the Municipality of Yarmouth. For the purpose of this contest, the country will be divided as follows:

Division A.—West Annapolis and the Municipality of Digby.

Division B.—The Municipality of Clare.

Division C.—The Municipality of Yarmouth.

Divsion A.

1st Prize	$25.00
2nd Prize	20.00
3rd Prize	15.00

and 9 additiona prizes of an average value of $10.00 each, to be divided on the basis of the scores made by the judges, to the next highest competitors.

Divisions B. and C.

1st Prize	$25.00
2nd Prize	20.00
3rd Prize	15.00

and 7 additional prizes of an average value of $10.00 each, to be divided on the basis of the scores made by the judges, among the seven next highest competitors.

Conditions

Entries for this contest must be made with the Secretary for Agriculture, Truro, or the General Freight Agent of the D. A. R., Halifax, prior to May 31st, 1920.

The minimum size of field for which entry will be accepted must be one acre but this need not necessarily be in one single plot.

Every field entered for this competition must be sprayed with Bordeaux Mixture to prevent blight and subsequent rot, not less than four times. An approved dust, that wil control the development of blght, will be accepted instead of the liquid spray.

The most important points that will be considered in judging this contest will be the yield per acre of marketable potatoes, freedom from rot and evidence of the best methods of cultivation during the growing period.

Arrangements are being made to place an experienced man in the above territory t oco-operate with the farmers as to the best methods for general development, spraying, cow testing, etc.

F. G. J. COMEAU,
Gen. Freight Agent, D.A.R.
Halifax, N. S.

M. CUMMING,
Sec'y for Agriculture,
Truro, N. S.

THE SILO

At the present high prices for milk and its products Dairy farming would be a veritable gold mine in Nova Scotia were it not for the corresponding- and there regarded as one of the worst foes of the apple, has made its appearance in Nova Scotia. The Entomological Department will take up the investigation of its habits and life hsitory, and conduct extensive experiments in methods of control. The insect has wrought havoc in England, Germany, Central Russia and Northern Japan.

In adddition to this problem, Prof. Brittain expects to do a great deal in the way of general experimental work in orchard spraying and dusting. Further information regarding results will be published from time to time. In the vegetable line, the redoubtable Cabbage worm will claim considerable attention, and some untested remedies will be tried out.

A Counter Blast

In a letter dated March 13th., George F. Chipman, editor of the Grain Growers' Guide, took exception to statements made in an article published in the Maritime Farmer, on March 2nd, and made an offer of $1,000 payable to the Maritime Farmer, if it could prove any one of its statements. The trick is an old one. The Maritime Farmer claims that its statements are correct, and that the One Thousand dollars Is not only due this paper, but it makes this proposition to Mr. Chipman;

The Maritime Farmer will pay to Prof. Cumming, Truro, for prizes to be awarded to any students of the Nova Scotia College, whom the recipient may select, the following amounts;

(1) One hundred dollars if Mr. Chipman will prove his claim that Grain Growers, in asking for Dominion funds to market the western crop of wheat, DO SO TO PREVENT THE PRICE OF WHEAT FROM SOARING AND WHICH POLICY MUST RESULT IN HEAVY FINANCIAL LOSS TO WESTERN FARMERS; if Mr. Chipman's contention is right.

(2) One hundred dollars if Mr. Chipman can offer any sound reason for refraining from asking similar concessions for the produce of the farms of Eastern Canada, notably cheese, which is to be regulated in price on the British market, the retail price being fixed at forty-cents.

(3) One hundred dollars if Mr. Chipman can name one bona-fide farmer from the Maritime Provinces, and domiciled in these provinces, who assisted in the drafting of the New National Policy, which the Maritime Farmer repeats was designed originally for the advantage of the west.

(4) One hundred dollars if Mr. Chipman can prove that the Grain Growers Guide misstated the facts of the case, when in its issue of March 31st, it said, "THE GRAIN GROWERS GUIDE WILL BE THE CHIEF OWNER OF THE NEW PAPER AND IT WILL BE PUBLISHED UNDER THE SAME MANAGEMENT AS THE GRAIN GROWERS GUIDE, WINNIPEG."

(5) One hundred dollars if he can show that the remarks attributed by this paper to Messrs. Wood and Musselman were not published in the leading newspapers of this country, and if a correction of these statements has appeared in the papers so publishing the statements, over the signatures of either of these gentlemen.

If Mr. Chipman is not prpared to win this money, he owes the Maritime Farmer one thousand dollars. We do not want the money, but we ask that it be paid over to the principal of the Nova Scotia Agricultural college for prizes for the students of that college. In a word, the "BLUFF IS CALLED".

This letter has been sent to the United Farmers Guide as an advertisement.

PROFESSOR W. H. BRITTAIN RETURNS

Professor. W. H. Brittain, Provincial Entomologist, who has been taking post-graduate work at Cornell University, has returned to Truro. He has completed the work for his Master's degree. A big season's work looms up before his Department.

In the line of Fruit protectiоn a new problem appears. The Apple Sucker, a pest imported from Europe, ly high prices of imported feeds. Hugs amounts of money go out of the Province every year for materials to supplement the home grown fodders. This is in part unavoidable. Some concentrated feeds must always be bought in farming areas of the Maritime type.

By good management a very considerable portion of this expenditure could be avoided. Nothing has proven so effective and practical along this line as the growing of oats, peas and vetches, or, as it is commony called the O. P. V. mixture. On good land the yield is very heavy and the crop is a hardy one. In one part of Nova Scotia at least six silos for containing this fodder have been erected during the past two years. In some other parts, where farmers do not grow enough to ensile, the O.P.V. mixture is being grown and used partially as a suplement to the pastures during the dry season. Then, what is over is cured and stored as hay.

Dairy farmers all over Nova Scotia would be well advised in plannng this spring on a arger area of this green forage crop. Those who are unfamiliar with method, returns, etc., would do well to write Prof. J. M. Trueman, Agricultural College, Truro, for full information.

SPLENDID RECORD MADE BY DAM OF HOLSTEIN BULL AT TRURO

The College Management are highly pleased with the official record made by Trenton Keyes Hermes, dam o the Holstein bull selected to head the Holstein herd at the College. In her three-year-old form she has produced 30.7 lbs. of buttef in her February test. This was the highest record made by any three-year-old in Canada during that month.

This College herd sire is also royally bred on the male side, being a son of Pontiac Korndyke Het Loo, sire of the Canadian Champion heifer, Het Loo Pieterja, which sold for the record price of $12,750.

Since the above was written word has been received of a new record made by this dam, viz., Trenton Keyes Hermes. In a 60 days test she produced 5,621 lbs. milk, yielding 244.30 lbs. butter. This means over 90 lbs. milk per day, and a fraction over 4 lbs. of butter.

NITRO-CULTURES

For years pas the Nova Scotia Agricultural College has distributed nitro-cultures among farmers to encourage the growing of the various leguminous crops, such as Alfalfa, Sweet clover, Red clover, Alsike, Peas, Bean, etc. These are cultures of the bacteria which produce nodules on the roots of this class of plants, and extract nitrogen from the air to enrich not only the plant, but also the the soil in this highest priced of all fertilizing ingredients.

This year the N. S. Departmet of Agriculture has arranged with the Division of Botany, Central Experimental Farm at Ottawa, to make and send these cultures. Farmers who have had difficuty in obtaining a good stand of any of these all-important crops are strongly recommended to make a trial treatment. The cultures are supplied free of charge on application, to farmers who will write stating for what crop the culture is required and the quantity of seeds they wish to have treated. Not more than three bottles, each containing sufficient to innoculate 60 lbs. of seed, will be furnished to one applicant. Write to the Division of Botany, Ottawa, stating your needs.

CO-OPERATIVE MARKETING OF WOOL

Plans have ben completed for the continuance of the Co-operative marketing of wool in the Province of Nova Scotia, under the management of the Canadian Co-operative Wool Growers, Ltd., of Toronto.

Nova Scotia sheep raisers who marketed their wool through this orangization last year realized on the average about 40% more than those who sold in the ordinary way. There is

(Continued on page 606)

Cutting Seed Potatoes

By E. V. Hardenburg, Potato Specialist, Cornell University

With the possible exception of variety tests and fertilizer experiments, no other phase of potato production has received so much experimental attention as the question of type of seed piece. Nearly every state experiment station in the United States has at some time conducted exeprinents to test the relative influence on yield of

(1) large versus small tubers for seed;

(2) whole versus cut seed;

(3) large versus small seed pieces; or

(4) number of eyes.

A review of the literature on the results of these tests leads to much difficulty in drawing definite conclusions as to the real influence of each of these factors because in a majority of the tests one or more of the factors has been confused with the one intended for study.

In nearly all of the experiments to date, the all important factor, amount of seed per acre, has been neglected. This has led to false conclusions and a mass of published data of questionable value. To illustrate, in tests comparing the influence on yield of whole, half, quarter and eighth tubers, the results have generally favored the whole tuber for seed and it has been concluded that the larger the seed piece planted, the greater the yield is likely to be. In reality eight times as much seed is used on an acre when whole seed is plantel as is consumed when eighth tubers are planted. If grain were used instead of potatoes the credit would be given to difference in amount of seed planted per unit of acre. Most of these experiments have theerfore, in reality not shown that whole tubers are to be preferred to eighth tubers provided the eighth tubers are planted enough closer in the row to consume the same amount of seed per acre as would be used in case whole tubers were planted.

Large versus Small Whole Tubers for Seed

Three factors are principally concerned with the size of tuber which is used by a given grower or a given locality namely,

(1) prevailing cost of seed;

(2) prevailing standard of quality in the mind of the grower;

(3) type of seed stock available.

To the writer, it appears that of these three, the estimated relative value of large versus small tubers is probably the controlling factor in the mind of the grower. More small whole seed is used in southern New York than in any other potato section of the state. Here the standard of excellence is lower than in other regions. Certainly small seed is not used on account of high priced goods because relatively lower prices prevail in this than in other sections.

Adams of Wisconsin, Aicher and Welch of Idaho, Plumb of Tennessee and Zavitz of Ontario are among the experimenters who in years back have compared the influence of large versus small tubers for seed on yield. They all found that the gross yield increased as the size of tuber used increased. In most cases the marketable yield also increased with size of tuber used. In a few instances, owing to the increase in number of stalks per hill as size of tuber increased, the marketable yield was not greatest from the largest seed tubers. In all these tests, same spacing of hills was used for each type of seed. It must be concluded from these tests therefore, that large whole seed is better than small whole seed under equidistance of planting only because of the greater weight of seed used.

Whole versus Cut Seed

The question of whether or not to cut seed potatoes depends upon three factors, namely,

(1) cost of labor;

(2) cost of seed; and

(3) the relative yield from whole versus cut seed.

Inasmuch as a man will normally cut only about twenty bushels of seed in a ten hour day, the labor cost of cutting is of some account in determining whether to cut seed. Again with potatoes selling at fifty cents or less a bushel, it becomes somewhat of a question whether average sized potatoes should be cut at all. Experimental literature deals only with the third factor above mentioned.

Cutting a seed tuber at once allows of loss of cell sap by bleeding and permits the entrance of rot producing soil fungi and bacteria. On the other hand, Appleman of the Maryland Station has shown a distinct advantage from cutting. Whereas whole tubers planted or germinated above ground normally develop only the sprouts near the apical or seed end, by cutting such tubers, both medium and basal end eyes may be made to grow. Briefly. Appleman has shown that anything which will facilitate the entrance of oxygen into the tuber will enhance growth phenomena which on account of the skin a suberized condition of the tuber would otherwise remain dormant for an indefinite period. This indicates a more economical use of seed potatoes than that of planting them whole.

Aicher and Welch at the Idaho Station made a three year comparison of whole and cut seed and while obtaining a greater total yield from whole seed, the marketable yield in all cases was greatest from the cut seed. These tests are not a true criterion of the relative value of whole and cut seed, however, as far more seed per acre was used in the case of whole seed. Many years ago, the Tennessee Experiment Station tested the comparative yields from whole seed and from an equal weight of half tubers taken from the same lot of seed. Nearly two and one-half times as much marketable yield came from the half tubers, but owing to the fact that the halves were planted on twice as much area, the comparison is of little value. The best test of this question was made by the New York Station when equal weight seed pieces of whole and cut tubers were used per acre. Whereas about equal total yield was obtained from the cut and whole seed, the marketable yield from cut seed was nearly double that from whole seed. Apparently with equal rates of planting cut seed is the more economical to use.

Large versus Small Seed Pieces

Probably, the easiest, most interesting and most frequently conducted seed potato experiment is that testing the influence of size of seed piece on yield. Nearly all our State experiment stations have published the results of such tests. The basis of size has been both by weight and by proportion of tuber. In these as in the experiments previously cited, the usual increase in yield has been accredited to the larger seed rather than to the increased amount per acre used. As a result, it is commonly concluded that the larger the seed piece used, the greater the yield. Under equidistance of spacing this conclusion may express the truth. But these tests are in reality tests of rate of planting rather than size of seed piece. Notable exceptions to this criticism are the experiments of Emerson of Nebraska and Zavitz of Ontario. Emerson planted eighth, quarter and half tuber pieces 6, 12 and 24 inches apart respectively, this using eighteen bushels per acre in each case. This gave him greatest total yield per acre from the quarter tuber and lowest total yield from the half tuber, a result warranting a conclusion quite contrary to that drawn from the other tests cited above. Zavitz compared yields from one and two ounce pieces, the one ounce pieces being planted twice as close in the row as the two ounce pieces, thus consuming the same weight per acre of seed. Here also the greatest total marketable and net yield came from the one ounce pieces. We may conclude from these two tests, therefore, that with the same rate of planting, smaller pieces down to one ounce planted closer are likely to give larger yields than larger pieces planted further apart. These data should not, however, influence the grower whose system of spacing seed may be justified, to cut his seed smaller than the two ounce or hen's egg size.

Number of Eyes

Many of our older and experienced potato growers stress the importance of cutting seed pieces to a certain number of eyes. The so-called proper number may be one, two or three depending on the personal taste of the grower. With constant weight of seed piece, the average number of eyes to the piece naturally depends upon the type or pariety of potato concerned. Most farieties of the Rose, Burbank and Hebron types contain many eyes while varieties of the Rural and Pearl groups normally have few eyes. Ballou

(Continued on page 606)

HON. DR. ALEXANDER CAMPBELL, F. R. C. S.
Minister of Agriculture & Mines for the Dominion of Newfoundland

Hon. Dr. Alexander Campbell was born at Souris, P. E. Island 43 years ago, was educated at Prince of Wales, Charlottetown, from which he graduated with hinors and later taught school for five years in his native town. He entered McGill for Medicine from which University he graduated in 1902, having had an exceptional career of honors during his course. On the advice of Sir Thomas Rodderick, Dean for the Medical Faculty, he went to Newfoundland to enter upon the practice of his profession, and after two very successful years in country practice he removed to the Capital, St. John's, where he rapidly came to the front as one of Newfoundlands leading physicians. He is connected with all the Hospital life of the City and for 10 years was Quarantine Physician for the Dominion, which position he resigned last August to enter the political arena.

In 1910 he further pursued his Medical Studies at Edinborough University, where he was made a Fellow of the Royal College of Surgeons, heading the list in a big field of competitors from all over the world; later he pursued his studies at Berlin and Vienna Universities.

When Hon. R. A. Squires formed his party in August, 1919, Dr. Campbell became one of his most active and energetic organizers. He was a colleague of Premier Squires in the District of St. John's West, and is at present a Member of the Legislature Council. He is one of Premier Squires Cabinet Ministers with the portfolio of Agriculture & Mines.

He has the reputation in Newfoundland of being a powerful platform speaker and a very astute organizer.

THE MARITIME FARMER

And Co-operative Dairyman
Registered Trade Mark

Fortnightly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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DATES OF ISSUE.

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MAL 11, 1920

NOVA SCOTIA FARMERS WILL NOT BE STAMPEDED

Nova Scotia farmers have taken a commendable stand in not allowing any organization to put one over on them. Following is a resolution recently passed by a group of intelligent farmers at Truro, as reported by the Truro Citizen:

Any political arrangement between the Independent Labor Party of this province and the United Farmers of Nova Scotia is some distance in the future and prospects are not bright for its consumation at all.

The matter was considered Wednesday night at Academy Hall when representatives of the Labor party appeared before the United Farmers and asked that some arrangement be made. Although J. J. Morrison, secretary of the United Farmers of Ontario, made a speech in favor of the arrangement being arrived at, the convention was not ready to endorse the plan and voted to refer it to the executive officers to deal with later.

Three speakers appeared to present the labor party's case. They were A. R. Richardson, Sydney; J. S. Wallace, Halifax, secretary of the party; and Dan D. McDonald, of Sydney Mines.

Before the labor representatives presented their case the convention condemned the 8 hour day in a resolution that passed almost unanimously, only seven or eight voting against.

The passing of this resolution apparently closed any avenue of approach between the parties. Richardson told the farmers it was no more possible to fight the 8-hour day successfully than to stop the sun. Prescott Blanchard, Truro, claimed it was impossible for farmers to operate on an 8-hour day and said: "What is the good of talking about an impossibility?" Other delegates said the 8-hour day was impossible in haying time and at apple picking time.

J. S. Wallace, Secretary of the Labor party, told the farmers he was going to give them something to think about. He was plainly sore at the passing of the resolution against the 8-hour day and his address was not of a concilatory nature. Frequently he was interrupted, the audience not taking very kindly to his line of talk. The resolution against the 8-hour day, he declared, was a wedge driven between the parties. "How can you get the government," he asked, "unless you unite with labor in the cities? You have killed your chances," he added. "We held out our hand; what did you do? You said work a couple of hours longer. Ontario farmers joined hands with labor. Are you too good?" Referring to the Labor proposal for a political arrangement, he said: "They have extended their hand; are you going to slap them in the face?"

The resolution against the 8-hour day was as follows:

"Wheras, one of the great burdens of the present day is the steadily increasing cost of living; and

"Whreas, it bears as heavily on the farmers as any other profession in everything they have to buy for themselves, their farms and their families; and

"Whereas, the farmers are opposed to anything that will further raise the cost of living; and

"Whereas, any shortening of the workng day is bound to react in increased cost of living;

"Be it therefore resolved that the Nova Scotia United Farmers here assembled protest in the strongest manner against the eight hour day, as it will at once increase the cost of everything grown, manufactured, sold or in any way produced twenty-five per cent."

FARMERS AND THE H. C. L.

The farmers of Canada did their part nobly and well in the days that our country was at war. Their efforts backed our boys so that they were able to carry on and win the day. The farmers of Canada are today the sanest class of aborers we have in the country, despite the fact that many of them are laboring under diffiiculties that are almost unsurmountable. Our farmers are conscious of the fact that there is a short world supply of food reserves.

Dr. J. W. Robertson, than whom there is no closer student of economic conditions, declares that the only way to remedy conditions is for the farmers to produce more. He says: "The high cost of living is more than an economic or political phrase, it is a grim reality which is being felt by millions of people."

While increased production can no longer be urged as a necessity of war, every man who has had an opportunity of learning the facts and studying the situation is convinced that increased production is a necessity of peace."

The farmers of Canada will continue to produce even when working against tremendous odds. They will spare neither brain, brawn nor time to do their part. The hand writing is, howver, on the wall. The worm may turn. It will be a sorry day for Canada when her farmers cease to toil to the devotees of other industries who persist in clamoring for unreasonably short hours and more money for less production. We say, beware! If the farmer is going to produce abundantly in order to help reduce the H. C. L. it is up to artisans in other calling to do the same. It cannot be done in an eight-hour day.

BE NOT YOKED UNEVENLY TOGETHER

The farmers of Nova Scotia are not ready to work hand in hand with any class that tends to lessen production by agitating for shorter hours. The advocates of this six to eight hour day got their answer at Truro a few weks ago. Those who are fooling with daylight saving should receive a similar answer. The sooner the fact seeps in that it is absolutey impossible to conduct farm operation on an eight-hour basis, the better for the consuming class. Hired help on the farm will not work later than neighbors in the shops, no matter at what hour they commence. Animals function in regular order, and to realize the most, there must be regularity in hours of milking, feeding and care. Crops cannot be worked when the dew is on and where daylight saving hours are practiced there is an enforced idleness.

Dr. Twitchell summed up the inevitable result when he said in the columns of the Maine Farmer a few weeks ago: "When the day comes, as come it will, when the shortage of food is felt, it will be well for those who have catered to the demand for shorter hours, greatly increased wages, and daylight saving, to bear in mind that they are responsible for whatever may arise.

"It is easy now for them to sit in their comfortable easy chairs and talk about "the lazy, indolent, shiftless farmers," but they will perhaps some day realize that what they have attempted for their own pleasure and gratification, is bringing home the inevitable harvest.

"You cannot successfully conduct farm operations on eight hours a day, six dollars a day, or by setting clocks ahead an hour."

The greatest problem before the farmers today was well stated by a man at a farmers' meeting recently when he said: "It is not so much the growing of two blades of grass where one grew befor, but to get the proper compensation for growing the one or two blades, as the case may be." In other words, the problem is economic rather than scientific.

REAL CASH

"If you send foreign coins and do not hear from your order, remember we are holding same for remittance of real cash. We will return your former remittance when postage is sent for same. Do not send Canadian dimes?" How does the foregoing from the columns of one of our American exchanges sound to ur readers? It is fully time that Canadians patronize home industies, build up our own towns and cities and create a better market for our produce.

* * *

The selfishness of organized bodies, whether labor or trade, shows itsef in increasing force, year by year. No wonder the producers of food are growing sensitive, conscious of the power which assumes to dictate whenever they go to market and demand so large a per cent. of the income from farm products.

* * *

Why don't some of the smart town fellows shut up their shops and go farming and get some of the easy money, and incidentally raise something to feed a starving world.

* * *

Difficult to get and expensive labor is driving many farmers to the point where they must curtail their operations. In out own vicinity there is a sale of farmers effects and live stock nearly every day. The farmers say: "A hungry world can go to work or starve as far as we care. We need a class of leaders who will not let this Dominion be dominated by Socialistic labor unions."

The Co-Operative Marketing of Wool, 1920

Co-operative Marketing of Wool Means

1. That wool is graded according to quality and paid for on the same basis.

2. All wool is accumulated at a central point where the grading is done.

3. The grading is done by experts supplied by the Sheep and Goat Division. Department of Agriculture, Ottawa.

4. The Co-operative Association sells the wool direct to the ultimate buyer, the manufacturer. Equal advantages are extended to both the small and large sheep raiser.

5. The wool is taken direct from the sheep, not tub washed. Why? Because the mills divide a fleece into parts according to quality and length, each part being used for a certain purpose. This separation cannot be made with tub washed wool.

The Advantages to be Derived

The advantages are of a financial and educational nature.

1. A large amount of graded wool at one point attracts the attention of the largest buyers—the woolen manufacturers.

2. Organized selling considerably reduces the over head expenses which have to be borne by the producer.

3. The producer receives more for his wool. Under the old system of selling, this difference went to the country peddlers and wool dealers as their profits and expenses. Co-operative marketing means the elimination of several middlemen.

4. Outside competition forces local buyers to pay a higher price.

5. The flat rate of so much a pound, irrespective of quality, is displaced. The wool grower with clean dry wool will receive a premium for his trouble.

6. The wool grower learns market requirements. He learns the value of good wool and consequently strives to produce same.

7. It leads to a greater interest in the sheep industry and to a better quality of wool being produced.

8. Co-operative marekting of wool is the beginning and will lead to co-operation along other lines.

History of Co-operative Wool Sales in Canada

Wool was first marekted co-operatively in Canada in 1914, when this work was conducted by the Sheep and Goat Division, Department of Agriculture, Ottawa. 206,129 pounds were handled that year. The amount has increased each year and 3,800,303 pounds were marketed last year in this co-operative manner. This work was under the direct supervision of the Federal Department of Agriculture until 1918, when the Canadian Co-operative Wool Growers, Ltd., with head office at Toronto, was formed. This is an organized body of wool growers working co-operatively, and every man connected with this company is a wool grower. The leading sheepmen of Canada are shareholders of this company. The Federal and Provincial Departments of Agriculture are co-operating in the work.

Co-operative Wool Sales in New Brunswick

The first attempt to market wool co-operatively in New Brunswick was made by the Sussex and Studholm Wool Growers Association in 1916, when they marketed over 5,000 pounds and received a price greatly in excess of what was received for wool sold locally.

In 1918 the New Brunswick Department of Agriculture made an effort to get the New Brunswick wool growers to market their wool clip in this progressive manner. The effort proved a success and the work was continued in 1919.

The growth of the co-operative wool marketing business in the Province is indicated by the following table showing the amounts of the various grades handled in each of the two years in which this plan was followed:

Grade	Amt. Handled in 1918	Amt. Handled in 1919	Net Price to Farmer 1918	Net Price to Farmer 1919
Clothing	50	.....	.81¾	....
Fine Med. Clothing	1,778	.....	.82½	....
Medium Combing	18,602	24,550	.81¾	.67
Medium Clothing	39	.....	.79	....
Low Combing	.....	1,092	....	.49
Low Med. Combing	9,502	28,127	.75½	.62
Coarse	691	334	.69½	.42
Cotts	.....	230	....	.26
Rejects	403.5	27	.42	.29
Grey and Black	367.5	842	.50	.39
Locks and Pieces	150	.....	.40	....
Tags	125	638	.10	.08
Total	31,735	55,840	.771c	.627c

Average price in 1918 ..... .771c
" " " 1919 ..... .627c
Number of shippers in 1918 317
" " " " 1919 547

Plans of the New Brunswick Department of Agriculture for the Marketing of the 1920 Wool Crop Co-operatively

1. Wool will be shipped into Fredericton where the wool warehouse and grading station is located.

2. The Secretary of the Agricultural Society will be the medium through which all correspondence will be transacted.

3. Where no Agricultural Society exists, the business in connection will be conducted by individual sheep raisers.

4. Whether the business is handled by Agricultural Societies or not, the sacks, twine and tags will be shipped to one man in a district who will distribute them. (By shipping thus, the expenses are greatly reduced as 10 sacks may be shipped, in one bundle, almost as cheaply as 1 sack).

5. Ship wool to Fredericton, collect, by the cheapest and shortest route and write the Live Stock Division, Department of Agriculture, Fredericton, on the day of shipment, enclosing Bill of Lading or Shipping Receipt.

6. When wool arrives at the Wool Warehouse it is weighed on tested scales and a cheque sent to the owner for 80 per cent. of the prevailing market price. (Boston market). Based on the past two years results, this 80 per cent. would approximate what local buyers are paying in full.

7. Cheque for balance will be sent when wool is graded and sold. (This should be inside of 3 months).

Detach, fill in and return the following application form at an early date. All applications to be in not later than May 15th.

Application Form for Marketing Wool Co-operatively

I hereby make application to sell my wool co-operatively through the medium of the New Brunswick Department of Agriculture and the Canadian Co-operative Wool Growers, Limited.

Name .....

Post Office Address.....

Railway Station.....

County .....

Number of fleeces.....

Do you use a wool tying box?.....

N.B.—It is imperative that these forms be properly filled out so that the correct number of sacks and right amount of paper twine may be sent to each grower.

Return application form promptly to F. W. Walsh, Asst. Supt. for Livestock, Department of Agriculture, Fredericton.

Care of Sheep

Select a high class sire

Feed the flock liberally.

Protect from storms and draughts.

Weed out all old and unthrifty individuals.

Dip twice a year—spring and fall—to keep fleece clean and sheep free from ticks and lice.

Dock and castrate the lambs.

Feed in racks to keep the fleece free from chaff and burrs.

Trim to prevent manure collecting on the hind quarters.

Do not mark sheep with paint or tar.

In breeding operations endeavor to eliminate black sheep from the flock. Black wool brings a lower price.

Preparation of the Wool

1. Have the sheep dry when the shearing is done as damp wool will mildew in storage.

2. Shear on a clean floor. Clean wool means a higher grade.

3. Tags, dung locks and stained pieces should be clipped from the fleece previous to shearing and packed separately.

4. The fleece should be kept as intact as possible in shearing. (This can be accomplished best with a shearing machine.)

5. After the fleece is sheared, turn it over, fold in the sides and rough ends and roll compactly from tail to head with the bright or clipped surface outward.

6. Tie each fleece separately using pape rtwine, which will be supplied. Never use sisal or binder twine.

7. Wool should be packed in standard wool sacks. These will be supplied to anyone having 8 or more fleeces. Sheep owners who have less than 8 fleeces to dispose of can use ordinary feed sacks. Care should be taken to have these sacks clean.

8. Special shipping tags will also be supplied. These should be filled out carefully and to prevent any trouble in transit use 2 tags with each sack, one inside and one outside.

If you never marketed your wool in this manner, make an effort to do so this year. Ask some sheep man who tried it last year what he thinks about it. They are all satisfied patrons.

Why not get the top price for your wool?

Remember the more marketed in this way the less will be the handling charges per pound, therefore get your neighbor interested.

If you have an Agricultural Society in your district talk it over with the officers and other members. If there is no Society, get a few of your neighbors interested and write us for further particulars. If no one else is interested but yourself, make application to sell your own wool anyway.

The sheep owners who marketed their wool co-operatively last year received an average of 62.7c per pound for unwashed wool. What did you receive for yours?

Study this article carefully.

The Use of Nitro Cultures

(Experimental Farms Note.)

In the report of the Dominion Botanist for the year ending March 31, 1915, he says: "During the last month of the year," viz., December, 1914—"it was deemed advisavle for this division to prepare nitro-cultures of alfalfa, red clover and peas for distribution to the branch Farms."

Such was the genesis of the present system of free distribution of nitrocutures to farmers, begun in the following season of 1916, and now entering its fifth year.

The branch Farms, by their example and reports, and the ocular demonstration to visitors given in the condition of their leguminous crops, started the demand of the farming public for these cultures, which it is our endeavor to stimulate, guide aright, and, to the best of our capacity, satisfy.

For the benefit of those farmers, who have not yet studied this question, we propose to briefly explain the term "nitro-culture."

Since the time of the Romans it has been known that the introduction into a crop rotation of a legume—that is, one of the plants belonging to the family Leguminosae, of which the most important members from the farming view point are clovers, peas, beans and vetches—somehow or other greatly benefited other subsequent crops. tI is only within the last few years that the explanation has been discovered.

The Legumes, as a family in the vegetable kingdom, generally bear on their orotlets small nodules or lumps, of the size of a pin head upwards. Microscopic sttudy has shown that these nodules contain numerous small organisms, wnown as bacteria. These organisms belong to a particular group with a number of definite strains, each strain apparently confining itself to a particular plant or group of plants. A long series of subsequent experimenting has proved that these bacteria convert the nitrogen of the air into a chemical form which the plant or group of palnts can readily assimilate. The association, in short, of plant and bacteria, is decidedly beneficial both to the legumes and the soil. The net result, at the end of the season, is a valuable addition of nitrogen to the farmer's field, at, practically, no expense.

Now "nitro-cultures" are simply collections of these bacteria ready bottled. The proper bacteria are isolated from all others, grown on artificial soil, consisting of a jelly made from an oriental seaweed mixed with chemical salts, and then bottled for sending out.

The farmer, when he receives the cultures, breaks up the jelly, shakes it up with some skim milk or sugared water, and wets his seeds with the resulting liquid. This distributes the bacteria over the seeds, which when dry, are sown; and, so, plant and bacteria are brought into intimate contact from the very commencement of growth.

Nitro-cultures are prepared by the Division of Botany for alfalfa and sweet clover, red and asike clovers, and peas, and are put up in bottles containing sufficient bacteria for the treatment of about a bushel (60 lbs.) of seed. Cultures are supplied free to farmers on application to the Division of Botany, Central Experimental Farm, Ottawa, Ont., on their stating the crop for which culture is required, and the quantity of seed proposed to be treated. Only three such bottles in all, however, can be supplied to any one appicant.—R. A. Ingis, Asst. Botanist.

How to Treat Seed Potatoes

By G. H. Coons, Michigan Agr. College

The growing of potatoes will make its best advances when farmers, having confidence in the crop realize that the potato crop is a stable, safe crop which responds in a profitable way to intelligent care and handling. The potato crop may be compared to a dairy herd which, if neglected, yields a poor return and is a losing proposition, but which if cared for and urged to the limit, returns a good profit to its owners. Today, after four years of satisfactory prices, we are at a vantage point and can make this crop a well cared for crop rather than a mediocre one, stunted at every turn.

It is not too much to say that, for years the condition of potato farming in the sandy land districts has been on rather unsound footing. The potato crop had to be grown, it was the sure crop on the newly cleared land and it was a safe crop, so far as yield was concerned, on the sandy land that was becoming more and more acid. It is a known fact that farmers in many of the areas of greatest potato production were planting large acreages and securing from these plantings very low yields, yields far below those of which the ground was capable of producing. The case was simply this—every farmer had the recollection of 25-cent potatoes looming as a specter, and when as one authority stated it cost 22½ cents a bushel to raise potatoes, this figure offered little recompense for hauling potatoes five miles into town. It was a crop which in years of big yield threatened to give but small returns, hence the farmer felt that it was a crop which did not warrant outlay in the way of soil preparation, fertilizer, insect and plant disease control.

In short, the farmer was raising a starved crop, stinting it in every way, and his practices were reflected in the yield. And then, to complete the vicious circle, since he stood to make so little per acre, he had to raise many acres in order to get any sizable amount of money.

It may seem a rather far cry from this discussion of potato growing methods to the subject of this article —methods of seed treatment. But the connection is particularly close and intimate; potato disease control hinges closely upon farm management. It is useless to attempt to persuade farmers to put more and more money into the cost of raising a crop that is not yielding commensurate return.

But in the last four years the potato crop, aside from the slight ups and downs of the market, and aside from the disastrous effects of the tip burn, drought and freezing in some sections has been a crop that has brought such a profit as to gain for itself a new place in the farmer's estimation. Instead o being a crop of low value which has been a drug on the market, it has moved readily, when there were cars and the size was right—and has commanded a price unheard of in the old days.

These conditions have focused attention on the potato crop and every farmer who has had his crop cut in two by drought has done a little mental arithmetic to compute profits on the basis of good yield. And every farmer who has recalled the loss caused by disease has turned this loss into dollars and cents as he figures what from 10 to 25 per cent. shortage on account of disease has cost him. There has been, too, a marked awakening interest in potato growing brought about by the educational extension of the colleges. Such papers as the Potato Magazine, focussing attention on the potato as a worthy crop have been important factors. The combination of many things is therefore bringing about a wholesome niterest in potato crop improvement.

The first step in this program start with the seed. In many articles in previous issues of the Potato Magazine, experts have brought home the importance of sowing seed of uniform strain; of high yielding quality both as to vigor and as to freedom from serious diseases.

This article will not take up the complex matter of seed selection, except to say that good seed of desirable type and of satisfying past history, both in performance and disease-freedom can be had through the extension service of our agricultural colleges. This is a noteworthy advance in good potato produvtion. There are men on the job to locate desirable stocks of seed and to insure that the potato maintains its place as a permanent profitable field crop. This article will deal with seed treatment. its "whys and wherefores" and its "hows."

To reinforce what has been said before, it may be remaarked that in a survey made a few years ago by the Horticultural Department of the Michigan Agricultural College, in which potato growers in one of our largest potato-growing counties were interviewed, only seven were found in several hundred seen who treated their potato seed beore planting. Potato seed treatment seems to be a lost art in this country. This condition reflects a common condition in northern United States. Now it is not thought that potato seed treatment is a new thing for any farmer to try. Probably no potato grower of experience could be found who had not treated his seed more or less spasmodically. It was a farm practice that your father insisted upon way back in 1893. It was a thing whose effectiveness has been demonstrated over and over from 1893 to date; and yet only seven farmers were treating potatoes, so far as could be found, in a survey of the conditions in one of the more important potato producing communities!

Seed treatment consists essentially in soaking seed tubers in a disinfectant solution to rid the seed stock of live germs of the sort that would lead to disease in the crop.

The first treatment advocated years ago by Prof. Boilley, of North Dakota was a 1½ hour soaking in corrosive sublimate solution, 1-1000. This solution is easily made by dissolving four ounces of corrosive sublimate in 30 gallons of water. This treatment became of very wide vogue and in a few years potato seed treatment was an established part of potato growing. With the discovery of the value of formaldehyde as a disinfectant, this chemical after being first recommended for grain treatment was used as a control agency potato scab. It immediately became popular and potato seer treatment was put in practice generally throughout the United States.

The subsequent history of potato seed treatment parellels the story of grain treatment. Here were practices universally understood and tested. No farmer questioned the importance or doubted the profitableness of the operation; but in the rush of farm operations these wholesome methods became overlooked and it took the stern demands of the War emergency and the necessity of farm efficiency to bring home to farmers the need of these conservation measures.

Farmers have noticed another disease besides scab has been doing damage to their crops. This disease is known as Black Scurf or the Rhizoctonia disease. Every farmer has seen the results in the field even if he has not dignified them with a name. In the average field it is a common thing to see rows with hills missing here and there. Later in the season, a weak, laggard growth may come up in these seeming blank places where the mother tuber takes a second growth after the first sprout is killed. The blanks are caused by the attack of the Rhizoctonia fungus on the young sprouts; these "damp off" and the potato has to start a new growth from below the rotted portion.

Again, the farmer has seen the results of this fungus in the giant hills that appear in fields—great, green plants that one would fancy would yield a peck of tubers! When digging time comes, the farmer is sadly disillusioned for these vines yield 20 or 30 small, misshapen tubers, usually green from being formed too close to the surface of the ground. Rhizoctonia has again produced a characteristic effect.

By its attack on the stem it has not completely cut off the shoot from the roots, but it has destroyed the green bark. It is in this green bark that the food to be stored in the tuber is transported from the leaves and with the girdling of the stem the normal tuber formation is impossible. The potato sets its tubers above the girdled place and the resultant yield is the unmarketable product referred to.

Then there is a third form of damage produced by the rhizoctonia. This phase is usually overlooked by the grower—he classified the tubers with Rhizoctonia markings as potatoes with crumbs of dirt upon them. Here is a little task for the farmer about to plant potatoes. Bring out a peck of potatoes and wash them—there will be some "dirt" that won't come off. In the average lot of tubers about 25 percent show the black scurf blemishes. Each of these tubers has dangerous possibilities if used for seed.

The damage done by potato scab is severe enough to warrant treatment for this disease alone. Year in and year out, potato scab makes from 10 to 15 per cent of the potatoes grown unmarketable. There is a high percentage not picked up at all; there are a lot thrown out at the car and then in the market keen buyers insist on allowance for scab in the stock.

With our potato soils tending to become acid as they are used, nature is helping the farmer to keep scab in check. The dangerous source of scab in our sandy lands is not the soil but the seed stock. Clean seed or disinfected seed on soil on which potatoes have not grown for three or four years will give a clean crop.

The grower must recognize that he is seeking to overcome two diseases, principally, by his seed treatments—namely scab and rhizoconia. Formaldehyde controls scab, but it does not control black scurf or rhizoctonia; corrosive sublimate controls both scab and rhizoctonia. To the Formaldehyde method, therefore, must be added close sorting if potato disease control is to be most effective.

Two options are therefore open to the farmer. He may dip in corrosive sublimate, 4 ounces to 30 gallons, for a period ranging from ½ hour to 2 hours. With tubers with large lumps, the longer period would perhaps be advisable.

Corrosive sublimate is deadly poison and a little hard to dissolve unless hot water or a little acid, such as vinegar or muriatic acid, is used. Then too, the solution must be handled in wooden or glass vessels. In addition, the corrosive sublimate loses strength as it is being used and the solution needs to be replenished with poison. One lot of solution can be used four times —that is to dip four batches—and then must be made up fresh or else one ounce of corrosive sublimate should be added after each batch is dipped. The latter method keeps the solution up to strength.

And finally, this method costs a little money. At present prices, $3.00 worth of corrosive sublimate will treat from 20 to 30 bushels of seed tubers. The lessening of the time reduces the labor cost of the treatment. The only equipment necessary for the smaller acreages consists of a couple of barrels handy to the water supply. For larger areas, some sort of wooden vat should be devised to hold crates or bulk potatoes. For use with bulk potatoes, a vat with a boat-like bottom facilitates the shoveling out of the treated tubers. The vat should be lined with heavy duck painted with asphaltum. I find that farmers in general prefer this corrosive sublimate treatment to the sorting plus formaldehyde dip treatment. They want to get the diseases, scab and Rhizoctonia, and they want to go after these with a shot-gun method—one that will get them both.

Nevertheless, for the man who cuts potatoes by hand, the formaldehyde treatment has marked advantages, provided close sorting is given the potatoes during the cutting process. In this method, the potatoes are treated the proper time by soaking in formaldehyde solution made with 1 pint formaldehyde to 30 gallons of water. This solution can be used over and over, and does not need the renewal to maintain its strength. The potatoes, while still wet, show the Black Scurfs remarkably clear—the fungus growth standing out as purple knobs or flecks. Experiments at the college have shown that close sorting and formaldehyde treatment gives as good control as the more strenuous disinfection method.

As a result of experiments completed in 1917 and checked by 1918 and 1919 experience, it is possible to shorten the times of treatment from the 1½ or 2 hours for formaldehyde as has commonly been recommended, to 30 minutes for the control of scab. This gives the farmer a chance to hurry up the rather tedious process of dipping.

44 CENT EGGS

We are prepared to pay forty-four cents per dozen for strictly fresh eggs, F. O. B. St. John, N. B. All eggs will be subject to candle test and in case of dispute sworn statement as to condition will be made. Cash will be remitted by Sussex check, weekly.

All eggs must be expressed and the charges prepaid. Be careful to ship only eggs that are strictly newly laid. The most economical way is to make shipments in three case lots or over.

This price will hold good for two weeks from date of issue. Watch the Maritime Farmer for the next price.

In a short time we hope to be able to quote on dairy butter. We expected that we would be able to do this sooner, but arrangements are not yet completed.

Notify this office promptly of all shipments, giving shipping dates and full particulars.

Be sure and address all goods, The Maritime Farmer, St. John.

Do not ship to Sussex.

The price is forty-four cents per dozen for strictly fresh eggs, for the next two weeks, delivered St. John.

It also gives him leeway in the handling of the tubers. He can feel that anywhere from 30 minutes to 1½ hours is a safe time to expose the tubers to the chemical. It is best to treat whole potatoes rather than the cut tubers, because reports have come to the writer of injury to seed when it was treated after being cut.

It should be remembered that it is also possible to shorten the corrosive sublimate bath from 1½ hours to 30 minutes. With potatoes having large black scurfs perhaps the longer time would be more efficient than the half-hour period, but the diseases have been controlled excellently in our trials with the shorter time. Here again it is best for the farmer to understand that he has a leeway between 30 minutes and 1½ hours in which it is safe to treat potatoes. Over exposure to the chemical is certainly not to be advised.

Given ordinary potato soil, not too rich in limestone, in which potatoes have not been grown the previous year or two, and given treated seed, the farmer can confidently expect a perfect stand and a crop in which potato scab will be hard to find.

Seed treatment is the first step in potato improvements. After a farmer has started with as good seed as he can get this year and treoted it carefully and properly, he is then in line for a big yield, and what is better, he is in line to produce for his community a dependable seed stock; for it is by the men who take care of their potatoes by treatment, etc., that the development of high-grade stocks will be accomplished.

By seed treatment the former eliminates about one-third of his potato troubles. Here is a method whose valuue has been demonstrated over and over again by years of careful trial and experimenting. This article is a plea for the widest possible utilization of a fundamental agricultural method.

Nova Scotia Apples Ignored by U.G.G.

Under the caption, "Who own the Newspapers"? The United Farmers' Guide gives as a list of its present owners: The United Farmer's Co-operative Companies of New Brunswick, The United Fruit Companies of Nova Scotia and the Grain Growers' Guide of Winnipeg—Three big shareholders—two Eastern and one Western, yet in a recent copy of the Grain Growers' Guide the announcement is publicly made that the Grain Growers' Guide is the chief owner. The announcement has gone forth that the Directors of the United Farmers' Guide are:—Hon. T. A. Crearar General Manager and C. Rice Jones, Vice-President of The United Grain Growers,' Ltd.; Geo. F. Chipman, Editor Grain Growers' Guide; Fred W. Bishop, President United Fruit Companies of Nova Scotia and C. Ashley George of New Brunswick.

Three Western, two Eastern.

Hon. T. A. Crearar and Mr. Geo. F. Chipman visited the Annapolis Valley late in the fall of 1919 and consummated a deal whereby the United Fruit Companies of Nova Scotia acquired an interest in the United Farmers' Guide, and thus became partners with them to the extent, we understand, of $6000.00.

From the born exponents of the spirit of Co-operation, one would naturally look for some tangible co-operation of the Western United Grain Growers' Company with their Eastern allies, the Unitel Fruit Companies of Nova Scotia. What was the Maritime Farmer's surprise, however, a few days ago, on looking over the 1920 catalogue of the United Grain Growers' to find on page 87, an apple advertisement, copy of which is reproduced herewith. The Maritime Farmer asks its Maritime Province readers to carefully note the wording of this advertisement. Not a mention of Eastern apples, but: "Boxed apples from the West are steadily growing in favor on the prairies. When this company secures Western Apples for its customers, it buys them in a district where apple growing is the principal business. The apples are graded, wrapped and packed with the greatest care, and can be depended on for uniformity in size, color, flavor and freedom from blemish or decay. This great care in packing accounts for the better keeping qualities for which U. G. G. Western Apples are famous."

It seems to us that the Nova Scoti apple growers in general, and the United Fruit Companies of Nova Scotie in particular, did not anticipate such shabby treatment at the hands of Hon. T. A. Crearar and his United Grain Growers' Company.

Nova Scotia produces as good a quality of apples, in every respect, and surpasses in flavor anything that grows in the West in the form of apples. The pack put up by the United Fruit Companies of Nova Scotia is just as worthy of eulogy as is the pack boasted by any western organization. Thousands of barrels of Eastern apples are sold in western markets and undoubtedly the quantity could be increased if the United Grain Growers' Company saw fit to give Nova Scotia apples as good a boost as they do for western apples in their 1920 catalogue.

Is page 87 of the 1920 United Grain Growers' catalogue a fair example of the kind of co-operation the farmers of eastern Canada may expect from the men who are the professed leaders of co-operation in Canada?

The men who are at the head of the United Fruit Companies of Nova Scotia, and who have pledged their support to an institution of common interest, certainly deserve better recognition for their enterprise and industry at the hands of their western allies. The Maritime Farmer resents the snub dealt by our western brethren to one of our most important industries.

We understand a copy of the catalogue of the United Grain Growers' Company is placed in the hands of each and every shareholder of the United Grain Growers' Company, numbering approximately thirty-five thousand, as well as into the hands of thousands of others. A catalogue of this nature is a potent selling factor. Its pages are read and re-read, in every household and the slogan "Western apples" is consequently kept ever fresh in the minds of the good home makers of western Canada. Western apples are consequently in demand, because they are not so well acquainted with the merits of eastern apples.

Was not one of the reasons why the United Fruit Companies of Nova Scotie invested $6000.00 of their funds in the United Farmers Guide, due to the fact that there was an understanding with Mr. Crearar that Nova Scotia fruit growers would be assisted in placing their good apples on western markets? The ink on the agreement had scarcely dried when out to the public goes the catalogue in question, bearing the gospel of the merits of western apples to thousands of homes on the western prairies.

If the influence of the East is necessary for the best interests of the western grain growers, surely the spirit of reciprocity by boosting eastern apples should be shown by those who have to do with sales organization in the West.

Apples

Apples to Eat--to Cook--to Bake

--to Make Sauce--Pies--

or Dumplings

Each year United Grain Growers visit the districts where the apple crop has been best and secure for the farmers of the West the choicest apples that can be had—and distribute them at the lowest possible prices.

Apples obtained through U G G channels are sold through many local associations, and also handled at many elevator points. If you have not been able to get U G G apples in the past, or if the quantity you got was not enough, see if your local association is doing anything for 1920 They can get them for you

To secure complete satisfaction an association or local only needs to order U G.G apples and to order them early The number of cars available in 1920 will depend on the number of early enquiries and orders received.

Boxed apples from the West are steadily growing in favor on the prairies. When this Company secures Western Apples for its customer it buys them in a district where apple growing is the principal business. The apples are graded, wrapped and packed with the greatest care, and can be depended on for uniformity in size, color, flavor and freedom from blemish or decay This great care in packing accounts for the bet ter keeping qualities for which U.G.G. Western Apples are famous.

For Full Particulars write any U.G.G. Branch or Consult our Agents at Elevator Points

Fac-similie of Half of Page 87, Grain Growers' Catalogue, 1920. Issued February 1st, 1920

CO-OPERATIVE NOTES

We have been shipping auto tires pretty fast of late. Our advice today is that the near future may see another advance in price. While our present stock of non-skid 3,500 mile 30x30½ tires last, they may be had for $18.00, tubes $2.75.

We also offer a lot of heavy tourist Good year tubes 33x4 at an attractive price while they last.

Binder Twine.—We are prepared to quote a delivered price on a high grade of binder twine. Prices may go up. Order now. Freight paid on lots of 300 pounds or over.

Formaline.—We have some on hand if you want it. The price is attractive. What are you paying? We have saved quite a bit of money for a number of our subscribers. We cooperate so that the buyer saves and therefore makes his dividend on his purchase.

HORTICULTURE.

THE IMPORTANCE OF LEAVES IN THE PRODUCTION OF APPLES

(By G. E. Sanders)

Many growers will remember an article pubished by the writer in the Co-operative News sof June 22nd, 1916 with which were shown four photographs of two Golden Russet trees. The one was sprayed during the season of 1915 and bore $2.46 worth of apples. This tree held its leaves until late in November. The other tree was in the next row and was not sprayed. It bore $0.69½ worth of apples, and on account of blackspot infecting the leaves, the foilage was practically all off the tree by October 25th. In 1917 the tree that held its leaves late in the season on account of its having been sprayed, bore a full crop of blossoms and fruit in spite of the fact that it bore a full crop the previous year. The tree that dropped its leaves early the previous year on account of it not being sprayed, bore in 1917 only a few scattered blossoms and practically no fruit.

In January, 1917, President F. A. Chipman, in his address to the Nova Scotia Fruit Growers' Association, predicted that Ontario would have a small crop of appes in 1917 as the apple scab had been so bad in Ontario in 1916 as to cause the foilage to drop much earlier than usual. His prediction was fulfilled for in 1917 Ontario had the greatest failure in years in its apple crop.

In Nova Scotia in the fall of 1918 the apple leaves stayed on an unusually long time and when the first snow came late in November, the leaves held so much snow as to break trees in many orchards. In 1919 Nova Scotia had the second largest crop in her history.

All things go to show that the importance of leaves remaining on the tree until late in the fall, in the production of a crop of apples the following year. Thorough spraying will keep leaves from apple scab and cause them to remain on the tree several weeks longer in the fall than unsprayed leaves. Every day a leaf stays on in the fall of the year it is making the fruit bud stronger and the cell sap richer so as to give a more vigorous blossom the following year. For this reason throrough spraying tends to make annual crops even on such varieties as Gravensteins which normally bear every other year.

It is true that frosts such as we had in the fall of 1919 may interfere, but we are not without evidence to show that the leaf and branch on a tree that has been well fed and kept from fungus by thorough spraying will stand several degrees more frost than the leaf and branch on a weak tree. The reason given for this is the difference in the freezing point of the cell sap which is thinner and therefor has a higher freezing point in the poorly fed unsprayed trees.

Nova Scotia now has a strong lead in apple production and thorough spraying must be practiced by the apple growers if the lead is to be held. This applies to quantity as much as to the quality.

There are growers who claim as long as they can sell their apples to the evaporators and canners there is no need of spraying. If this advice is followed the leaves will become diseased and drop earlier than they should in the fall and the total quantity of opples sproduced will decrease.

It wil pay a grower to spray thoroughly even if he intends to sell all of his apples to the evaporators and canners. The proof of this statement is in the fact that canners and evaporators are moving into Nova Scotia in order to get supplies and abandoning sections that have generally neglected spraying.

Without good leaves we cannot expect appls and we must spray in order to keep the leaves clean.

VIGOROUS SEED POTATOES FOR BETTER YIELDS

While there is a great difference in the productiveness of varieties of potatoes, it has been shown by experiments at the Experimental Farms that there may be a great difference between yield in two lots of the same variety than between two different varieties. In one case, for instance, good seed potatoes yielded at the rate of 400 bushels per acre, while poor seed of the same variety yielded only 85 bushels per acre, and just as striking differences have been obtained many times. What is it that makes this extraordinary difference? One cannot tell by the appearance of the tubers what the crop from them is likely to be, as tuberss which will produce a light crop may look just as good for seed as those which will produce a heavy crop. There must then be some other means of determining what is and what is not vigorous seed.

It has been found by experience that seed from the warmer parts of Canada, where both the days and nights are warm during the growing season, does not as a rule give as good results as seed from a part of Canada where the nights, at least, are cool; although sometimes the seed from warmer districts is good. In the cooler districts the poatto plants generally grow until they are cut down by frost, whereas where the days and nights are warm the tops frequently dry up, or partly dry up, during the summer, or early autumn. As a rule it will be found that if potatoes have grown vigorousy until they are cut down by frost, or are still growing vig orously when dug, the crop of tubers will be of strong vitality, and make good seed, and if the following season is favorable and they do not suffer from disease, will produce good crops. On the other hand the crop from potatoes which ave dried up in summer is liable to lack vigor, and when used for seed next spring, gives very unsatisfactory results. Seed potatoes which have been grown on the heavier moister soils in the warm districts are likely to produce better crops than those from the lighter drier soils. Moreover there are several diseases which attack potatoes in the warmer districts which so far have not been very troublesome where it is cooler. This difference in vigor in seed potatoes may be due to the presence or absence of disease, or to the immaturity of the vigorous seed, or to both.

As the yield from potatoes of the same variety depends so much on the source of seed, one should try to obtain seed that is known to have come from a crop which was free from disease, and which grew vigorously until it was dug or killed by frost. If such infomation is not available, one will be more likely to get good seed from the cooler, than from the warmer parts of Canada.—W. T. Macoun, Domnion Horticulturist.

SHOULD ALFALFA BE GROWN ALONE OR IN MIXTURE WITH GRASSES

(Experimental Farms Note.)

So far, alfalfa is generally grown alone. The difficulty to secure a good stand experienced in the past is to quite an extent responsible for this practice, as it has become a sort of hammered-in rule to "give alfalfa every possible chance to establish itself." On this account it is generally deemed unwise to sow any grass with the alfalfa because it is considered that, in doing it, there may be a certain danger of the alfalfa not getting the best opportunity to gain a firm foothold. This view is undoubtedly correct in the majority of cases, especially where, on account of climatic and soil conditions, the starting of alfalfa may meet with some difficulties.

On the other hand, experience has shown that, in section where alfalfa can be grown easily, some admixture of certain grasses may give excellent results.. In Western Canada mixtures of alfalfa and Western Rye grass yield excellent crops providing that the mixtures are so balanced that the alfalfa and Western Rye are given equal chances to establish themselves. In Eastern Canada several grasses have been tried in mixture with alfafa, and the results so far obtained certainly seem to indicate that such mixtures may profitably be grown, providing the right varities of grasses are chosen.

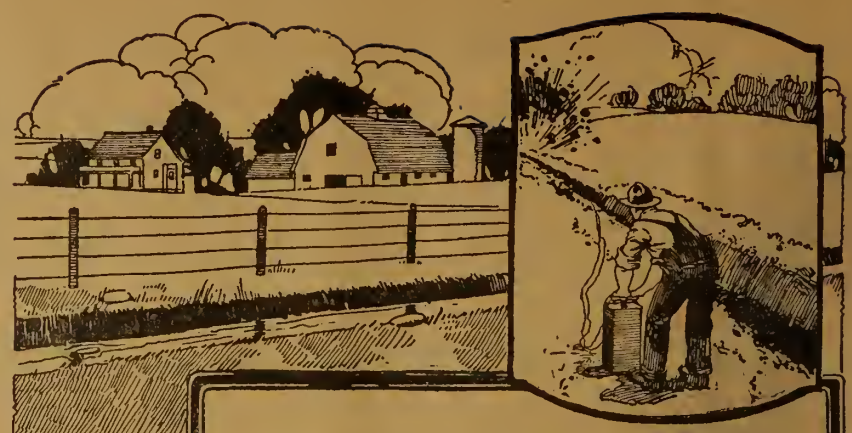
When choosing the grasses to be used in mixtures with alfalfa, it should be kept in mind, in the first place, that such grasses as are apt to choke out the alfalfa on account of their inclination to spread out must be avoided, and, secondly, that only those which are early are of any particular value. Timothy, for instance, which reaches full development comparatively slowly, is rather unsatisfactory in mixture with alfalfa. When the latter is ready to cut for hay the timothy is hardly more than half-ready, the consequence of course being that the full benefit of it is not being realized. To defer the cutting of the mixture until the timothy is at its best, can of course not be recommended for, by doing so, a poorer quality of hay will be secured as far as the alfalfa is concerned. It will also check the prompt development of the second crop.

The grasses which go best with alfalfa are those which are ready to be cut at the same time as the alfalfa. There are three grasses of this type that deserve to be mentioned, viz., Tall Oat Grass, Orchard Grass and Meadow Fescue.

The Tall Orchard Grass is comparatively susceptible to cold winters and should therefore not be used in districts where the winters are severe. Where it can be grown without losses on acccunt of winter killing, however, it goes excellently with alfalfa.

The Orchard Grass is especially well adapted to well drained soil and, on such land, it may to great advantage be used in mixture with alfalfa. Its nutritive qualities are excellent and, besides, it has the reputation of being one of the best weed checking grasses known.

The Meadow Fescue which is universally recognized as one of the most valuable grasses, especially for dairy cows, has the advantage over both Orchard and Tall Oat Grasses in that it is hardier. It may therefore be used with alfalfa in districts where the former grasses may suffer from winter hardiness. It also comes on quicker after cutting, contributes more to the bulk of the second hay crop, provides more pasture, in case the field should be used for that purpose, and yields better results on land which is somewhat wet on account of imperfect drainage. On the whole, the Meadow Fescue may be universally recommended in mixture with alfalfa.—M. O. Malte, Dominion Agrostologist.



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SPRAYING

(Experimental Farms Note)

If the fruit grower, vegetable grower, or flower grower does not spray nowadays, he is almost certain to have inferior products in his orchard, small fruit plantation and garden. There are so many injurious insects and diseases which affect a large proportion of the plants he grows that if they are uncontrolled there will either be no crop left or else the value of the crop will be very much reduced.

There are few of these insects and diseases which cannot be well controlled by using some of the remedies which have been discovered during the past twenty-five or thirty years and which have been well tested by many experiments.

Spraying must, however, be thoroughly done if good results are to be obtained. Materials are expensive, and the cost of labour is high, and money will be wasted if the work is improperly done or not done at the right time.

The early sprayings are, as a rule, the most important, and those who contemplate spraying as all should who have orchards or gardens, should get everything in readiness to begin at the right time, as delay may mean much loss. Spray Calendars are issued by the Dominion and Provincial Departments of Agriculture, in which several sprayings are recommended to be applied at certain stages in the development of the leaves, flowers, and fruit. In the case of fruit trees the spray should be applied so that every leaf, bud, and fruit will, if possible, receive some of the material, not only on one part of it but as nearly all over as possible. Every leaf, flower and bud or young fruit missed, means a possible starting point for disease or insect pests. In the case of vegetables, promptness in the application of a good spray is just as important as with fruits. One does not need to be convinced of the value of promptness in using poison in controlling the Colorado potato beetle as the results of the spray are immediately apparent in the death of the "bugs", but more faith is required when dealing with diseases and insects which are not so readily seen but which do much harm, and usually the grower is well rewarded for such faith.

The formulae for the mixtures and solutions recommended should be followed as closely as possible. If a man knows the chemical composition of the materials he uses, and has made a tsudy of spraying, he may alter them slightly to meet certain circumstances, but if he knows little about them he should follow closely the instructions given on the Spray Calendar. He should, also spray as nearly as possible at the time suggested. A delay of a few days may mean practically the loss of the mixture or solution used as there might be no return for the labour and expense. Write to either the Dominion or Provincial Departments of Agriculture fod a Spray Calendar.—W. T. Macoun, Dominion Horticulturist.

STRAWBERRY PLANTS — WHEN TO TAKE UP OR SEND FOR

If you have plenty of thrifty pants in your grounds, of the varieties that satisfy you, then by all means use them in your settings. Take them up just as soon as you can, the earlier the better. Trim off the dead leaves and shorten the roots to four or five inches, then heal them in at once in some dry, sunny spot, as follows: Dig a trench some five inches deep, a little slanting on one side. Against this side place the plants, roots downwards, spread out fan-shape, and from two to four inches apart according to the size of the plants. The crowns should be just even with the top earth. Haul the earth against the roots, and press it firmly. When the trench is full, dig another beside it, some six inches from it, and proceed as before.

If you have to purchase the plants, get them as near home as you can get good plants of a good variety, and get them at once. If from a plant-grower, order them at once to been sent at his earliest opportunity, and treat them on arrival the same as described above. Prepare your ground where you are going to set them at your earliest opportunity, when it is dry enough to work well, which should be about the middle of May in Maine.

Then when your healed-in plants have been in three or four weeks, they will have sent out many fine rootlets and are already to be set in the beds. When taking these healed-in plants up, do as follows: Take a large pail or pan and put in it about thre quarts sof old, well-rotted manure. Mix with this about a pint of blue clay mud, and this with water enough to make the mixture about as thick as cream. In this dip the roots of the plants, about 25 at a time, and place them in a pail or box holding from one to two hundred. Take these to your plot and set them by making use of the most common sense that your intelligence can command.

Plants so treated, all things considered, are many times more valuable than those set in the ordinary way. Try it and see. "Prove all things and hold fast to that which is good."

MATURE vs. IMMATURE POTATO SEED

Much of the potato work at Aroostook Farm is carried on by the Maine Agricultural Experiment Station in co-operation with the Federal Department of Agriculture. In the potato-breeding work, the Station is well nigh a silent partner. Among this work carried out in co-operation with the horticultural division of the Bureau of Plant Industry, there has been a study of the effect of maturity of potato seed stock on the next year's crop. This has been carried on in two series differently planned.

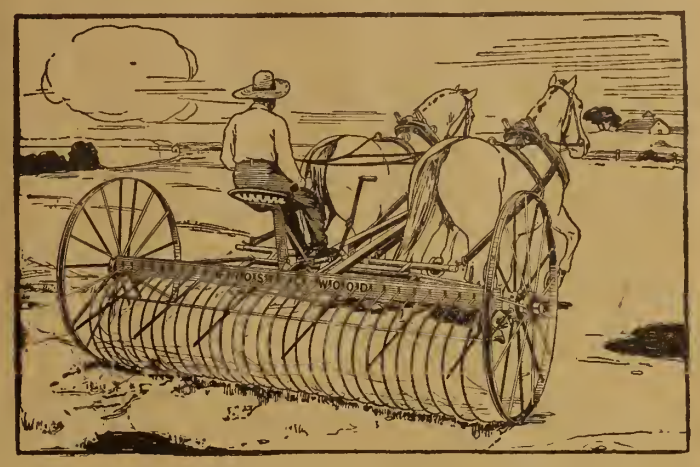
In the first series covering the years 1915, 1916 and 1917, the seed for the next year's planting was obtained by making three successive plantings at intervals of 20 days, beginning about May 20. The year in which the seed was tested as to its crop yield, the planting and harvesting of each kind were made at one time. In this series there was nothing in favor of the immature seed. On the contrary, what differences there were indicated that the mature seed was the better, both from yield and freedom from certain diseases known as streak and leaf roll.

There has been only one year's trial of the method of the second series. In 1918, all of the seed for the 1919 test was planted on the same day. Three harvests were made, Aug. 10, Aug. 24, and Sept. 17. For convenience we will call the potatoes harvested Aug. 10, immature; Aug. 24, medium mature; and those harvested Sept. 17, mature.

In 1919, all three lots were planted the same day. But each lot was harvested at three periods, Aug. 10, Aug. 26, and Sept. 19. At the time of the first harvest, the yields were in the order of the maturity of the seed. The mature gave 10 bushels per acre more than the medium mature, and eight bushels more than the immature. At the second harvest, the medium mature was in the lead by two bushels, with the immature two bushels below the mature. At the third harvest, the medium mature was 16 bushels per acre above the mature and 28 bushels ahead of the immature.

The disease factor, which was so conspicuous in immature seed from late planted stock, was greatly reduced in immature seed from early harvested stock. The total disease in per cent for the harvests was: Mature 7.4,

Frost & Wood



The "Touch-and-go Crop"

That's how a successful farmer described his hay crop. He meant it had to be cut just when ready—cured just right—and brought in just on time. He used

FROST & WOOD
Hay-making Machines

Too many farmers lose a lot of hay, or what they get has lost a lot of succulence through old style, worn out Rakes, Mowers, etc.

Why not get a Frost & Wood Automatic Dump Rake this year? A touch of your foot on the pedal and the teeth are automatically lifted and load is dumped. Teeth are highest quality tempered steel spring. Frame is high quality carbon angle steel, strongly braced and with high steel wheels. It's a quick working, high grade, light draft machine that you'll enjoy using for many years to come.

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our big line at our nearest Agent's and talk the matter over with him. Write for our Hay-making Folder describing our Rakes, Side Delivery Rakes, Tedders, Loaders, etc.

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Lightning Rods

Are scientifically the nearest approach to absolute protection that has ever been devised. Their form gives them 36% greater electrical carrying capacity than old style round cable of the same weight and number of strands—putting them in a class by themselves and making them much easier to sell. There is no competition for Shinn-Flat.

Lightning Can't Strike if Shinn Gets There First

We want good dealers who are interested in a specialty line that sells readily and affords a good margin of profit. Every property owner is a prospect. Ask us how we help you get started.

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medium 2.6, and immature 5.8 per cent.

From the first series the results seem to indicate an advantage from the seed standpoint of early planting, both as regards yield and freedom from disease. In the second series the value of early planting is assumed. The resulting crop from immature seed from early harvesting is below that of the medium mature, both at late and medium late harvest, and in this one year the mature seed gave a smaller yield at the late harvest than that obtained from the medium mature. So far as it is safe to draw any conclusion from so few trials, this study indicates (a) the desirability both for seed and yield of crop to plant as early in the season as practicable; (b) to hadvest the part of the crop to be used for seed when the plants have reached medium maturity and to allow the plants that are to furnish table stock to remain as long as they keep growing so as to obtain a maximum yield.—Chas. D. Woods, Director Maine Experimental Station.

LOAFING ACRES BIG LOSS—THEY CUT INTO PROFITS

Weeding out a dairy herd and getting rid of the inferior cows is a comparatively easy task compared with weeding out the unprofitabe acres of land and getting them in shape to return a profit. If the cow fails to produce profitably, her owner can sell her for something and put a better one in her place, but not so with the acre of land. The best he can possibly do is to set about the problem of building it up to a level where it will become an asset rather than a liabiity. In many instances the loafing acre hot only consumes the profits from the more productive acre, but is a constant source of loss in preventing the practicing of suitable crop rotations on the adjoining acres. An acre of low, wet land in the middle of a large field may so delay cultural work or prevent the use of harvesting machinery to such an extent that one would be justified in expending double the value of the acre of and in getting it properly drained so as to facilitate the working of the entire field. Likewise low, wet places in the pastures produce weeds and grasses of of little feeding value, besides affording mud hole and stagnant ponds for the stock, more particularly dairy cows, to walk through and get their flanks, udders and bellies plastered with foul mud and slime. Such places should be drained put to producing grasses even though the original cost may exceed the value of the land itself. Spots occupied by trees, stumps and heaps of stone frequently reduce the average yields per acre, delay cultural work in the spring and cause delays and breakage in farm implements.

Crooked fences and too wide head lands afford ideal places for weeds to grow and go to seed, besides the few bushels of grain and few hundred pounds of hay they should produce helps to keep down the average crop of the entire field. Such little losses in acreage on a large farm count a whole lot in the aggregate in figuring the profits at the end of the year. The idle acre not only represents a definite source of loss in the shape of taxes, interest and other charges, but it adds to the overhead charges which must be borne by the adjoining acres. The investment required to get these places to producing something of value not only returns interest on the land itself but on the arger production of the entire field.

HOW KEROSENE EMULSION IS MADE

From a cake of laundry soap cup out a cubic inch—that is, one inch each way. Shave it into a cup of soft water and boil for a few minutes in a thick vessel which will hold the heat for a time. When it is dissolved remove from the fire and pour into it, while still hot, two cupfuls of kerosene oil. Agitate violently with an egg beater unti the oil is perfectly emulsified, when it will have a creamy appearance and will not readily separate from the water if allowed to stand. Or in place of an egg beater one can pour the mixture in to a two-quart fruit jar and vigorously shake it, with an up-and-down motion, until the mixture is completely emulsified. This should require at east ten minutes. The mixture is known as the stock emulsion and must be diluted before using. For use as a dormant or winter spray against scale insects it should be diluted at the rate of one part of the stock emulsion to three or four parts of water. In other words mix one cupful of the stock emulsion in a quart of water. For plant lice it should be diluted at the rate of one part of the stock emulsion in ten to fifteen parts of water, or mix one cupful of the stock emulsion in three quarts of water. This more diluted spray should be used if there are any leaves on the plant to be treated, and in all cases the spray mixture should be kept stirred or shaken while applying. If this not done a good mixture is not maintained, and burning the leaves may result. The possibility of such injury to the plants will show how important it is that all these sugestions and directions should be carefully followed.

POTATO GROWERS' ASSOCIATION

A potato Growers' Association for Prince Edward Island was formed in Charlottetown recently at a well attended meeting held in the Board of Trade rooms.

There was a good deal of discussion and several interesting addresses in respect to potato growing, which on account of the immense price, is just now a subject of absorbing interest throughout the Province.

The following officers were elected:

President.—A. E. Dewar, Charlottetown, Royalty.

Vice-President for Prince County—J. F. McFadyen, Cape Traverse.

Vice-President for Kings County—D. F. McDonald, Montague.

Secretary — Wilfred Boulter, Dept. of Agriculture.

Executive Committe, Prince County—Dr. Johnston, Tignish, A. E. McLean, Lot 16.

Queens—Artemas Moffatt, Mayfield, Peter Brodie, M.L.A., York.

Kings—Peter D. Peters, Rollo Bay; E. B. McLaren, Georgetown.

The following resolution was unanimousy adopted:

Resolved that the erection of a plant to take care of our potatoes in the event of a year of over-production or our No. 2 potatoes in the year of normal production is most desirable, and further resolved that our secretary be instructed to write the Falk

STRAWBERRY PLANTS

Senator Dunlap, Brandywine, Sample, Dickie, and other standard varieties for sale at reasonable prices. Send for price list.

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General and Fruit Farms and Town and Village Homes.

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Get a Bigger Potato Crop

Authorities will tell you that spraying is as important as plowing and cultivating. Spraying saves your crop of healthy, full-sized potatoes that will command top-notch prices.

The well-timed use of

MUNRO'S PURE PARIS GREEN

will keep your plants free of bugs and give Nature the chance she asks to produce good sound tubers, and lots of them.

Don't experiment with new-fangled "bug powders." Use the old reliable Munro's Pure Paris Green, that is sure and deadly in its action and never harms the plants.

Ask for Munro's by name, and make sure you get it.

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Snappy .22 Shooting

Quick and accurate for small game. Makes "fine shooting" an inviting possibility at the targets. Here is real sport for father, mother, the boys and the girls. Every home would delight in a Remington UMC .22 Rifle. Why not get one?

Remington UMC .22 Autoloader—streams 15 deadly-accurate shots as fast as you pull the trigger. Beautifully made, durable, hammerless; absolute safety devices.

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A rugged, straight shooting, trim little weapon built with all the advantages of our 100 year. experience.

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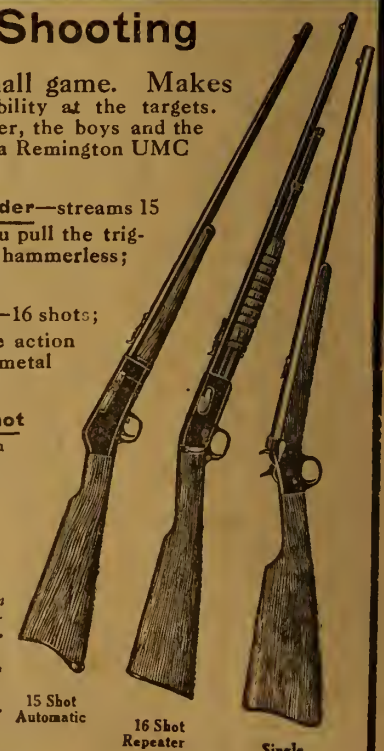
popular because of their uniform, hard hitting performance and absolute high grade materials. Three sizes.



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An inexpensive, ready-mixed preparation, a combination of Cal-Arsenate and Bordeaux Mixture.

Put up in Paste and Powdered form, every package carrying a guaranteed analysis.

The paste contains 2½% Metallic Copper and 10% Arsenic Oxide.

The powder contains 6¼% Metallic Copper and 25% Arsenic Oxide.

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We Manufacture Strawberry Boxes and Crates for same, 6 qt. Baskets, Apple Boxes, Box Shooks, Apple Graders, Wheelbarrows. Now is the time to lay in a supply of Fruit Packages for the coming season. We have a good stock on hand, order early and ensure prompt shipment. Price on application to

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HANTSPORT, N. S.

Advertise in the Farmer and Get Results.

American Potato Flour Company assuring them that we are interested in their proposition and desirous of having them erect a plant on this ground.

CLUB ROOT AND FORKED CARROTS

Kindly tell me what crops are subject to club root; the cause of this disease; and methods of getting rid of it?

I would also like to know whether commercial fertilizer would make a good top dressing for carrots, and if it is apt to cause forked roots?

F. L.

Club root is a disease common to such crops as cabbage, cauliflower, kale, Brussels sprouts, Kohl-rabi, turnips or radish. The preventative measures are, the practice of crop rotation of any of these crops not any oftener than once in three years on the same sod; the burning of all refuse from infested crops; and the application of lime from one to three tons per acre, the latter quantity, if the soil is heavy or clayey. Winter ridging of the infested land curtails the disease to a limited extent on the following crop. It can be carried from one piece of soil to another by the roots of the plant; if the seed bed is infected, the plants from that seed bed will infect that part of the field to which the plants are transplanted.

To grow carrots successfully the soil must be tilled deeply and the manure plowed down as deep as possible. A plan for manuring land for carrots that was practised successfully by the writer was to spread the manure heavily over the land before plowing, and have it placed in the bottom of the furrow behind the plow as each furrow was plowed. The furrow should be as deep as possible, 10 inches or more. The plowing, and manuring should be done in the fall or very early spring, the fall preferably, and the seed sown in rows on the surface at suitable distance apart for proper cultivation and growing. For horse cultivation they cannot be nearer than eighteen inches.

The fertility problem in vegetable growing is one of the most important of the many difficulties confronting the gardener. Vegetable crops remove large amounts of fertility from the soil, hence the maintenance of the highly condition necessary for successful vegetable production is not a simple matter.

Since the amount of phosphorus contained in most soils is small, and since manure is low in that element, applications of some commercial form usually prove profitable. For immediate results, acid phosphates and steamed bone meal are the best forms to use. It should be sown on the surface and incorporated with the surface soil before sowing. For carrots a good mixture is 100 pounds nitrate of soda, tanakage 250 pounds, superphosphate 200 pounds, and sulphate of potash 200 pounds; in all 750 pounds, a quantity necessary for one acre.

Lime benefits practically all vegetable crops; ground lime stone is the cheapest form, and one of the best. Carrots grown in this manner will not be forked.

DUSTING

It must be a bit gratifying to those men who have been endeavoring for years to convince orchardists, and all other users of insecticides, of the superiority of dust over liquid sprays, to have that question so thoroughly and favourably discussed at the recent annual meeting of Maine orchardists, and especiall gratifying is the advocacy of State Horticulturist Dudley, who has come to be regarded as a leading authority in all pertaining to his chosen field of labor.—Maine Farmer.

Our O-K on the Aylmer Sprayer

We have just purchased the manufacturing rights of the Aylmer Barrel Sprayer, which makes our line of spraying machinery complete and adds a new type of sprayer, which has found favor with Canadians for more than 20 years. It will in future be known as the

O-K Aylmer Barrel Sprayer

and enables us to offer to the farmer and gardener a matchless range of sprayers. The O-K Aylmer will be improved by the addition of our non-clog nozzle, while retaining the best features of the famous Aylmer pump. This pump requires no packing and is sold with or without the barrel. It is particularly adapted for efficient orchard work, and for many other uses, especially for the fumigating of buildings and the applying of whitewash.

Two-Row Sprayer

If interested in the O-K Aylmer Barrel Sprayer write for more particulars.

We also manufacture the O-K-Spra (knapsack) and the O-K Canadian Two-Row and Four-Row Sprayers. We supply spraying calendar suitable for Canadian conditions with each sprayer.

Write for literature.

CANADIAN POTATO MACHINERY COMPANY,
56 Stone Road, Galt, Ontario

Makers of the famous O-K Potato Diggers and Planters. 3

BISSELL Double Action Harrows will thoroughly cultivate and pulverize any soil. One Harrow is Out Throw; the other is In Throw. They are simply constructed, rigid and durable. The Gangs are flexible and the Disk Plates are so designed that they "hang" right into the soil. Bissell Harrows are built in sizes and weights suitable for horse or tractor use. Write Dept. M for free catalogue. 98

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Cross-cut, *Crescent Ground*, will saw 10% more timber, time and labor being equal, than any other made. This guarantee has never been challenged.

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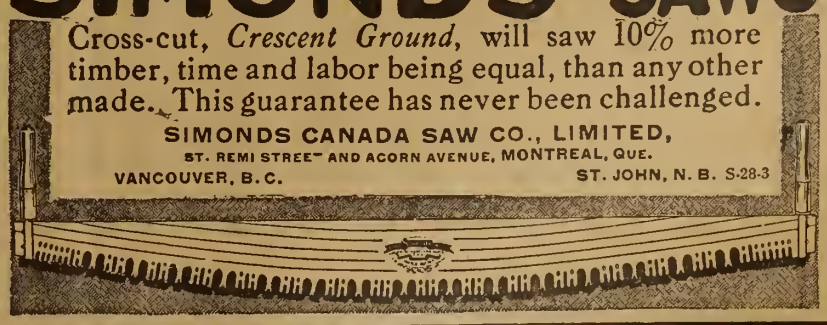

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We WANT your order for STRAWBERRY PLANTS this coming season. Of course you are planting a larger acreage than usual,—everybody's doing it, for strawberry growing at the prices now days is a sure fire money maker. The Canning factories are anxious to buy all the berries they can secure, so we now have no fear of over production. Get our plants and be sure of big crops. Senator Dunlap, Warfield, Beder Wood and Dr. Burrell, six dollars a thousand. Sample, Glen Mary, Premier and Bubach seven dollars a thousand. We allow one dollar a thousand discount from these prices on all orders of four thousand or over of one variety. Send for Catalogue. It's Free.

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EASY FRICTIONLESS OPERATION

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Your cream separator operates at high speed. Thorough efficient lubrication is essential to its long life and constant service.

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is the choice of a great majority of Canadian dairymen. It is a pure mineral oil made specially for the lubrication of cream separators. It thoroughly lubricates the close fitting bearings and assures "easy frictionless operation."

Imperial Standard Hand Separator Oil is sold by dealers everywhere in lithographed sealed cans—pints, quarts, half-gallons, gallons and four gallons.

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POWER-HEAT-LIGHT-LUBRICATION

BRANCHES IN ALL CITIES

DAIRYING.

THE LA HAVE CREAMERY COMPANY, LTD. ANNUAL MEETING

The Sixth Annual Meeting of the La Have Creamery Company, Limited, was held at New Germany on Thursday, the 26th February, President C. R. DeLong presiding. About one hundred shareholders were present.

The report of the Sec'y-Mgr., J. D. McKenzie, showed an increased volume of business over 1918. The total being 199,195 pounds of butter at a value of $111,410.44. Ice Cream $16,874.37. Total turnover $139,280.80.

The president's address was full of encouragement for the future. The Directors during the year had contracted for a new 15 ton refrigerating plant and a large new Ice Cream outfit. Recommended a 6% dividend on the capital stock. He also spoke on rural population and stated that the farming industry would have to be made still more attractive to hold the young people. The Co-operative Creamery was one of the means that was helping towards this end.

The following were elected Directors. The first two were re-elected. Elijah Henley, Chelsea; E. B. Smith, Caledonia, and Percy Starratt, Falkland Ridge.

Addresses of practical interest were delivered by J. J. Kinley, M.P.P., Lunenburg; H. R. Brown, Promoter of Dairy Industry for Dominion Department of Agriculture and W. A. MacKay, Provincial Dairy Superintendent.

Resolutions were passed endorsing the action of the Directors installing a refrigeration plant. Favoring more stringent cream grading. Endorsing the supporting financially of the Nation Dairy Council and Dairymen's Association. Favoring the appointment of a District Representative for Lunenburg and Queens.

A vote was taken between Bridgewater and New Germany resulting in favor of New Germany as the place of the next annual meeting.

Dinner was provided for the Shareholders by the I. O. O. F. Lodge and musical entertainment was provided by the New Germany Ladies.

The meeting was one of the most successful in the history of the Company and the prospects for the future bright.

DOMINION DEPT. OF AGRICULTURE DAIRY AND COLD STORAGE BRANCH

The Dominion Educational Butter Scoring Contest, Season of 1920

The Educational Butter Scoring Contest conducted in 1919 was so successful that it has ben decided to continue the work during the season of 1920.

The contest will be conducted under the same general rules as in 1919. The provincial dairy authorities have again agreed to co-operate and to make the necessary arrangements for the samples. The rules, republished herewith for general information, are as follows:

1. It is requested that four creameries in each province send by express 14 lb. box of butter addressed Dairy Commissioner, c/o Lovell & Christmas, 112 King St., Montreal, Que., to arrive before the 20th of each month, May to October, inclusive. Shipping tags will be supplied.
2. Full details as to the handling of the cream and the manufacture of the butter are to be given on forms provided for that purpose by the Dairy Commissioner, Ottawa.
3. The butter will be scored on its arrival at Montreal and then placed in cold storage for rescoring, by the same judges at intervals throughout the season.
4. The percentages of salt and moisture will be determined in each sample and a test made with the Storch Test.
5. Reports of the monthly scorings, re-scorings and other tests will be sent to the contestsants and to every creamery in Canada.
6. The Dominion Dairy Branch will pay for the butter at market prices, on receipt of proper invoices, in duplicate, and will also pay the express and storage charges.
7. Full shipping instructions and forms to be used will be sent as soon as the names of the creameries are received from the provincial authorities.

The samples will be used during the winter of 1920-21 for demonstration purposes at the dairy conventions, for education work in the dairy schools, for conferences of graders from the different provinces, etc.

J. A. RUDDICK,
Dairy and Cold Storage Com.
Ottawa, Ont., April 10, 1920.

Shorthorn cows averaged 1146 lbs. of milk and 46 lbs. of butterfat, an average test of 4% for the month of February, for the 22 cows making 1,000 lbs. of mik or 40 lbs. of butterfat, as reported to the Milking Shorthorn secretary, Roy A. Cook, Independence, Iowa.

Bellevue Herd, Gonschohocken, Pa., has the high cow, Rosemary 2nd. Oaklawn Stock Farm, Lime Springs, Iowa, has the high four year old, Prize Rose. Flintstone Farm, Dalton, Mass., has the high three year old, Lady Sale 21st. Bonvue Farm of Golden. Colo., has the high two years old, Saly Wood 2nd.

Miking Shorthron breeders make a profitable yield of milk and a profitable production of beef from their cattle, maintaining a uitility type that, while not equaling the special purpose dairy cattle in milk yield, nor the beef alone cattle in beef form, affords a type much in favor with the general farmer.

The February list, wth names of cows, owners, amount of milk and

To any Dairy Farmer,
Anywhere.
But the Sharples to this test—
Run skim milk from any other separator through the only suction-feed machine.
Sharples Separator Co.

THIS invitation is extended to any dairyman who thinks of buying a cream separator. It is founded on actual fore-knowledge of the result of the test—not upon speculation.

The Sharples Suction-Feed Cream Separator skims clean at any speed. It is the suction-feed principle that enables it to do so and that principle is protected by patents. No other separator can use it.

The knee-low supply tank, the one piece tubular bowl—no discs to clean—are other exclusive Sharples features.

The separator that gets the most butterfat out of milk is the only one it will pay the thrifty dairyman to buy. It is because we know the Sharples gets more butterfat than any other separator, that we ask the prospective buyer to put it to a test that cannot fail.

Don't feed two cows to make butterfat when one is capable of making the same amount. Not more cows but better cows should be the plan of the American dairyman today.
—P. M. SHARPLES
"There are no substitutes for dairy foods"

Sharples
SUCTION-FEED CREAM SEPARATOR
Dept. 79
THE SHARPLES SEPARATOR CO.
Montreal, Que. Toronto, Ont. Regina, Sask.
Distributors:
Lounsbury Co. Newcastle, N. B.
Canadian Farm Products Charlottetown, P. E. I.

Skims clean at any speed
DC 111

butterfat produced on offiecia test, follows, the list of mature cows being given first.

Rosemary 2nd, Bellvue Herd, Conshohocken, Pa., 1459 lbs. milk, 71 lbs. fat.

Lila's Beauty, Foothills Farm, Carleton, Oregon, 1121 lbs. milk, 57 lbs. fat.

Snowdrop, Sherwood Farm, Far Hills, N. J., 1249 lbs. milk, 55 lbs. fat.

Cook of Meadowbrook, Flintstone Farm, Dalton, Mass., 1253 lbs. milk, 54 lbs. fat.

Happy Rose, Bellevue Farm, 1182 lbs. milk, 52 lbs. fat.

Edgewood Fairy, Hudson & Sons, Mason, Ohio, 1181 lbs. milk, 50 lbs. fat.

Glenside Rose, Foothills Farm, 1367 lbs. milk, 47 lbs. fat.

Jenny Lee Palmer Farming Co., Euclid, Minn., 1080 lbs. milk, 45 lbs. fat.

Pure Roguish Eyes 5th, O. M. Healy Son, Muscatine, Iowa, 1251 lbs. milk, 45 lbs. fat.

Naomi 2nd, Thos. Harrison, Santa Rosa, Calif., 1312 lbs. milk, 41 lbs. fat.

Daisy Barrington, Bellevue Farm, 1045 lbs. milk, 41 lbs. fat.

Glenside Dapheny, Foothills Farm, 1179 lbs. milk, 40 lbs. fat.

Mary, Bonvue Farm, 1052 lbs. milk, 38 lbs. fat.

Sentinel Pine Selma, J. D. Rowe & Son, Davis, Cal., 1140 lbs. milk, 38 lbs. fat.

Four year olds—Prize Rose, Oaklawn Farm, 1081 lbs. milk, 43 lbs. fat.

Three year olds—Lady Sale 21st, Flintstone Farm, 1416 bs. milk, 56 lbs. fat.

Queen of Flintstone, Flintstone Farm, 1082 lbs. milk, 54 lbs. fat.

Foothills Helen, Foothills Farm, 1064 lbs. milk, 37 lbs. fat.

Pride's Lovey, W. C. Wood, Pendleton, Indiana, 1009 lbs. milk, 35 lbs. fat.

Two year olds—Sally Wood 2nd, Bonvue Farm, 797 lbs. milk, 40 lbs. fat.

Palmer's Welcome Lass, Palmer Farming Co., 1045 lbs. milk, 34 bs. fat.

Note.—The above news item is written by Roy A. Cook, secretary of the American Milking Shorthorn Breeders' Association and of the Milking Shorthorn Cattle Club of America.

NATIONAL DAIRY COUNCIL OPPOSES ELIMINATION OF COMMODITY RATE ON CHEESE

To the Members of the National Dairy Council:

Gentlemen:

The application of the Railway Companies for the elimination of commodity rates on cheese to Montreal, so that the higher class rates should apply, came up before the Railway Commission recenty. I was assisted in opposing the Railway Companies by two members of our Council, Messrs. James Donaldson and R. G. Loggett, and by William Brown, President of the Eastern Ontario Dairymen's Association, T. A. Thompson, Secretary of that Association and G. G. Publow, Chief Dairy Instructor for Eastern Ontario.

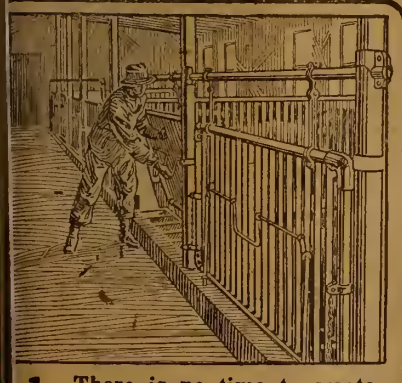
The Montreal Board of Trade also joined in opposing the Railway Companies. We pointed out that in other cases, the Board had come to the conclusion that where a stable article of food enjoyed a commodity rate, that rate should not be cancelled. We also pointed out that cheese had been subject to the three general increases, which had gone into effect in the last few years. We showed that the cost of producing cheese had gone up more rapidly than the selilng price of cheese, and that in the present unsettled state of the cheese market, the trade could not stand any further increase in rates. We therefore urged that the Railway Companies' Application be dismissed. The Railway Commission reserved its decision. I am inclined to the opinion that the present rate will not be interfered with under present conditions.

Yours truly
D'ARCY SCOTT,

It will be remembered that not many years ago a shipment of Holstein-Friesan breeding stock was by special Government permission allowed to enter England from Holland, and it is from these foundation animals that the numerous British herds of this breed have been derived. It now from Canada will be permitted to enseems that the time has come when it will be necessary to introduce fresh blood for the revival of these British stocks, and to that end it is stated that next year a shipment of Holsteins from Canada will be permitted to enter England. The cattle will require to be introduced on a special dispensation, for the British Government does not permit entry of live cattle in ordinary circumstances. Meats may enter, but live cattle have to be slaughtered at special landing docks, the idea being to keep out disease. As another shipment of Holstein-Friesians from the continent is out of the question, the importation of the Canadian Holsteins is, according to The North British Agriculturist, to be allowed under specific conditions taken to safeguard against the introduction of any disease. A further provision will be made in the case of cows, every one of which must be a "2,000-galloner."

Warts may be greatly benefited or entirely removed by the application of pure olive oil, the oil being generously smeared over the surface of the warts after each milking. Persistent warts require surgical interference.

Careful Inspection of Every Part
DE LAVAL
For Forty Years
The World's Standard
Perfectly designed with a staff of skilled engineers constantly striving to improve it, the De Laval is built of the best of materials, by the best of mechanics, and with the best of equipment—with forty years of experience behind it.
Every piece of material and every part is carefully inspected and tested. The limit of permissable variation in size of most of its parts is less than one-thousandth of an inch.
These are the basic reasons why the De Laval costs more, does better work, produces a better product, requires less attentton, and lasts far longer than inferior separators.
Your local De Laval Agent will be glad to demonstrate the superiority of the De Laval. If you don't know him please simply address the nearest main office as below.
THE DE LAVAL COMPANY, Ltd.
Montreal Peterboro Winnipeg Edmonton Vancouver
50,000 Branches and Local Agencies the World Over


1. There is no time to waste these days. If you keep hogs, you can save hours of time by putting in BT steel Hog Pens. See the drawing above. The swinging front enables you to feed the hogs in half the time.

2. This swinging panel does away altogether with the job of straddling the pen, kicking the old sow in the ribs and trying to keep a dozen little pigs away from the trough while you put in the feed.

3. In addition to this, the hogs cannot climb out of BT Steel Pens as they can out of wood pens. Steel pens are more easily cleaned and do not need whitewashing. Fill in the coupon and we will gladly send you complete particulars.

Send this coupon for our 352-page Barn Book. Tells how to plan, build, frame and ventilate the Hog Barn. How to save time, labor and feed in caring for the hogs. It will save you hundreds of dollars and is free.

Beatty Bros. Limited
Dept. U 495 St. John, N.B.

I am building hog barn about.....
.....
I am remodelling hog pens about..
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I keep.....Hogs
My name is.....
My Post Office is.....
R.R. No.....Prov.....
Nearest Railway Station.....
If you live in Maritime Provinces, please give Lot and Concession. If you live in Western Provinces, please give Section, Township and Range.....
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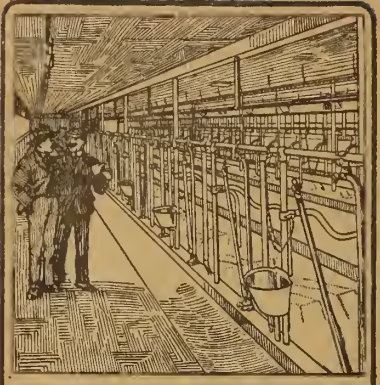


1. A sanitary stable is necessary if you ship milk to the city. The Provincial Governments and City Health Departments make strict laws and send Inspectors around to enforce them. The Inspector will give your stable a good re ort if you have Sanitary Steel Stalls and Cement floors.

2. If you take your cream to a creamery, you will find that you will get from two to six cents a pound more for best grade cream than you will for the inferior kind. This extra money soon pays for the Equipment.

3. Steel Stalls are so comfortable and sanitary that the milk production of the cows is increased at least 10%. Send in the Coupon below. The BT Barn Book. It shows how Steel Stalls quickly pay for themselves; increase production; save disease and help you produce better milk and cream.

Send this coupon for the 352-page Barn Book. Tells how to plan and build the barn, how to ventilate, how to frame, how to save steps, labor, time and feed. This book saves you hundreds of dollars in building. It is free.

BEATTY BROS. LIMITED

Dept. U483 St. John, N.B.

I intend to build about.....
I intend to remodel about.....
I keep.....Cows
My name is.....
My Post Office is. .....
R. R. No.....Prov.....
Nearest Railway Station.....
If you live in Maritime Provinces, please give Lot and Concession. If you live in Western Provinces, please give Section, Township and Range.....
....

LIVE STOCK.

FEEDING INFERIOR HAY TO LIVE STOCK

If the problem of getting rid of the inferior hay, a quantity of which every farmer has, is to be solved correctly, it must be considered with reference to the cause of the inferiority of the hay. In some cases this is to be found in the fact that the material from which it was made was poor. In others the grass was good, but was either too ripe when it was cut or else it was imperfectly cured or improperly stored. As a result the hay is not as nutritious, as palatable, or as digestible as it might and would have been if it were made of better grass, or the grass from which it was made had been handled more skillfully. The best method of using it will depend upon the character and extent of the existing deficiency.

It will not be possible to improve the quality of the hay. It can be made worse, but there is no way in which it can be made better. We can add more valuable materials to it, or mix them with it, and thus obtain a more satisfactory ration, but the improvement is entirely in the line of a supplement and does not affect the real character of the hay. It seems to me that the sensible procedure is to feed this inferior material in connection with better hay, with grain, or in the case of dairy cows, if they must have it at all, with both hay and grain. In this way the deficiency of nutritive matter in the inferior hay can be made up.

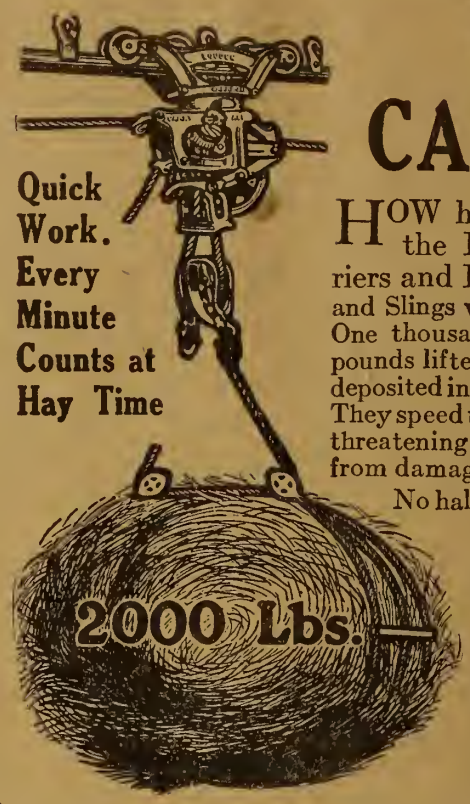
Hay that is unpalatable will remain so if it is fed alone, but this unpleasant peculiarity can be largely overcome by the addition of meal, molasses or some other appetizer. For the improvement of hay that is indigestible very little can be done that will not cost more than it is worth. Such hay was mostly made from grass that was allowed to stand too long. Chemical and physiological changes during the process of ripening have made the stalks hard and woody and thus lessened their value for feeding.

Inferior hay can be fed to some classes of stock to much better advantage than it can be to others. If it falls much below the standard for good hay it is not suitable for horses, for sheep or for cows that are giving milk. If it must be fed to such animals it is an evil which should be tempered as much as possible by care in the manner of feeding, and good judgment regarding the times when it shall be fed and the quantity that shall be used at a time. As far as possible the inferior hay should be given to young stock, or to cows that are drying off and that will not calve for some time, though for such cows it should be used for only a few weeks. And the same care in ways and times of feedisg should be taken as is required when it is given to other classes of animals to whose needs it is still less adapted.

All of the inferior hay should be used in cold weather. Cattle have better appetites then and will eat it more readily than they will in the milder days of spring. They will also take more kindly to it if it is used in the early feeding than they will if they are previously kept for some weeks on hay of better quality. I have known it to be fed almost exclusively from late in the fall until it was all used, while the season for feeding it was wisely chosen. I am sure that better results would have followed if a moderate quantity of better hay had been mixed with it.

Where the quantity of inferior hay is not very large I think it is best to feed it only once a day. This feeding should be the first in the morning when the appetite is keen after the long fast of the night. If there is too much to be used in this way, I would give another feed in the afternoon. This will be better than it would be to give a large quantity at one time

LOUDEN



HAY CARRIERS

Quick Work. Every Minute Counts at Hay Time

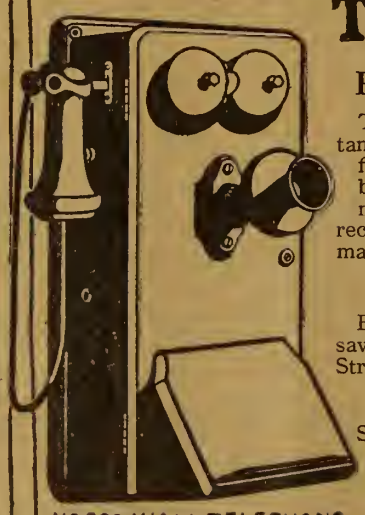
HOW hard and faithfully the Louden Hay Carriers and Louden Hay Forks and Slings work at haying time! One thousand to two thousand pounds lifted from the wagon and deposited in the mow at every trip. They speed up haying and beat the threatening rain—save your crop from damage at the critical time.

No halts. No trouble. Louden Hay Carriers are strong and powerful and with an extremely simple and sure-working mechanism. They pull loads through small doors, over beams and drop them exactly where you want them.

The Louden Illustrated Catalog tells all about them and other Louden Haying Tools. Write for it, and if desired, we will also send the Louden Book of Barn Plans—all about barn planning, materials and construction.

The Louden Machinery Co. of Canada
LIMITED
No 668 Crimea St., Guelph, Ont.
Branches at Winnipeg, Man., St. John, N.B., Quebec, Que., Vancouver, B.C. 6

STROMBERG-CARLSON TELEPHONES



For City, Village and Farm

The ideal instruments for local or long distance work. Equipped with the big powerful five bar generators which always ring every bell on the line every time, and the remarkably efficient new transmitters and receivers which carry the voice distinctly no matter what the distance or weather.

1919 Models Now Ready

Equipped with lightning arresters, battery savers and many new features that make Stromberg the real telephone of service.

Send for Free Book No. 95

Shows you how to install and take care of your telephones—tells how to organize a party line among your neighbors and explains just how to get started. Gives valuable information about all Stromberg Telephones and shows how our experience gained in building over 2,500,000 telephones is of great importance to you.

Send for this free book and put your telephone problems up to our engineers—we will plan your system and furnish estimates without cost.

Stocks carried at Toronto, Regina and Seattle

Stromberg-Carlson Telephone Mfg. Co.
10 Front St., East, TORONTO, CANADA

The Farmer's Financial Friend

We have large resources and the vast experience of 87 years to draw upon to serve you; but we have something even more important — we have the earnest desire to do so.

We cash your produce and personal cheques, collect your drafts—all by mail if required—and gladly give you impartial advice on any financial or business matter.

Paid-up Capital $ 9,700,000
Reserve Fund - 18,000,000
Resources - - 220,000,000

THE BANK OF NOVA SCOTIA

We invite your account. Special facilities for banking by mail. Thirty-three branches in New Brunswick. Head Office, Halifax, N.S.

38A

in the morning. If there are large weeds, or other materials which are not fit for fodder, mixed with the hay, the stock should not be starved into eating them, but all the leaving should be thrown out before better hay is given. Cattle like clean mangers and they ought to have them.

Ottawa Valley Journal.

THE HANDLING OF HIDES

One of the chief factors in determining the value of hides is the quality of the take-off. In the trade the removal of hides is the work of specialists, while in the country, skinning is only an incident in the general work of the farmer, or local butcher. For these reasons the hide removed by the trade is generally superior to the country hide, not only in the take-off but as well in the salting and packing. The difference in quality is indicated by the classification of hides as "Packers" and "Country."

An outline of the essentials to the essentials to the marketing of good quality hides may be of some interest.

The loss in hide values through branding is very great, and it has been suggested that the animal be branded in the neck or shoulder, areas of the hide less valuable than the flank. Often the brand is so deeply burned as to show on the reverse side of the hide. If some method of marking other than branding could be made practicable, it would result in a very marked appreciation in the value of our annual production of hides.

In bleeding, it is better to cut in a direct line with the centre of the lower lip and the point of the brisket, rather than across the throat, as the latter method renders the hide above the shoulders practically useless. The tail-bone, horns, and the top of the skull, which are often left on the hide, should be removed. After removal, the hide should be laid flat, salted, and left twenty four hours and again salted before rolling. Where hides are rolled immediately after salting, heating occurs, and this causes the hair to decay, resulting ultimately in destruction of the grain in the leather. Deacons, or hides from immature calves which are subjected to sun drying, lose practically all their natural oil; it would be profitable to treat these in the same way as the larger hides, special attention being paid to the removal of all meat, so that the hide may be preserved as well as possible.

Live Stock Commissioner.

THE RELIABLE REMEDY

FOR
CAKED UDDERS

DOUGLAS'
EGYPTIAN LINIMENT

"I have now used Douglas' Egyptian Liniment for 2 years, and find it gives the best satisfaction for man and beast. I tried the liniment on 4 cows during the winter for lump in bag, and a sample bottle cured each case in 36 hours. I also found it good for muscular rheumatism and lumbago." (Signed)
Allan Schiedal,
New Hamburg, Ont

This Liniment will also stop bleeding at once and prevent blood poisoning

35c A BOTTLE
SOLD BY ALL DEALERS
DOUGLAS & CO., Manufacturers, NAPANEE

DE-HORNING ADDS VALUE

New Zest in Canadian Cattle Campaign

A zest has entered into the campaign for de-horning Canadian cattle. The example of the most successful farmers is being copied by those quick to see the money-value of the idea.

Probably a quarter of a million dollars a year are lost to farmers by the non-practice of a simple de-horning process.

Live stock exchanges in Winnipeg, Toronto and Montreal, especially encourage de-horning. Practically all the American native cattle, with which Canadian farmers in the West have to compete, have the advantge of being thus treated. They bring a larger return in dollars and cents.

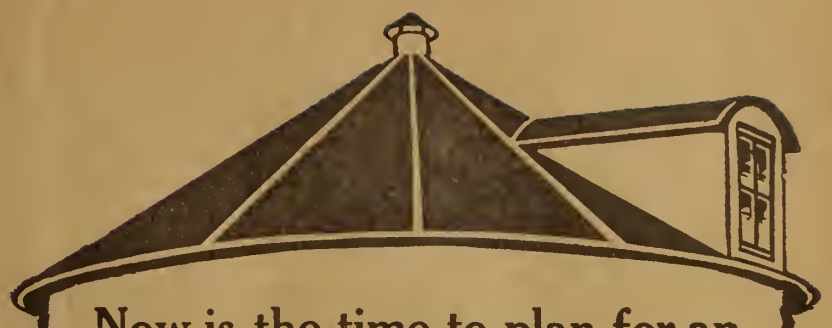
In a circular by the Dominion Government, farmers are told that they will benefit briefly for the following reasons:—1, Better appearance of the cattle; 2, quieter, subdued nature, enabling fattening at less cost; 3, more cattle can be shipped in one car by rail, saving freight cost.

But it is when the animal is finally brought to slaughter that the value of de-horning is proved. Over 70,000 pounds of meat a year are actually reported at inspected Canadian packing plants alone as wasted through bruises in the flesh. Most of the bruises are caused by the animals' horns while in transit from the farm to the market and the abattoir.

That total represents the parts of meat utterly thrown away. There is a further and even greater loss. When a piece of meat is removed from a quarter of beef because of a bruise, the rest of the quarter or part of it has often to be sold at a cent and one-half or two cents a pound less—not because the meat is poor, but because that part has lost in appearance and sale value. Probably one in every five cattle bought on Canadian stock yards suffers from injury which could be prevented were de-horning commonly practised. The packers' buyer necessarily takes the loss into account and the farmer who sells cattle takes the risk and a lower price.

A united effort is now being made by the Dominion and Provincial Departments of Agriculture, the live stock exchanges throughout Canada and the meat packers collectively, to get a better knowledge diffused among Canadian farmers of the real importance of de-horning.

The Industrial & Development Council
of Canadian Meat Packers,
186 King St. W., Toronto.



Now is the time to plan for an IDEAL GREEN FEED SILO

Begin now to plan for a silo before the spring rush is on. It will enable your cows to give 25% more milk on a cheaper ration.

The Ideal Green Feed Silo has been the choice of thousands of Canadian farmers because it is the best silo available. Sound lumber best suited for the purpose is used throughout. The staves are carefully made and finished. They are held together with extra heavy steel hoops. The doors and staves are treated with a specially prepared preservative.

The Ideal Silo lasts a lifetime and at present high prices for butter-fat pays for itself in a short time.

Send for Silo Catalogue to nearest sales headquarters

THE DE LAVAL COMPANY, Ltd.

MONTREAL PETERBORO WINNIPEG EDMONTON VANCOUVER

50,000 Branches and Local Agencies the World Over

IMPORTATIONS OF LIVE STOCK FROM THE UNITED KINGDOM

Upon inquiry of the Steamship Companies, it has been learned that importers are likely to experience considerable difficulty in securing transportation for stock from the United Kingdom to Canada during the coming summer. This is due to the heavy passenger and freight movement, space for which has been booked well in advance, and to the fact that few ships are available for the carriage of live stock and many of these can only be equipped at considerable expense. Small shippers are likely to suffer most, in view of the fact that accommodation will probably be refused at all unless a minimum of business is offered. £250 has been suggested as the minimum which will be required.

The Steamship Companies indicated their desire and intention to meet the situation in the most practical way possible, and the suggestion was made that, so far as possible, shippers should cooperate in making application for space by planning to assemble their purchases for shipment on a particular boat at a given date. Such an arrangement, it was intimated, would greatly facilitate business and justify the Steamship Companies in meeting the needs of the shippers. The Live Stock Branch will endeavour to facilitate any arrangement of this kind and will be glad to receive letters from importers advising of their requirements. It is suggested, however, apart altogether from any assistance the Government may provide, that importers will do well to arrange for their own shipment, in so far as possible, in accordance with the plan as above outlined.

"The Safety Route From Pig-hood To Pork-age"

BLATCHFORD'S PIG MEAL

A complete milk-substitute weaning and growing feed.
Helps the little pigs just when help is needed.
A safe and gradual change from the sow to ordinary feed without the use of valuable cows milk.

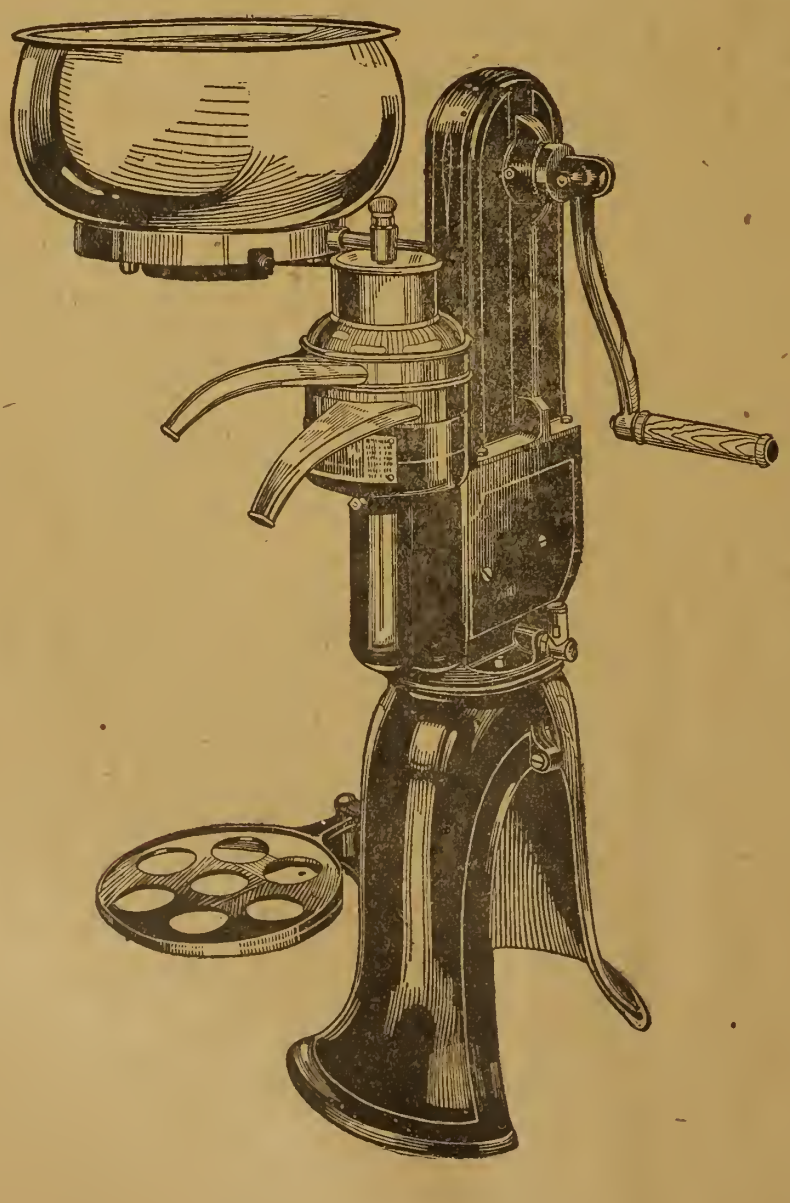
MAKES THE RUNTS CATCH UP

Blatchford Calf Meal Co. of Canada, Ltd., G25 Pelham Ave., Toronto

If your local dealer cannot supply you write

A. A. ARCHIBALD and CO. - - - - - TRURO, N. S.
or W. H. HATHEWAY and CO. LIMITED - ST. JOHN, N. B.

No Crean



THIS farmer owns a Renfrew Cream Separator. That means that he gets absolutely full value for his milk, cream and butter. There is no possibility of a loss.

The Renfrew—widely known as the closest skimming separator—gets 99.99 per cent. of the butter-fat! That has been proved by the Government Dairy School tests. It is a truly remarkable achievement, and is an unsurpassed record.

It is obvious that such close skimming means *bigger profits* to the owner of a Renfrew.

Furthermore, it is a hard, steady worker. A Renfrew owner never worries about a breakdown, or breakage of any part.

It Is Sturdily Built

and will last a life-time. Year in, year out, it will toil steadily along, never causing trouble.

The Ren

Branches:—Montreal, P.Q.; Sussex, N.B.
Milwaukee, U.S.A.

Lost on This Farm!

It is made throughout of the highest grade material, accurately manufactured and very carefully fitted. The patented clutch, for example, enables the gears to stop while the bowl is running down. That prolongs its life. From the standpoint of durability and cost per year of service its owners estimate that it is a 33⅓% better investment than an ordinary separator.

Self-Oiling System

The working parts of the Renfrew are enclosed in an oil-tight, dust-proof housing. No oil can escape to drip down the spouts or on the floor, and the oiled parts run silently and smoothly. Four times a year it is necessary to replenish the Renfrew's oil supply. Think how clean and easy-running it is

It is Easily Cleaned

The wide open bowl and smooth-polished steel discs are very easily scalded and rinsed.

The crank is high—just in the right place to make it comfortable to operate.

Because of the anti-splash milk-can, the milk cannot splash out. The can is low—that means fewer backaches. That is a point much appreciated by women. Users of the Renfrew get

Firmer; Better Butter

and more of it, because of the exclusive, wide open bowl with the curved wing centre-piece. The milk is distributed to the discs in thin, even sheets. The fat globules go through unbroken.

One Renfrew user wrote us recently to say that he passed sour and curdled milk through his separator, and got 2½ pounds of butter from it, and that he thought it got all the butter-fat there was in it.

It was invented by a Canadian, is made in Canada by Canadian workmen, and Canadian money finances its production.

Write us for catalogue, tests, and other particulars.

ew Machinery Company, Limited

ead Office and Works: Renfrew, Ont.

**Other Lines: Renfrew Handy Two-Wheel Truck Scale
Happy Farmer Tractor, Renfrew Oil Engine.**

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's

Caustic Balsam

IT HAS NO EQUAL

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The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

THE HORSE

FITTING HORSES TO ENDURE HARD WORK DURING SPRING

Thousands of farm horses die every spring and summer during the extremely warm weather, and if you were to ask their owners the cause of it they would tell you that the heat had been responsible for their deaths. But long before the heat season comes, the seeds of horse trouble are sown, for the reason that he is not properly fitted to successfully overcome the combined trials of hard work and hot weather. There is much loss of farm horse power as a result of farmers forgetting that in winter the horse has to be fitted for spring work. In nature the wild horse has a hard time in some regions in living through the winter, but if he does live through till the grass grows, he soon picks up again. But he has not to do the hard work of the domesticated horse, and the soft grass to him is both feed and a tonic. This is how a large percentage of horses are kept in winter, just existing, and farmers expect that with the grass, the horse will not only recuperate but will, at the same time, do all the pulling power in the rush time of hard work.

The average farm horse is called upon during the spring time to do the severest kind of work throughout a long day under feed conditions that are most unfavorable for hard work. The most common complaint is that of horses being unable to withstand heat and are inclined to weaken themselves by sweating profusely. This condition is most generally caused by too succulent feed, such as the young green pastures provide, along with an unbalanced grain ration. A satisfactory grain ration in the working season is on the average about one and a quarter pounds of oats per day per 100 pounds of live weight. In addition, the horse should receive what he will eat up of a good quality of mixed hay. A little grass serves as a splendid body regulator, but too much grass will cause weakening from excessive sweating. Where a good quality of hay is fed to horses with their night meals, it is safe to turn them on pasture after this meal is finished, if considered desirable.

But teamsters, who have neglected their horses somewhat in the winter time, need not think they can overtake the lost ground by a sudden change to heavy and good feeding. In feeding horses, all changes in the kind and nature of the food should be made gradual. For instance, a sudden change from hay to straw, or from straw to hay, from oats to other kinds of grain, or even from whole oats to rolled oats, from green food to dry food, or more especially from dry to green food, tends to excite digestive trouble, and less resistance to the heat of summer when at work. Any change in the kinds, quality or the food should be made gradually. Sudden overfeeding in the spring is no remedy for the evils of neglect during winter, and it is only the continuously well-fed horse that can stand the full ration in spring.

How Horses Succumb in Heat

The horses that are caught by the heat are generally those that have been overfed without sufficient exercise during winter or those of the other extreme that have been underfed. There are temporary remedies that will relieve the animal after a heat attack, but allow the attack to come to the acute point of inability to move any further and there is little hope for an immediate restoration to full ability to keep up under the strain of hard work.

Every teamster in hot weather should keep his eye on the team so that he can note the first signs of failure under the heat. When a draft horse begins to pant, when his work is only done at walking speed, it is time to do something to relieve him. If he braces his legs when you stand him for a rest he is far from being a horse able to continue for much longer in the field, and if he should suddenly stop sweating while still working hard, his case is serious. For immediate relief when any of these symptoms appear a two-ounce dose of aromatic ammonia, or two ounces of sweet spirit of nitre is recommended, but that is only temporary, as it will not fit him for continuing the work, fully freshened up. What a horse has lost by months of inattention to his fitting in winter for spring and summer work, cannot be re-established in his anatomy by doses of medicine.

In Case of Colic

give your horse Dr. J. Woodbury's Horse Liniment internally—and at the same time, build up the general health and digestion of the horse, with Dr. J. Woodbury's Condition Powders.

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smooths the surface of axle and hub with a filling of fine mica —relieves the cause of friction —coats and cushions with a layer of high-grade lubricating grease. Lessens the strain on harness and horses. Cuts down repair bills. Sold in sizes from a 1 lb. tin to a barrel.

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There are too many horse owners who act as if this were possible. To use a Scotch expression, a horse that has not got enough "guts"—that is the quality that comes from building up his strength and endurance from the inside—can never fulfill his mission when up against it in summer heat in tilling the field. Attacks of sunstroke are not unusual, and for this the Arabs of the desert, who perhaps understand the horse better than any other race, inject 30 to 50 grains of quinine under the skin.

Spring Clipping of Horses Unseasonable

Another sure way of keeping the horse in a poor way to start spring work is to let his hair and hide get full of dandruff and dirt. To get over this condition some men clip their horses, but spring clipping is unseasonable and in the opinion of the writer, clipping is unseasonable at any time. It is only trying to overtake a duty at one sweep in the springtime that should have been done piecemeal throughout the winter by careful grooming. Spring clipping deprives the horse of his greatest protection in the most critical season of the year.

In the springtime a horse is suddenly subjected to remarkable change. The organism that has withstood the winter goes through a swift metamorphosis. The animal's digestive system as well as his pulling power is acected. Inside and outside it has to adjust itself. This adjustment should be left to nature. A horse is weakened by the sudden removal of his natural defense. Every square inch of clipped area is exposed to the intrusion of disease by prying open all the pores and leaving them quick to the air. Every individual hair has its function, and it is up to the horseman to keep that hair in a healthy state and free from dandruff, dust and vermin. Clustered around the root of each hair are the sebaceous glands from the hair that draw to the surface of the body an oily fluid. This fluid is the animal's chief reliance against disease-bearing enemies. Without the hair this functional work is checked and the animal suffers by the change. The requisite of a healthy horse is a healthy skin, and the skin cannot be healthy without its full coat of well cleaned hair.

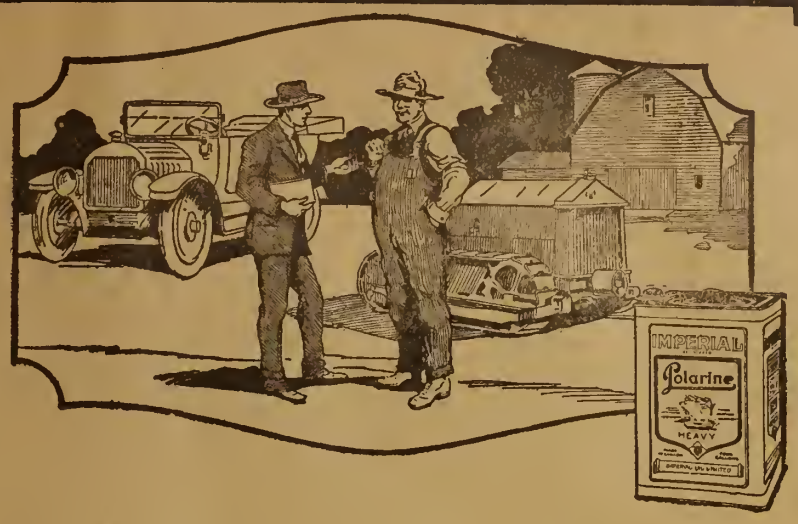
Horse owners should also remember that horses get thirsty more often than their teamsters naturally do. There are not many teamsters who fail to provide a water supply for themselves in the hot field, but few ever think of providing water for their horses while at work. Providing a drink in the mid-forenoon or afternoon is another one of the little duties that mean much to the endurance, comfort and power of the horse.

Ottawa Farm Journal.

THE ORPHAN FOAL

If a colt is orphaned immediately after birth, or for any reason can not get his mother's milk at once on being born, he should be given a physic of two tablespoonfuls of castor oil in a little milk, or should be given a rectal injection of some such mixture as warm water, flaxseed tea and sweet oil. Raising a colt by hand is a bothersome job, but it is better than losing the colt. A good substitute for mare's milk is made by mixing three pints of cow's milk (preferably from a cow recently fresh), one pint of warm water, four tablespoonfuls of sugar, and eight tablespoonfuls of lime-water. Give this to the colt fresh, warm and clean, and at regular and frequent intervals. At first it may be necessary to feed it in amounts of a quart or so every five hours. Before the colt learns to drink from a pail, it may be necessary to feed him from such an arrangement as a bottle or teapot equipped with a nipple. As he gets older, he may be fed less and less frequently, until when he is several weeks old, it may be necessary to feed only two or three times a day, from a pail. When the colt is five or six weeks old, start him to eating a little grain. A mixture of corn, bran and oats is good. At this time he may be changed from whole milk to skim milk, which is fed fresh, warm and clean and in moderate amounts. If any symptoms of scouring appear, give a dose of three or four tablespoonfuls of castor oil and sweet oil mixed, and reduce the milk supply for several days.

The Horse Association of America, a non-profit corporation organized under the laws of Illinois, is now an accomplished fact. The organization is backed by horse bereders representing all breeds of horses, by the saddlery and harness interests, by the horseshoe manufacturers and master horseshoers, by the hay, grain and feed interests, and by the carriage and wagon builders of America. The purposes of the association as set forth in its charter are to aid and encourage the breeding, rearing and use of horses. The primary aim of the organization will be to bring prominently before the public and all transportation users the great part which the horse plays in agriculture, commerce and transportation, to emphasize the important part the horse occupies in pleasure, and to work ceaselessly for the improvement and upbuilding to higher standards of our existing types of horses. Of the 21 million horses now on farms and ranches in the United States, it is safe to say that less than five million are of distinct types, well calculated to do their particular job in life. The Horse Association of America, through every conceivable avenue of effort, will work for the improvement of our horses to the end that the majority of them may be highly efficient in the particular line for which they are intended.



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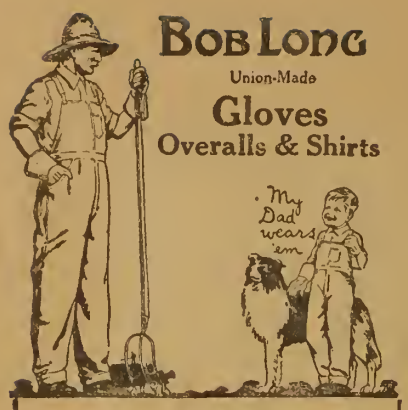

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POULTRY.

PREPARE FOR HATCHING BY SELECTING BREEDING PEN FROM BEST LAYERS

In order to derive the maximum results in breeding we must get the birds in proper condition some time before the hatching season arrives. The pens must be mated up several weeks in advance of the time hatching eggs are desired, and other details that tend to affect breeding conditions must be carefully looked after.

It should be our desire and aim to secure a high per cent of hatchable eggs—eggs that will produce vigorous, livable, chicks. It is an easy matter to raise to maturity chicks that come out of the shell with a kick—chicks that abound in health and vitality. But it is an extremely difficult task to raise those that have difficulty in breaking through the shell and have not the vitality to stand a little rough handling and adverse weather conditions.

In selecting our breeding pens the first consideration should be vigor. No fowl can stamp vitality and laying ability in the offspring if constitutionally weak; only vigorous, robust stock can do this. But, in selecting the breeding stock from the standpoint of health we should judge the stock not only from the present physical condition, but from the condition of its health since the time of hatching. We must consider the development of the fowls from the time the chicks were hatched. Certain conditions often affect the growth of the chicks, which arrest development for a short period. Recovery is made later and seemingly the birds have not suffered from the effects. However, such conditions are not natural and birds affected in this manner should be discarded from the breeding pens. The forcing they have undergone to make up for their setback earlier will probably give them the size necessary, but certainly leaves them in a weakened breeding condition and they will not prove good breeders. Disease germs can be dormant for a time and then become active again. Therefore it is best to err on the side of safety by using for breeders only such birds as have developed naturally and steadily without forcing from the day of hatching. The birds that have not developed in this manner may be kept for the production of table or market eggs, provided they can produce a sufficient number of eggs to prove profitable, but by no means should they be used as breeders and thus perpetuate their faults in their offspring.

Choosing by Conformation

The birds should be as large as the breed calls for, typical of the variety they represent. They should not be too large, however. Stout legs, broad skulls, bright eyes, broad, strong frames, are indications of strong constitutions and vigorous breeding condition. On the other hand, birds with snaky heads, knock knees and long narrow frames must not be bred from. Such specimens are positive indications of weak, inferior condition, and all such birds should be fattened and marketed.

The beginner in poultry raising is usually desirous of knowing how soon after the pens are mated up one can secure hatchable eggs. We usually can expect good fertility after the male bird has been with the hens ten days or two weeks, although to be certain that we should obtain a high per cent. of fertile eggs we should wait three weeks. The best results can be obtained, I believe, when we have two male birds for each pen, using them alternately. When this method is adopted the male birds remain in a more vigorous condition and are more capable of stamping stamina and vitality in the offspring. Continual use of one male bird has a tendency to weaken his reproductive power, and later in the season we will find fertility and hatchability lessened to a great extent. By using two males, this can be overcome, for both will remain in top-notch breeding condition. The change can be made each evening, thus giving the one male bird the run of the pen the entire day, while the other is cooped up. This method also assures that each male will conume the food necessary for his well being; for we find in some cases that the males are so gallant as to refuse to eat, preferring to have the hens get the food. Fifteen to twenty hens can be in the pen with the best of results.

Feeding Breeding Stock

The feeding of the breeding stock also must have careful consideration. It is just as necessary for the breeding hens to be fed for fertility as it is for the laying hens to be fed for egg production. A hen intended to be bred from should not have foods similar to a hen kept for laying only. Our aim should not be to see how many eggs we can get, but how to keep the hens in a vigorous and healthy state. Forced egg production will sooner or later affect the hen's reproductive ability and even cause a complete breakdown. To avoid this keep the hens laying naturally and steadily by supplying

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Insures more eggs, increased fertility, and sturdy chicks.
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the proper housing conditions and an abundance and variety of good wholesome feed. Under no conditions resort to spices or condiments in an effort to stimulate heavy egg production. It is all right to use a little condimental tonic just before the pullets start laying to encourage them to start in, but by no means make a practice of it. Good feed and good care should keep them going nicely after they have once started in.

Exercise care in selecting the hatching eggs. Never take the eggs for incubation just as they come from the nest, paying no attention as to whether they are full-sized, perfectly constructed, etc. Never use for hatching, eggs that are of unusual size or shape, or that have imperfect shells, such as spotted, thin, or ridgy shells. Thin-shelled eggs are likely to become broken and the contents run out and cover the other eggs and endanger the hatch. Soft-shelled or thin-shelled eggs are usually the result of a lack of shell-forming material. A supply of crushed oyster shells will usually remedy the trouble. Thin or porous-shelled eggs seldom hatch well, as they permit of too rapid evaporation of the moisture content of the egg. Porous-shelled or thin-shelled eggs and those with other imperfections not outwardly visible will show up under the tester and all eggs should be tested before being incubated. All imperfectly formed eggs should be culled out and used for home consumption.

O. E. HACKMAN.

AVOID MEDICINES

Some poultry raisers are getting into the habit of continually putting medicines in the food or drinking water of their fowls. They imagine it keeps away disease and makes the fowls do better. As a matter of fact, there is no more sense in it for fowls than for human beings.

The way to keep any creature healthy is to provide good living conditions and good food, with sunlight and exercise. If that will not induce a fowl or animal of any kind to remain healthy nothing will.

Of course fowls are always liable to get "off their feed" or become ill with some ailment that requires the temporary use of medicine. But there is no use to dope healthy fowls and there is no use to keep it up on sick fowls after their recovery is complete.

Tonics and "egg layers" are stimulants and should not be used to excess. If one feeds them it should be with the full knowledge that for breeding fowls and all-the-year-around health and productivity the best guarantee is good food, good care and good quarters.

S. P.

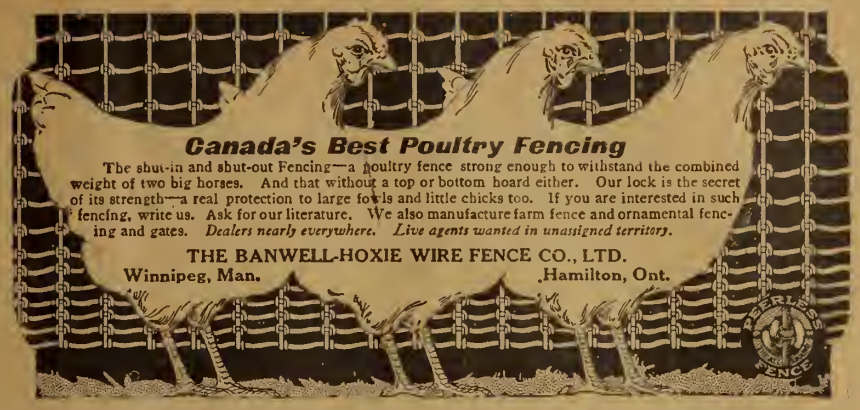
FLOOR SPACE PER BIRD

The amount of floor space required per bird depends upon conditions. Where fowls are confined during the winter months, an allowance of at least four square feet should be made for each bird; but where the fowls are on free range, the amount of floor space is not so important. A minimum allowance would be about two square feet per fowl. Some careful poultrymen are able to crowd a great number of birds into a small compass and have them do well, but in such cases the operator is "onto his job" and makes provision for all the wants of the birds. To the average man, it is better to have too few rather than too many fowls in a given space.

A pen 12x12 feet on the ground will easily accommodate from 25 to 35 laying hens during the winter, and if the operator is very careful to keep the quarters clean, provide deep litter, and feed a good ration, as many as 50 laying hens may be comfortably kept in such a house.

BREEDING MALES

In selecting males to head our breeding pens, we never give the preference to size alone, as size may be due to

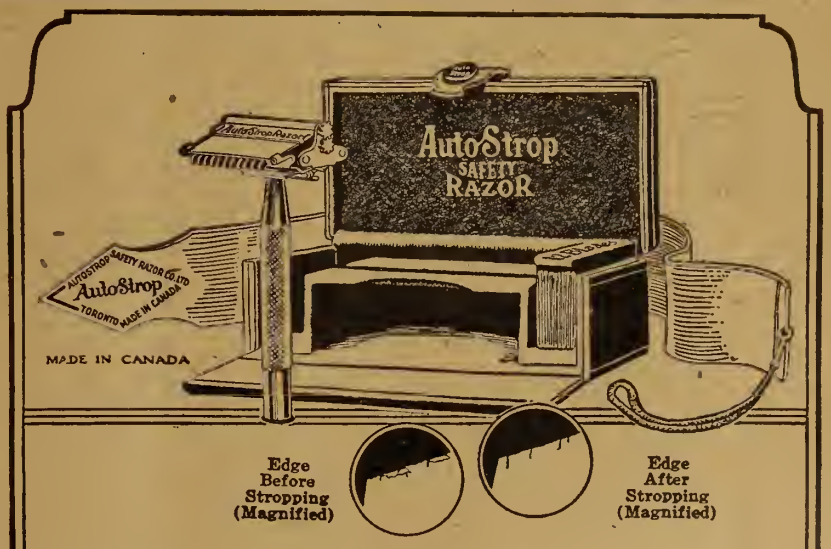

Canada's Best Poultry Fencing
The shut-in and shut-out Fencing—a poultry fence strong enough to withstand the combined weight of two big horses. And that without a top or bottom board either. Our lock is the secret of its strength—a real protection to large fowls and little chicks too. If you are interested in such fencing, write us. Ask for our literature. We also manufacture farm fence and ornamental fencing and gates. Dealers nearly everywhere. Live agents wanted in unassigned territory.
THE BANWELL-HOXIE WIRE FENCE CO., LTD.
Winnipeg, Man. Hamilton, Ont.
BANWELL HOXIE FENCE

fat and idleness, writes an experienced poultry breeder. The main male points are shape and color and a bird that is active and of medium size. Size in chicks is mostly inherited from the female side of the mating, while shape and color are largely determined by tre male.

A little practice and observation will enable you to make a selection without difficulty, but many persons are so partial to large males that they often sacrifice their best interests in other directions. If the males is pure-bred, you will secure chicks of good size from a medium-sized bird mated to fairly large hens. This is better than to use a male so large he is clumsy.

THE OVERFED CHICK

Overfeeding seems to be one of the evils that is usually indulged in when feeding the brooder chicks. Especially is this the case with beginners. They are prone to fear the chicks are not getting enough, and therefore are continually stuffing them. As a consequence the food lies around uneaten, becomes soiled and filthy and unfit to be eaten. Chicks fed in this manner often contract bowel trouble and even more serious ailments. It should be more generally realized that chicks require no food whatever from thirty-six to forty-eight hours after hatching. Nature has provided for them during this time by the absorption of the yolk into the abdomen. To stuff them with food before they are in condition to assimilate it is to invite trouble. One cannot go against the laws of nature. Water, however, may be provided the first day.



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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Shbjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N. B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

THE BOW ARM.—THE STORY OF A LITTLE GIRL WHO RAN AWAY FROM FAME

(By Annie Hamilton)

"YOU better be glad"—Virginia's pointing forefinger aided her little sighing voice—"you better be glad, Nobilissimus, that you haven't got a bow arm."

She lifted a small, soft paw and brought it into range of his vision. "This would be it, if you had one," she said explainingly. "You couldn't catch flies with it, or rats or anything. They won't let me."

The shouts of a rabble of children filtered through the vines to them. Virginia's ear turned to delicate melodies, refused to recognize discords here. She said stiffly to herself that it was a beautiful sound.

"They flat a little," she acknowledged; "but I like the sound of it, Nobilissimus," appealing again to the little dun-colored dog. "If we did that folks would all come a-flying, woudn't they? Mother and Mademoiselle and Janice and Aunt Chlo, every single. The vision of Aunt Chlo "a-flying" wheezily in the rear improved Virginia's spirits. Visions of Aunt Chlo had that tendency always. Undefined but ever present in Virginia's consciousness was the suspicion that Aunt Chlo would never have come a-flying at all of her own accord. She of all the chid's corps of guardians recognized the child's extreme youth and coveted for it is own. Yet Aunt Chlo, black and massive, had been schooled successfully.

"Yo' po' little lamb!" she pitier, and in the same breath, "Don' yo' go carousin' roun' or yo'll hurt yo' bo' ahm!" It had to be. Virginia herself on all but rare occasions accepted the decree.

This was a rare occasion. Rebellion bit at the child's soul, and in the smart of it she writhed feebly. Away off on her little horizon she had long ago descried a cloud the size of a man's hand. It was slowly growing larger; today it was the size of Aunt Chlo's hand. When it grew very big indeed, somesting would happen—oh, something that would bring them all a-cying. Virginia clasped delicate white fingers around her knees and sat and saw it coming. From the solemnity of his attitude the little dun-colored dog might have been sitting that way and seeing, too.

But it would not come today. Today was a holiday. On holidays Virginia only practiced an hour and a half. Her lessons with Mademoiselle were excused. There was leisure to sit like this, out on the porch with Nobilissimus, and listen to the rabble of joyous children. On days that were not holidays Virginia practiced four hours.

The next concert was a very little way off now. Virginia got up at the rememberance of it and went upstairs to look at it, the little dog a-heel. New dresses recompensed so much, especially this new one, which seemed to Virginia softer and daintier and lovlier than any of its predecessors. She gloated over it in a rapt, miserly little way.

"This is how I shall bow, Most Noble"—the little dog was designated impartia in English or Latin—"Like this—and they will all clap their hands. You ought to hear them clap their hands when I bow! And when I get through playing—" The child's eyes took on triumph. Dreaminess crept over her small sweet face. She was in the beautiful new dress, looking down, not at the patient little creature at her feet, but a sea of smiling faces. Ripples of applause ran over the sea—the people clapping. She smiled in shy response. The old intoxication went to her head like wine.

Unconsciously her small body straightened, her chin lifted, she nestled under it an imaginary violin. Her sacred little bow arm swept back and forth over imaginary strings. And the little dun dog, because he was Most Noble, listened patiently in his trying role of smiling sea.

Something stirred behind Virginia and she swept about to face a laughing maid.

"Janice!" She stamped her foot imperiously, "you've been there a-listening."

"You played beautiful, Miss Virginia," with spurious gravity.

Virginia's stormy mood was snuffed out in a sudden little gale of merriment. It must have been funny to Janice.

I'll play you some more," she cried, and nodded and smiled and played. But the maid interfered in alarm.

"No, on, don't, Miss Virginia, you musn't. You'll get tired out and you're—you're wasting your arm."

"It's my bow arm," Virginia retorted grandly, but she let it fall to her side. "I'l stop, though, because I want to. Janice, am I lovely?"

"Dear, yes." Janice was taken off her guard, but ready.

"Am I remarkable?"

"Dear, yes!" This answer was serviceable while casting about for a better.

"Can any other little girl like me play at concerts and be clapped?—can your little sister?"

"My litte sis—" Janice gasped at the thought. "No. oh, no, Nelly can't —no indeed."

"What can Nelly do?"

What could Nelly do? Run and leap and swing her arms, unafraid—

Her bow arm?" persisted Virginia. "Will they let her swing that one and do—do stunts with it?" She had picked up the word at some unguarded moment.

"Dear, yes, anything, Miss Virginia."

"Then I suppose she isn't valuable. It must be nice not to be valuable. Just a litte girl and your bow arm just an arm—but I don't suppose she has lacy new dresses every time she pl—she doesn't play? Like my new one, Janice.

The expression on the face of the maid hurried from chagrin to tenderness. Nelly in a lacy dress! No, no, Nelly never had any new dress.

"She wears mine made over," Janice said simply.

"But she has good times?"—and laughs?" Virginia was oddly persistent. Yes, Nelly had good times and laughed. Janice laughed in sympathy.

"I wish you could hear her, Miss Virginia!"

"Oh, I wish I could!" cried, sick with longing, the child who played at concerts and was clapped. The cloud on her little horizon grew larger than Aunt Chlo's big black hand.

* * *

HER name on a programme was spelled Virginie and looked beautiful. There were strings of programs hanging by their silken tassels on Virginia's walls, and sometimes when she was very tired and her bow arm ached especially hard she peeped into them, one by one, and found the Virginie. It was a help, like looking at the new dresses and remembering the clapping.

On the day but one before a concert Virginia practiced six hours, three in the morning and three in the afternoon. Her master came and practiced with her and Mother stayed in the room and gave her spoonfuls of things out of bottles to give her strength. There was always a strange excitement in the air. On the day but one before a concert Nobilissimus kept his tail much between his legs and stayed under things.

On the day before there was no practicing at all. Janice lowered the shades in Virginia's room to keep her asleep in the morning, and everyone went through the halls and up and down staairs softly. Aunt Chlo brought in bowls of steaming things as soon as the child got up and took her on her knee and fed her out of them like a baby.

"Po' little lamb! Po' little lamb!" Aunt Chlo crooned.

Then came the day itself and the journeywith Mother on the cars, with the smart little violin case on the seat between them. That was Virginia's best day. Her cheeks were pink and her eyes shone with excitement; the clapping was already in her ears.

On this particular best day the child dozed intermittently while Mother talked to someone behind in a proud voice. Virginia caught snatches of what was said, but she thought she dreamed them.

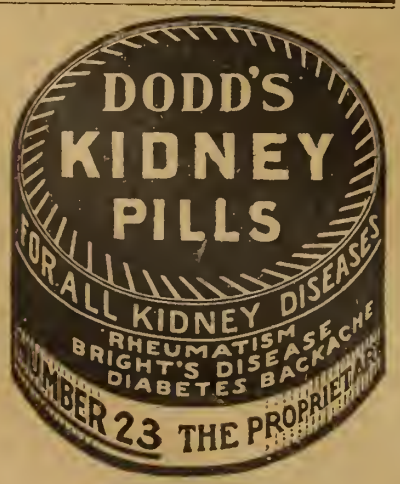
Only nine—yes. She has played ever since she was five. . . Oh, yes, of course, she practices a great deal. . . . Oh, no, she does not mind it at all. . . Yes, the most difficult. Her repertoire is remarkable for a child."

The other voice was too low to get into Virginia's dreams. The spaces between the things that Mother said were empty spaces. Suddenly Virginia sat up and knew she was awake. This was no dream.

Yes, four hours now, but her master says we must soon be making it five—then six—increasing as she grows older. It has to be—ah, do you get off here? I wish you were going to hear her play."

"Five—then six—increasing" — Virginia stared blankly into a dreary future. Her poor little bow arm throbbed in self pity. Een the glamor of the near future—of tonight—faded into insignificance. The beautiful new dress, the smiling faces, footlights, clapping hands—they dimmed and disapepared. The rattle of the train beat out "Five—then six—increasing," in her ears."

Villages and scattered homes flashed by her window. Everywhere there seemed to be little children romping and laughing and swinging their arms



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Are you unhappy, unfit for your duties? Write and tell me how you feel and I will send you ten days' FREE trial of a home treatment to meet your individual needs, together with references to women in Canada who have passed through your troubles and regained health; or you can secure this FREE treatment for your daughter, sister or mother.

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Windsor, Ontario

like Nellies. None of them appeared to have bow arms. They must all be Nellies.

On Virginia's horizon the cloud was ominously spreading. By the time the end of the journey was reached it enveloped her little world. What had been coming all this while to Virginia was now all but here, separated only by the little space the concert must occupy. After that—

"As soon as I get home—" the child reflected with the temerity of despair. "I can't wait any longer than that."

She would take Most Noble with her. In her heart was born a wistful premonition that Most Noble would be the only one who would really care, and so she could not leave him behind. They would go together hand in hand, Virginia thought.

Mother and Mademoiselle and Janice and Aunt Chlo would be a litte sorry on aacont of the wasted little concert dresses and the wasted violin. It would seem queer to them all not to have anyone to run about after and keep from injury—not to have any bow arm to take care of.

Virginia had never laid up against anyone her weary hours of practicing; as Mother had told the strange person on the train, it "had to be." You never laid up things that had to be, you only ran away from them.

* * *

THAT particular concert was always a good deal like a dream to Virginia; not an unpleasant dream, for there were the lights in it and the flowers and a beautiful sound of clapping, but a misty, elusive one that refused to stand out clearly against the background of her memory. It seemed always to have been some other child that stood on the edge of the smiling sea and nodded and lifted a small round chin—someone else's little bow arm that swept the bow across the strings. She herself stood off a little way and pitied the child that was playing and laughed elfishly to think they were going to make her practice five hours soon—then six—increasing.

Virginia decided on the very morning after she got home as the time to do it. Fortunately for her, the difficulties in her way were materially lessened by Mother's lying in bed and it's sbeing a hoiday from lessons, which eliminated Mademoiselle. That left Janice to run away from and Aunt Chlo. But Janice, it came about, had a toothache. Hence, of Virginia's row of "blackbirds" in her way one flew away and another. Then there was one—Aunt Chlo, very black indeed. To eliminate Aunt Chlo with least trouble Virginia had recourse to artifice.

"Aunt Chlo," she asked with sweet solicitude, "how is your misery?"

"Bress yo' heart," honey," groaned Aunt Chlo, searching out a promising spot and rubbing it, "it's a-takin' holt ag'in dis mornin'!"

"Then I guess you had better not sit out on the porch in the—the draught. I'll take the teeny silver bell and ring it if anything happens to me. You stay in here by the fire and keep your misery warm.

The artifice succeeded. Virginia, with a little nightgown in a roll under her arm, and Nobilissimus, without his, stole guiltily away. They hurried until they were out of sight of the house, and then settled into a steady little jog. Neither of them spoke till more than a mile had slipped under their six trudging feet. It was Virginia who spoke then.

"Ill ring the teeny bell," she laughed, "for something's happened now!—I said I'd ring it if anything happened to me. Nobilissimus, we're running away! It feels a little queer to be, doesn't it?"

* * *

JANICE had so often described her home a few miles out into the country that the child had no difficulty in finding it. There were so many things to go by. There was the blue pump—very blue, Janice said—and the red barn with a fish on it, that swam north, east, south, west. Virginia stopped at the first red barn with a fish on it, swimming west. And it was the right place for there was Nelly with Janice's good round face!

"Here ye are—we've got here, Nobilissimus!" the child cried excitedly. She advanced toward a shy, brown chid and made her little concert bow.

"How do you do, Nelly?" she said in her gracious little way. "I've come to live with you. What shall we play?"—For she wanted to lose no time. She had many little programs in her mind of the things—the Nelly-things—they would do. She realized most of them, if not all, would require practice, but she was used to practising. Her name in all these programs was spelled Virginia and looked beautiful.

"I'm Virginia—Virginia—" she hurried as a necessasry sop to the other child's bewildered curiosity. "The one that Janince sweeps and dusts. She said you had good times and laughed—so I came. I wish you'd laugh now." And Nelly, after another astonished instant, obeyed. It was splendid."

"That's one o, the things I came for—to learn, you know—and another's trees," Virginia explained. "Janice says you can climb ,em."

"My gracious!" laughed Nelly, unable to stop. "Me climb trees!"

"Oh, can't—you?" disappointedly. "Then I suppose it was something else Janice said, but I understood—"

It was rather a tall tree with the playhouse titing in its midst. To Virginit it was a Calfornia giant, but when she had climbed it and sat up there among the leaves she would be a Nelly!

"Come on! Come on!" she revelled. "You go ahead first and then me."

It seemed scarcely a moment before she lay in the long grass at the foot of the giant tree with Janice's Nelly stooping over her, her little brown face whitened by fright.

"What is it? What did I do?" Virginia murmured. She felt queer. The little white-brown face was two faces—three, four, five—above her. She thought of the teeny silver bell. She ought to ring it—something had happened to her.

"You didn't know how—you fell out," all five Nellies sobbed above her. All five were blanched and scared. "You've got to get up and come into the house with me and see mother. Give me your hand, I'll help you."

"Don't!" shrieked Virginia, and the new thing that hapepned rent her with grinding, awful anguish. Then merciful oblivion.

They told her when she awoke that she had broken her arm, and they had sent for the doctor and her folks. She must lie very still until they came.

Oh, yes—oh, yes, she would lie very still. The room seemed full of pain and she did not want it to come any

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"I used OLIVEINE EMULSION for my daughter. She was weak, pale and run down. After taking two bottles of the OLIVEINE EMULSION, she is now able to go to school and is rosy and well—my neighbors are surprised at the improvement in her. I cannot speak too highly of OLIVEINE EMULSION."

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Perfectly packed in bright lead foil, and price marked on every package.

When Your Liver Becomes Sluggish

Your Bowels Become Constipated.

Constipation is, without a doubt, the commonest of all the ills that mankind is afflicted with, and one if neglected, will cause no end of trouble and sickness.

The way to keep yourself in good health is to keep the liver active and working properly by the use of Milburn's Laxa-Liver Pills.

Mrs. L. Wainman, Orillia, Ont., writes:—"From a child I was always very badly constipated, and I can well remember, when quite young, my mother giving me senna tea nearly every morning, and I got to dread it.

"After taking Milburn's Laxa-Liver Pills for a while I am not troubled with constipation any more."

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nearer. Moving she was curiously certain would bring it close. She wondered a good many things while she lay still—when they get there, what the doctor was coming for, but most of all which arm.

* * *

THEY took her home after rather a weary while, and she spent her time in her own beautiful room with Mother. It was a surprise to Virginia to have her Mother there so much. The surprise grew into comfort. When she caught Mother's eye, Mother smiled—Virginia thought it a beautiful smile.

"Shall I begin to practice tomorrow?" Virginia said one day. It seemed a great while after the accident. She was facing Mother and saw plainly the look that came into her face, but it was not a plain look. Virginia could not decide what it meant.

"Not tomorrow, dear," was Mother's smiling answer. "Dear," was another surprise that was growing into a comfort.

"I'd like my violin. Please bring it Janice," she said. And to her surprise the maid burst into tears. The next time she asked Mother for it.

"Dear," Mother did not smile at all, "there was a little girl once who broke her arm."

"Yes," nodded Virginia, but there did not seem to be much relevancy in it. "It was me."

"Her bow arm," Mother added gently. "It was a pretty bad break, Virginia. And—and the doctors said it would always have to be a stiff arm—as long as she lived.

Virginia sat up from her cushions. This was something that could not be realized lying down. Even sitting up it was very hard. It took a number of minutes. Realization filtered into the child's brain, drop by drop. When it was all in, she tturned a white, shocked little fcae to Mother's white, shocked face.

"Please bring it to me," she mhispered as people whisper when some one is dead.

And when Mother brought it in its smart little case: "Now please you and Nobilissimus go," she whispered. With her left hand she took out the little violin and raised it awkwardly to its old place.

"Why!" she said softly, "why, it seems queer to be sorry! It's squeer not to be glad. You, you dear, you're dead now, aren't you, and pretty soon I'll put you back in your poor coffin. But I want to say something first. It was you I ran away from, and—I wish I hadn't! I never suspected I'd wish that. I tseems queer doesn't it? And—and I'd like to practice five hours on you—six—increasing. Oh, you dear, I think I'm going to cry!"

She hurried the little instrument back in its scoffin and shut it in. One minute she laid her cheek against the smart litle case.

"Good-bye," Virginia whispered.

Says She Cannot Praise Them Enough

MRS. GAUVIN TELLS OF DODD'S KIDNEY PILLS

She Says Her Back Was So Weak She Could Hardly Walk, But Now She is a Different Person.

St. Jeanne d'Arc, N. B., Mayy 11th. (Special)—Among those in this neighborhood who are enthusiastic in their praises of Dodd's Kidney Pills is Mrs. Joseph Gauvin, a highly respected resident here.

"I cannot praise Dodd's Kidney Pills .enough," Mrs. Gauvin states "My back was so weak I could hardly walk. I took six boxes of Dodd's Kidney Pills and now I feel a different person.

"Dodd's Kidney Pills have done me a tremendous amount of good."

Of the many person paying their tribute of praise to Dodd's Kidney Pills, it is noticeable that the great majority are women. The reason given for thisis that the great majority of women's ills come from the kidneys. Dodd's Kidney Pills act directly on the kidneys. Healing and strengthening them, they enable the kidneys to strain all the impurities out of the blood. Pure blood is the foundation of health.

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A MODERN KITCHEN

Man works from sun to sun, but woman's work is never done." So they truly say, but whose fault is it? Wherever man has taken up woman's work he manages to quit when the sun does, either by leaving many ceremonies unperformed or by making them less intricate. They have enough of the masculine to keep household duties in their proper perspective, which means making dust-rags, dishpans and scrubbing brushes the servants instead of the masters; for it is an admitted fact that to the average woman the house is a sort of heathen idol, which must be appeased at any cost, even though health and happiness lie crushed beneath the wheels of its chariot. It is a good thing to know how to make bread, but a better thing is to know when not to.

How often we hear from feminine lips, "What a nice large kitcen," or "what a horid little tucked-up hole!" Some of the ancestral kitchens were huge affairs, adjacent to a dining-room equally monstrous. Anyone to live and work there must be a good walker, for the sink was in one corner, china closet in another, and the range in the middle of the room. A boy in whose home was such a kitchen, remarked when the maid left, that it was probably because she had worn her feet off to the first joint galloping from place to place in vast domain. And who knows but this is the reason women are shorter than men? They wear off faster than the can grow, trying to get food enough, to the far-distant table, to fill four or five boys, to whom they refer on occasions as "bottomless pits." To the woman so situated, a walk around the world would be a mere pastime.

A radically modern and sanitary kitchen is small or medium-sized, well lighted and with a special ventilating window near the ceiling. First let us consider the kitchen floor. Hardwood is nearly always the first choice. If it is to have hard wear there is nothing better than boiled linseed oil, properly applied. These can be cleaned with kerosene or washed in soapy water. If it does not have hard wear, a thorough oiing and three coats of varnish make a nice finish and one very easily cleaned. A good quality of linoleum makes a nice covering. Some prefer the hardwood patterns in linoleum, but any neat, little pattern is suitable, but it must be light in color. Linoleums are soft under the feet and very sanitary . Small rugs on the floor will save tired feet, but they should be such as can be "tubbed" frequently.

Next comes the walls. These may be sealed or plastered. I prefer the plaster. This can be painted and varnished and is not easily marred and very easy to wash. A good many housewives prefer paper for the kitchen walls. Papered walls are not sanitary; a spatter can be washed from a painted wall but cannot be removed satisfactorily from a papered wall. Care should be taken in selecting either paper or paint. They should be light in color and pleasing to the eye. Most housewives find the old-fashioned, white washed ceiling the most practical for the kitchen.

An axioum in the model kitchen is, "a place for everything," which means room enough for everything to have a place and no room wasted. All utensils of labor should be kept out of sight as much as possible. The range should be placed so as to ge within easy reach of sink, table and cupboard, and in a good light. A small shelf within reaching distance

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The best that base burners and radiators can do is to heat the air that is already in the house—that has been breathed again and again. Stoves choke the air with dust and in real cold weather they fall short of their job. Another reason for the

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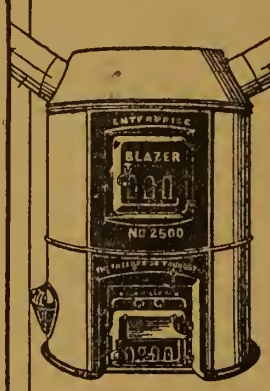

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Miss Ruth Tarkington, 12 Trafalgar St., St Thomas, Ont. "My grandmother was subject to rheumatism and used to call me from my playmates to go to the druggists to get Minard's Liniment. I was often unwilling and declared I hated that old stuff, but I soon found out how good it was. I got neuralgia. Grandma came with the Liniment and applied it to my head and I was very much surprised to feel how quickly it relieved the pain."

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When the back aches or becomes weak it is a warning that the kidneys are affected in some way, and on the first sign of any weakness Doan's Kidney Pills should be taken, so as to strengthen the kidneys and prevent some future trouble.

Mrs. Joseph Jarvis, 152 Niagara St., Hamilton, writes:—"I was so troubled with my kidneys I could hardly sleep; I could not do my work, and was a burden to myself. I used Doan's Kidney Pills and they sure helped me, and I would not be without them in the house. I can sleep better now than I have for years."

Doan's Kidney Pills are put up in an oblong grey box; our trade mark a "Maple Leaf"; price 50c. at all dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

of the range holds salt, pepper, sugar and other seasonings used in cooking vegetables and meats. A zinc-covered, hinged shelf should be very near the range, where hot dishes, pots and pans can be set.

Every kitchen ought to have a sink and every sink a draining board. The sink should be near the working-table and sufficiently high to do away with the back-breaking position from which we may have suffered for years. Beneath the sink are hooks for sauce-pans and beneath the draining-board a few small drawers, for utensils needed about the sink. The pot closet should be near the range and one that you can step into with hooks for hanging cooking utensils on the walls and a high shelf for "covers" for these pots and pans.

A kitchen cabinet is very useful, but if one cannot be obtained, a home-made cupboard will answer the same purpose. One side of this cupboard should hold the mixing pans and bowls, the other side dishes needed about the kitchen. These cupboards may have glass doors and should be tastefully arranged. Movable shelves enameled in white are very convenient for these cupboards. Drawers fill the space below; one holds kitchen towels, another dishe towels, another kitchen aprons, and a fourth paring knives, spoons, etc., each in their proper compartment.

A shelf over the table is convenient for spices. On one end of the table should be placed the food chopper. It can be taken off and cleaned and put back so as to be ready when again needed. The table should be fitted with castors and of the proper height. In a box fitted with castors and with a hinged lid, we find everything necessary for washing except the tubs. This may be kept in the shed and rollled in and used as a bench for the tubs while washing. Two shelves placed one over the other in some out of the way corner, have holes bored in them. In these we stand the brooms, mops and brushes needed for cleaning floors. A closet between the dining room and kitchen will be found convenient when cleaning the table after a meal. The ordiary slide with a shef on oone side will save a number of steps.

Kitchen Windows

The windows of the kitchen should be screened their full size and fastened on the outside so that the windows may be raised or lowered at will. The outside door must also be screened.

The kitchen costume should be light in color and washable. Ordinary work aprons may be dark if desired, but cooking aprons should be either pure white or of very light color, otherwise the cook might possibly appear at the door with patches of flour adorning her otherwise spotless attire.

Long-Standing Evil

Effective Measures Taken

Since childhood Mr. A. Cail was under the shadow of a great evil, which always menaced his comfort and safety. Read what he says:—

"I was troubled with my kidneys since childhood and spent a large amount of money trying to get cured. Instead of getting better, I kept getting worse until a friend of mine advised me to try Gin Pills. I did so, and after taking one box, I was able to get out of bed and walk around. Two more boxes relieved me completely, and since then I have had no return of the trouble."

Many people have kidney and bladder trouble without knowing it. They think nothing of the backache, the pains in the sides, the constant headaches, the rheumatic, sciatic and neuralgic pains, the floating specks before the eyes, the swollen joints, the highly-coloured urine—all signs of trouble—all signs which should receive immediate attention and treatment with Gin Pills, which are by far the most effective of all preparations, and which may help you to avoid a fatal operation. They quickly relieve pain and heal the congested tissues, bringing the organs back to normal. At druggists and dealers, 50c a box. Money back if no relief. Send for free sample.

The National Drug & Chemical Co. of Canada, Limited, Toronto. United States Address, Na-Dru-Co., Inc., 202 Main St., Buffalo, N.Y. 252

MOTHS AND THE BEST MEANS OF ERADICATING THEM

There are two kinds of moths which have proved themselves enemies of the housewife—the clothes moth and the buffalo moth.

In May the clothes moth begins to fly about our rooms. It is a small, light, buff-colored miller, dainty and beautiful on close inspection. Its highest mission seems to be to teach us to set our affection only upon incorruptible treasures, which "moth and rust" cannot destroy. But it is necessasry to kep a sharp lookout for the safety of our ffurs and flannels. In the first place, we must carefully put away everything we can, upon which it will lay its eggs. If we pack away our furs and flannels early in May, before the moth has begun to lay its eggs and leave in boxes or bags so tight that the flying moth cannot squeeze in, no further precaution is necessary. Clean paper bags made for that express purpose. They should be without holes or openings anywhere. These bags when filled and closed firmly, may be put away on a closet shelf, or in loose boxes, without danger to their contents so far as moths are concerned, without need of moth balls or other strong odors to drive them away.

When putting away furs, beat them well. If you delay putting them away till June, examine the furs well, shake and beat them thoroughy in order that any moth eggs that may possibly have been laid in them may be thoroughly removed or killed. Woolen garments must be hung in closets through the summer, in parts of the country, where moths abound. They should be packed away in tight trunks or boxess, or sealed up in bags. Woolen blankets must be well shaken and carefully put away unless they are in daily use. Early in June the larvae of the moth begin their ravages, and then unless you dwell in places where moths are not found, look sharp, or you will find some precious thing that you have forgotten, already more or less riddled by the voracious moths. It is their nature to eat until they have grown strong enough to retire from the eating business and go into the chrysalis condition.

Worse still than the ravaging clothes moth, is, I believe, the buffalo moth, or buffalo carpet beetle. This beetle is originally a European insect, and is found in all parts of Europe. It is not really a moth, but the larves, or grub of a very small beetle. The beetle itself feeds on the pollen of flowers, and may be found in early spring in tulips and on other blossoms. From these, it flies into the open windows, and, dropping on the floor, proceeds to the nearest carpet or rug, or curtain, as the case may be, and deposits its eggs. From these hatch out the grubs familiarly known as the buffalo moth. The latter word is applied to them, no doubt, because the havoc they create is simiar to that caused by the ordinary clothes moth. The name buffalo is derived from the fancied resemblance of the grub to a buffalo. This is based upon the insect being broader toward the head, and covered with hairs.

The beetles are extremely small in comparison with the size of the grub and are really very pretty objects, being marked down the middle of the back with a broad line of red, and mottled with gray and white.. As they appear early in the season, it is advisable to put wire screens in the windows as soon as the weather permits of their being kept open. Once they have gotten in a house, it is a matter of constant viligance to keep them under contro, but by destroying all specimens that may be found, and from time to time overhauling fabrics that have been stored away, they may be prevented from becoming a serious pest.

In Europe, the insect is not especially noted as a household pest, and we are inclined to think that this is

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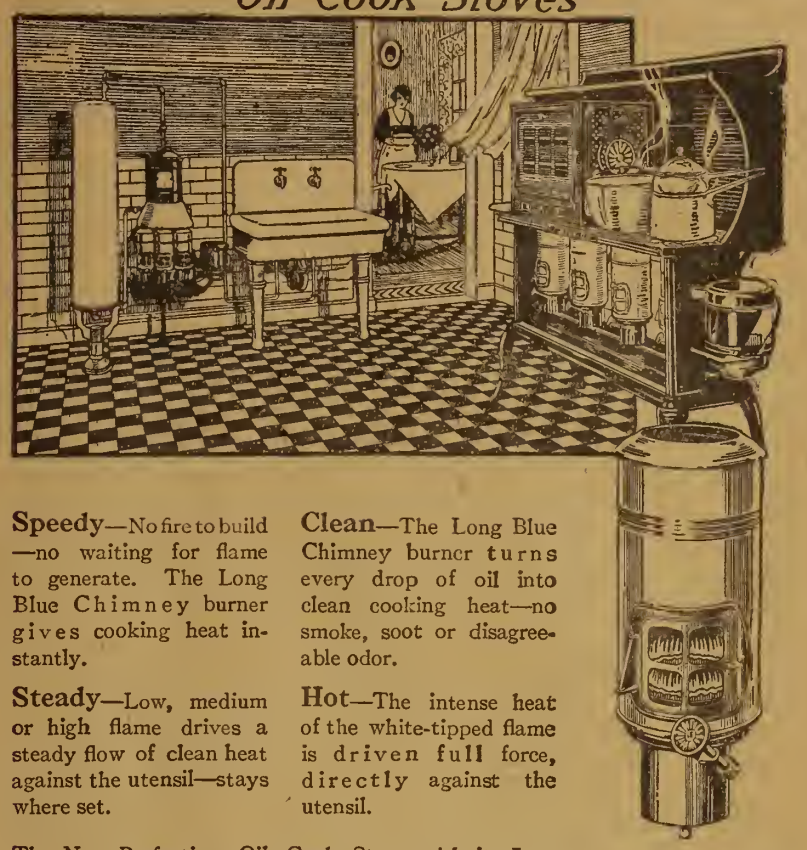

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If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.

A MESSAGE TO WOMEN!!

Mrs. M. Summers, Box 309 Windsor, Ont.

The Joy of Living
Headaches are generally caused by nervousness or biliousness, and are very exhausting. They should never be neglected, but should be treated at once.
Dr. Wilson's HERBINE BITTERS
corrects the causes of headache, and restores that joy of living not known to headache sufferers. 51
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ST JOHN, N B

sssing to the fact that carpets are little used. It is a well-known fact that the carpet habit is a bad one from other points of view, and there is little doubt that if carpets were more generally discarded in our country, the buffalo moth would cease to be the prominent household pest that it is today. There is no easy way to keep it in check. When it has once taken possession of a house, nothing but the most thorough and long-continued measures will eradicate it. At housecleaning time, the rooms should be attended to one at a time. The carpets should be taken up, thoroughly beaten, sprayed out of doors with benzine, and allowed to air for several hours. The rooms themselves should be thoroughly swept and dusted, the floors washed with hot water, the cracks carefully cleaned out and kerosene or benzine poured into the cracks and sprayed under the baseboards. The extreme inflammability of benzine, and even of its vapor when confined should be remembered and fire carefully guarded against. Before relaying the carpet, tarred roofing poper should be laid upon the floor, at least around the edges, and when the carpet is relaid it is well to tack it down rather lightly, so that it can be occasionaly lifted at the edges and examined for the presence of the insect. Later in the season, if such an examination shows the insect to have made its sappearance, a good though somewhat laborious remedy, consists in laying a damp cloth smoothly over the spot and ironing it with a hot iron. The steam thus generated will pass through the carpet and kill the insects immediately beneath it.

Blankets, furs or other articles, that have been stored away for the summer, and found to be infested, should be put into tight chests or drawers and treated with bi-sulphide or carbon. This is a disagreeable smelling liquid, which should be poured into a saucer on the top of the contents of the box. This should be tightly closed up and left for forty-eight hours. The fumes being heavier than air, will penetrate everything contained in the chest, and will kill all the grubs and mothes that are among the contents. It is well to perform this operation in an outhouse, as the fumes of the liquid are very inflammable and explosive, and therefore it should not be used where there is any fire or light.

(Note.—Tight cedar chests are excelent for packing woolens in during the summer. In with the other articles smay be sprinkled moth balls, to be bought at any drug store, or a bottle of chloroform, uncorked, may be placed in the chest. Of course, in this case, care must be taken not to inhale the fumes when the chest is opened. Windows should be opened in the room before the lid is raised.)

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I promise to send you a FREE trial of the new absorption treatment, and references from your own locality if you will but write and ask. I assure you of immediate relief. Send no money, but tell others of this offer.
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MAPLE SUGAR RECIPES

Sifted pastry flour is used in these recipes. The cup is a standard measuring-cup holding one-half pint. All measurements are level.

Maple Biscuit

2 cups flour.
4 teaspoons baking-powder.
½ teaspoon salt
2 tablespoons fat
¾ cup milk.
Maple sugar

Sift dry ingredients together, cut or rub in fat, add milk gradually to make soft dough that can be handled. Roll out to one-half inch thickness, and cut in rounds. Brush half of them with softened butter or substitute, spread thickly with finely grated maple sugar, put together in pairs. Place in oiled pan, barely touching each other, and bake in hot oven.

Maple Cream Pudding

1 egg
1 cup sugar
2 tablespoons melted fat
1 2/3 cups flour
2 tablespoons baking-powder
2/3 cup milk

Sift baking powder and flour together, add sugar, then milk which has ben mixed with beaten yolk of egg, and melted fat. Beat well, and fold in the stiffly beaten white of egg. Pour into shallow pan, and bake in moderate oven. Cut in squares and serve them.

Maple Cream Sauce

½ cup maple sugar
1 tablespon white corn syrup
2 tablespoons water
1 egg white
1/3 cup thick cream
A few grains salt

Boil sugar, corn syrup, and water to soft-ball stage. Pour over stiffly beaten white of egg, stirring constantly. Cool and fold in whipped cream.

White Cake with Maple Frosting

¼ cup butter
1 cup sugar
½ cup milk
2½ teaspons baking powder
2 egg whites
1½ cups flour

Cream butter, add sugar, and beat until well mixed. Sift together flour with milk, to first mixture. Fold in stiffly beaten whites, bake in layer-cake pans in moderate oven. Put together with Maple Frosting.

Maple Frosting

Boil two cups maple syrup until it threads, add slowly to stiffly beaten white of one egg. eBat until cool enough to spread.

Maple Marguerites

½ pound maple sugar
¼ cup boiling water
1 egg white
1 cup pecan meats

Add water to the sugar, which has been broken or shaved as fine as possible, and boil to soft-ball stage. Add to stiffly beaten whites, beating hard all the time. Continue beating until stiff enough to spread. Add coarsely chopped nuts, and spread on unsweetened wafers or crackers. Serve with afternoon tea.

Maple Syrup Cake

½ cup shortening.
½ cup sugar
4 egg yolks
1 cup maple syruup
½ cup hot water
2½ cups flour
2 teaspoons baking powder
½ teaspoon soda
½ teaspoon mapleine
¼ teaspoon salt

Cream shortening, add sugar, beat well, add well-beaten yolks (two eggs may be used in place of the four yolks if desired), syrup, and hot water. Sift together flour, salt and baking-powder, and add to first mixture. Add flavoring, beat well, and pour into oiled pans to depth of one inch. Bake in moderate oven, and cover with Maple Frosting, or with Maple Fudge Frosting.

Maple Fudge Frosting

1 cup maple sugar
1/3 cup thin cream
1 tablespoon butter

Cut or break sugar in small pieces, add cream and butter, heat slowly, stirring until sugar is dissolved. Boil to soft-ball stage, about 240 degrees. Beat until thick enough to spread.

One Egg Maple-Chocolate Cake

1 cup sugar
1 teaspoon cinnamon
½ cup shortening, lard or vegetable fat
1 cup sour milk
½ teaspoon mapleine
1 tablespoon cocoa
Pinch salt
1 egg, well beaten
1 teaspoon soda
2⅛ cups flour

Mix sugar, cocoa, cinnamon and salt together. Cream with fat. Add egg, milk, soda, mapleine. Sift in flour. Beat well, put in greased tin. Bake in moderate oven. Chocolate or white icing makes this very delicious.

"AMHERST" SPECIALS
These two Slippers as shown in our illustrations cover fully thirty to forty lines in Theos and Slippers.
Leathers include Patent, Vici Kid, Calf and Side Leathers in Colors, Black, Grey, Mahogany and other Browns.
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AMHERST BOOT & SHOE COMPANY, LIMITED

FRESH AIR

A woman physician recently observed that in her opinion the worst

evil that has resulted from civilization is the habit of living in houses and sleeping in rooms. Hardly one of us gets all the fresh air needed to maintain the top-notch of health. The kitchen-gardening of the spring, summer and autumn does more for the gardeners than merely to furnish extra greens for the table. Women, particularly, are apt to stay indoors too much. For right living, three hours every day should be spent out-of-doors and the minimum to be tolerated is one hour of active exercise in the open air. Besides this, practise deep breathing before the open window; do not ride when you can possibly walk, and if you rent or build a house let a sleeping-porch be insisted on quite as much as a bathroom.

FOOTWEAR

Another physician says he hates to look out of his office window and see all the ill-shod feet carrying their owners to ill-health or invalidism before the middle years are passed. Here again wmen are the worst sufferers. Let us make it the fashion to wear an easy-fitting light-weight shoe, board-soled, low-heeled, as soft as a stocking, the kind of shoe you hardly know you have on, the kind that gives the sensation of winged feet and walking on air.

All the blood in the body has to circulate through these ill-used extremities of ours; we should not allow it to carry fatigue poisons from them to the rest of the system. Let us keep our feet at all times free and uncramped, let us keep them dry and warm and well ventilated. If you care for your feet as solicitiously as you do for your hands, if you refresh them with daily changes of stockings and more than one daily change of shoes, you will experience a generous return in giving ease, and lightness and joy to the whole body.

FASHION HINTS

Much taffeta is employed for spring frocks, as well as much foulard. The taffet frequently shows a glazed surfare—taffeta cire—and the foulard is patterned often very generously with color, although many of the smartset resigns are in black and white. Mohair will be used for summer cloaks—a coat of mohair or serge is smart over a foulard frock—and foulard frocks will be trimmed with serge.

Summer frocks will be made of crepe Georgette, voile, and organdy, as well as of Rodier's new cotton crepons and loosely-woven linens. Yellow, from palest lemon to deep orange, is smart this season, and a new dull rose shaded called mulberry is also featured. All the dull shades of rose and red are smart and are often prettily combined with dark blue—a frock of mulberry muslin, for instance being girdled with dark blue faille ribbon—and this rich, dark blue is also combined with yellow.

Hats of delicate straw for summer are trimmed with bright flowers, flowers and hat being often of one color. Thus a hat of yellow straw-and-wool braid is trimmed with vivid nasturtiums, and a hat of dull rose straw is combined with dull-toned pink roses. Roses dorn many of the hats this season.

Minard's Liniment Co., Limited.

I was very sick with Quinsy and thought I would strangle. I used MINARD'S LINIMENT and it cured me at once. I am never without it now.

Yours gratefully,
MRS. C. D. PRINCE.
Nauwigewauk, Oct. 21 st.

HOW COOKING MAY DETERMINE RELATIVE ECONOMY

Our war experience has taught us a new conception of the word "economy'—we think of it not as niggardly hoarding but as wise using. So our economy maxims might read—

Seasonableness Means Serviceableness—In other words let us not buy fresh peas or asparagus in January, but let us in June can our summer vegetables for January use.

Waste Brings Want—of vegetables as of other commodities.

"Extra Vegetables"—bought after the dietary is carefully planned are "wasted" unless carefully cooked to be served next day.

"Soggy" or Underdone Vegetables—are "wasted" as they tax digestion and do not give proper nourishment.

Careful Cookery of Vegetables May Save Meat—Since the flavor of a small quantity of meat may be "extended" by using nicely cooked vegetables as a basis for various attractive dishes.

HOW COOKING MAY AFFECT THE FLAVOR OF VEGETABLES

It may help the housekeeper if we formulate a series of maxims, a sort of Poor Richard's Almanac of Vegetable Cookery.

Serve Summer Vegetables Soon—after gathering.

Keep Winter Vegetables—in dry cold place.

Wash All Vegetables Well—with small brush kept for the purpose.

Sweet Juiced Vegetables—Such as celery, carrots or beets, should be cooked in small quantity of water.

Strong Juiced Vegetables—such as cabbage, onions and turnips may be cooked in larger quantity of water.

Add Salt to Water—When vegetables are about hal done. The proportion is one-half to one teaspoon of salt to each quart of water.

Color Will Be Kept—by cooking uncovered.

Wilted Vegetables—may be freshened by crisping in cold water.

Take a Cooking Time-table to the Kitchen—but remember it is only a general guide, the time varies according to age of vegetables.

Cook Fresh Vegetables Quickly—That is, in rapidly boiling water.

Simmer Dried Vegetables .Slowly—To soften fibre and thoroughly cook starch.

Season all Vegetables Delicately—Just before serving.

Serve all Vegetables Attractively—to "feed the eye."

SPRING FLOOR CARE

There is no floor covering that will prove more practical for the service rooms of the house than linoleum, but linoleum as a floor covering is in disrepute among many housekeepers because they do not know how to purchase, lay and care for it properly. In selecting linoleums choose the plain patterns only when the room is to be pretty well covered with rugs since a plain linoleum shows foot marks distinctly and is therefore harder to care for; but be just as careful in selecting a pattern that the large sprawly ones are passed by.

The next point to consider in purchasing linoleum is to be assured that you are buying a service that will ensure it to be properly laid. Complaints have reached us that linoleums are insanitary floor coverings, that they harbor roaches, and insects generally, and many a housekeeper for these reasons refuses to replace an old linoleum. But this condition could not happen if the linoleum had been properly laid as a floor and not as a floor covering. If your floor is a wood one, see that the surface is smooth and even. If it is not even there are two methods of renovating; one is the use of one of the electric floor scrapers or planers which will work off the roughness, and the second is the use of padding paper beneath the linoleum. The latter method is but a makeshift, however.

Never tack linoleum down with ordinary carpet tacks. Laid in this way, no linoleum can be made watertight. Moisture will get underneath it, the wood will rot, the linoleum will break and there is a splendid opportunity for insects to harbor beneath. Truly this type of a linoleum covered floor is insanitary. On the contrary have the linoleum cut so as to allow for the stretching. Remember it has been rolled up for weeks or months, and it is bound to continue to "grow" for some little time after is has been laid flat and walked upon. Allow it to lie loose on the floor for at least two weeks. If this is done it will never bother you by the buckling that causes it to crack.

After it is stretched as much as it will, it must be cut to fit closely all around the room. Apply a waterproof cement, which is a sort of glue made especially for laying linoleum. The ideal way is to coat the entire back of the linoleum with it, but if you do not want to assume this work, at least cement the edges and seams with particular attention to the joinings at sink, washtub legs, all edges, and other places where water may be apt to gather. Use a small paint brush and be sure to have available, heavy objects to weight down the linoleum while the cement is drying. The professional workman uses sand bags made of duck 14 inches square, weighing about 25 lbs. each, but any kind of an object that is heavy enough will serve the purpose. Do not remove them for at least 24 hours after the linoleuum is laid.

In applying the cement the best way is to coat both the floor and the back of the linoleum and be sure if any cement get on the linoleuum surface to remove it at once with alcohol. A gallon of cement will ordinarily be sufficient for 10 square yards of linoleum if the whole back is coated, while the same quantity will be enough for approximately 25 square yards if only seams and edges are coated.

The next step is fully as important. First, scrub it with any of the scouring powders or washing soda and a scrub brush. Scrub a small area, dhy it, and apply paste wax, allowing it to absorb as much as it will, continue until the entire surface has been filled with as much paste as it will absorb. Linoleum is extremely porous and unless you first fill these pores, with wax they will become filled with dirt and that will be extremely difficult to remove. After waxing, however, soil becomes merely a surface affiair. Wash and scrub the linoleum as much as you please, always being careful, however, to replace the wax with a little liquid wax applied with a mop. With this treatment it will never become necessary to scour the linoleum after the first time.

CHILLED MOCHA

2 cupfuls of milk
2 cupfuls of boiling water
2 cupfuls of strong black coffee
1 cupful of grated chocolate or cocoa
4 tablespoonfuls of sugar
½ teaspoonful of vanilla

Scald the milk and add the boiling water. Mix the sugar and chocolate and gradually rub to a smooth paste with some of the hot milk and water, then cook with it for about five minutes. Add coffee, vanilla and a few grains of salt, and remove from the fire. Set aside to cool and serve chilled with a spoonful of whipped cream on top.

COFFEE EGGNOG FOR FOUR

2 eggs
3 cupfuls of milk
½ cupful of strong black coffee
2½ tablespoonfuls of sugar
Dash of salt

Whip the eggs light with an egg beater and gradually add other ingredients, which should all be as cold as possible. Strain into glasses and serve cold.

BEAN ANTHRACNOSE

(Continued from page 577)

from soil-carried organisms may be expected.

Loss Caused by the Disease

A conservative estimate of the decreased value of the Canadian bean crop, caused by this one disease, is probably over 10 per cent. In some localities and during some seasons it is undoubtedly much more; many fields have been examined where the crop was reduced by from 50 to 75 per cent. The total annual loss on the dried bean crop alone amounts to over 300,000 bushels, and to this must be added the loss caused to string beans which are grown in every garden. This loss is manifest in several ways. The first and most important is decreased yield, which loss may vary from little or nothing to almost a complete failure. Beans from badly and even moderately infected fields are not suitable for seed purposes unless very thoroughly hand-picked, and even then diseased beans are sure to escape. Probably the growers of string beans, where the green pods are used for table or canning purposes, suffer the greatest proportional loss as infected pods are unmarketable.

Spread and Development of the Disease

The disease, as previously stated, is propagated from year to year chiefly by planting diseased seed and to a lesser extent by using infected bean refuse as fertilizer, or failure on the part of the grower to practice a reasonable crop rotation. The spread and development of the disease in the field is influenced to a large extent by the prevailing climatic and soil conditions. During a bright, dry season little damage is caused, but during wet, cloudy weather it spreads and develops rapidly. This is because of three conditions: (1) The spores have a mucilaginous envelope which holds them together when dry and retards their being carried from the diseased lesion to healthy plants by the wind. (2) The spores are produced most abundantly during wet weather. (3) They can germinate and gain entrance to healthy tissue only when moisture is present.

Beans grown on low, wet, or poorly drained soil are usually more severely injured than those grown on high, dry soil. This is probably due to a greater amount of moisture in the atmosphere surrounding the plants and to the fact that an abundance of soil moisture encourages an early rapid growth of the fungus contained in or on the infected seed during germination. The same condition is brought about even on high soil if the seed is planted too early and during wet weather.

Healthy leaves become infected by brushing against moist, spore-bearing lesions. Spores are carried from one plant to another by cultivating machinery and on the hands of the picker. It is therefore advisable to avoid working among beans when the foliage is wet.

Control Measures

Numerous suggestions for the control of anthracnose have been made from time to time, but these have failed, partly because of their inefficiency but largely due to the fact that the growers have failed to put them into practice carefully and continuously. The chief point to keep in mind is that diseased seed produces diseased plants and these serve as a source of infection to healthy plants. It would seem that a combination of control measures might give the best result. The various steps are here described separately but should be practised collectively.

Pod selection: Disease-free seed can be most easily obtained by gathering sound pods from a field as nearly disease-free as is available. In selecting these pods care should be taken to select from plants which appear resistant to the disease high yielders and true to the desired type.

As an additional precaution, the pods should be immersed in one of the following solutions for two or three minutes:

(a) Copper sulphate, 1 lb. in 80 gallons of water.

(b) Formalin, 1 pint in 30 gallons of water.

(c) Corrosive sublimate, 1 oz. in 8 gallons of water.

The pods are then thoroughly dried, threshed and the seed stored in a clean sack; care should be taken to avoid reinfection of the seed. If it is impracticable to select enough pods to supply seed for planting the whole of the next year's crop, sufficient should be selected for a seed plot.

Seed plot: A seed plot is nothing more nor less than a plot on which is propagated desirable seed, of pure variety, true to type, high yielding and free from diseases, in sufficient quantity to supply seed for planting the main crop the following year. The very best seed obtainable should be secured for planting the seed plot. This practice has given excellent results with other crops and might profitably be practised by seed growers.

Seed Selection: Where pod selection has not been practised, and even if it has, the beans should be carefully hand-picked, removing all discoloured, spotted, shrunken, or inferior seed before planting. This will not remove all the infected seed, but will materially reduce the amount. Several preliminary experiments in careful hand-selection gave very promising results, not only as a control for anthracnose but as a means of eliminating inferior seed and disease in general.

Seed treatment: Treament of seed beans has not given wholly reliable results, probably due to the fact that the organism causing the disease penetrates deeply into the tissue, and cannot be easily destroyed without injuring the germinating quality of the seed. Nevertheless, after the seed has been carefully hand-selected, treatment will help by destroying slight surface infections. Preliminary experiments with various seed treatments indicate that soaking the seed for three minutes in any of the solutions given above reduces the amount of disease and increases the yield.

Copper sulphate and corrosive sublimate are poisons and beans treated with them should not be used for table purposes or fed to animals.

Spraying: Spraying beans for the control of anthracnose has not proved entirely successful or economical; the disease can be checked to some extent but not controlled. When great importance is attached to freedom from disease such as on a seed plot or where beans are being grown for seed purposes, they should be sprayed with a 2:2:40 or 4:4:40 Bordeaux mixture, the first application being made when the plants are quite small, and succeeding applications at intervals of one week or 10 days.

In addition to the above practices the grower should observe the following precautions:—

1. Select a marketable variety known to show resistance to the disease in his neighbourhood.
2. Plant on dry, well-drained soil.
3. Avoid the use of bean refuse as fertilizer on the bean field.
4. Plant beans in the same field not oftener than once in three years.
5. Avoid cultivating, picking, or doing any other work among the beans during wet weather.

QUACK, COUCH OR QUICK GRASS

(Experimental Farms Note.)

This weed is perennial, propagated by seeds and creeping root-stalks, persistent in all deep ploughed lands and in all crops, having great power in spreading and choking out other plants.

The permanent means of bringing this weed under control is to adopt for the area infested a sort of rotation of crops or cropping plan which includes a hoed crop, once in three or four years. A short rotation of three years duration is preferable since there is a hoed crop and only one crop of hay in a three year period. conditions which tend to give the pest the east chance of flourishing. Another suitable rotation is one of four years duration of one year each in hoed, grain, clover and timothy hay crop. For tomothy hay or pasture areas the procedure is as follows:

Allow the plant to exhaust its substance in the production of a hay crop, which should be cut and removed as soon as the head is formed and before it is in bloom. Plough shallow, roll, disc once or twice to break up the sod and then cultivate with a stiff-tooth cutivator until the root-stalks have been pulled to the surface of the soil. When accumulation of roots is so great as to interfere with the efficient working of the cultivator remove or burn them and continue cultivating in order to complete the work. In the autumn, ridge or deep plough the field. Ridging exposes a greater surface of soil and couch roots to the action of frost than ordinary ploughing. Frost is an agent in the control of quack grass that should be made use of on every possibe occasion.

Grain areas that contain quack are not in fit condition to be seeded down to grasses and clovers nor are they in shape for the growing of profitable crops in the future until after control measures have been introduced. Immediately after harvest stubble land should be shallow ploughed, disced once or twice to break down and consolidate the furrow slices after which the stiff-tooth cultivator can be em-

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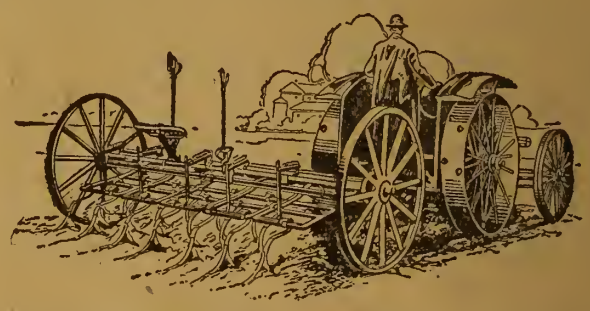

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ployed to advantage to obtain the necessary depth to facilitate the drawing of the root stalks or underground stems of quacn to the surface. Cultivation should be thorough and the fall treatment as outlined for meadow or pasture land will apply on stubble.

The stiff tooth cultivator is an essential implement in any cultural plan for the control of quack grass. The disc harrow used as the combatant implement acts as a force against the success of otherwise thorough treatment. The use of the disc harrow in this connection should be limited to work of disintegrating and pulverizing sod and surface soil. .The object is to draw the entire rootstalk to the surface rather than break each root into several parts. Each small piece, like the potato set, is capable of establishing a new plant.

The following spring the area treated as described, should be planted to hoed crop for which manure may be applied, before the last ploughing or ridging in the fall or during the winter or spring. This brings us to the first year of the rotation from which period the procedure in cropping would be as outlined in the rotations recommended.

Where no reguar hoed crop is grown, which is poor farm practice, rape or buckwheat sown on an infected area after it has been thoroughly cultivated and the rootstalks removed, prove excellent smothering crops. For late sowing and as "first aid" in the control of the weed on an exceptionally dirty field where other crops would be choked out and before attempting a hoed crop the two mentioned crops are very useful. Smothering crops, however, are recommended only as a temporary means of control. It is only by thorough persistent cultural methods and the proper utilization of crops that any satisfactory degree of success will be attained.—W. L. Graham, Asst. Dominion Field Husbandman.

CARE OF SMALL PLOTS OF CEREALS

(Experimental Farms Note.)

A great deal has been said about the purity of seed and the use of good seed. How may this be procured and kept pure? The Experimental Farms distribute small samples of good seed, but the grain grower is the man who must maintain its spurity. The samples that the Experimental Farms distribute are sufficient to seed 1/20 of an acre. It is the care of this plot and the subsequent plots that I wish to emphasize.

The seed should be sown in a plot about 33'x66' in dimension, on the most productive piece of land (suitable for grain, on othe farm. The seed bed should be as nearly as perfect as the most approved methods of cultivation in the district will permitfl Seeding of this plot should be done as eary in the spring as is possible within reason. The seed drill must be thoroughly clean and free from grains of other varieties. In seeding it is as well to leave a small path about 12" to 14" between each strip of the drill. This may be done by allowing the wheel of the seeder to return in the track made by the wheel on the land already seeded.

During the growing period all noxious weeds and large weeds that will be detrimental to the crop should be removed. The path referred to above is useful in that it allows ready access to the plot with a minimum amount of damage. Weeding should be done from time to time all through the season. When the plot heads out "rogueing" should start. Rogueing is the process of eradicating the grain plants that are off type or those of other varieties; anything, in fact, that is foreign to the plot should be removed. The more carefully that this is done, the purer will be the resulting seed. The plot should be carefully rogued three or four times before harvest, and more especially should the plot be carefully rogued the day that it is cut, as at this time differences that have not shown before may be more readily noticed.

Further operations should all be done by hand, where possible, unless great care is taken to see that all machinery is faultlessly clean. The binder may be used for cutting if all adhering straw and heads have been removed, but preferably cut by hand. The stocks should be covered to prevent the ravages of birds and also to keep the grain from getting weathered. It is absolutely essential that threshing be done by hand. The easiest method is to use a flail; be sure that your barn floor is perfectly clean. If the stooks are carried to the barn in large sheets or tarpaulins purity can be more readily maintained and the threshing made more easy. When dealing with large plots, or in exceptional cases, the threshing machine may be used, but only when one is perfectly certain that stray grains have been removed, and then it is advisable to thresh only when the grain from the plot is of a different class of grain from that which has been threshed in the mill previously; follow wheat by oats or barley, oats by wheat or barley; never thresh wheat after wheat, or oats after oats.

When cleaning the seed be absolutely sure that all foreign grains are removed from the fanning mill. Take out all the sieves and clean out thoroughly all the cracks and crevices that are likely to retain grain of other samples. Be certain the machinery and grain containers are perfectly clean bags in a place free from the clean bags in a place fre from the ravages of mice, etc.

All grain growers are advised to maintain a seed plot. The method outlined above may be used on a larger scale for a regular seed plot. This plot should be large enough so that a considerable quantity of grain, of known purity, nay be produced for subsequent crops. The secrets of success in the care of the plot are thoroughness and care. Good pure seed is essesntial to good farming.—P. Russel Cowan, Cereaist.

WEIGHT OF SETTLED SILAGE

The average weight per cubic foot of settled silage to the various depths in a silo have been figured out by the Iowa experiment station, as follows:

10 ft., 35 lbs.; 11 ft., 35.3 lbs.; 12 ft., 35.6 lbs.; 13 ft., 35.9 lbs.; 14 ft., 36.2 lbs.; 15 ft., 36.4 lbs.; 16 ft., 36.7 lbs.; 17 ft., 36.9 lbs.; 18 ft., 37.1 lbs.; 19 ft., 37.3 lbs.; 20 ft., 37.5 lbs.; 21 ft., 37.6 lbs.; 22 ft., 37.8 lbs.; 23 ft., 380 lbs.; 24 ft., 38.1 lbs.; 25 ft., 38.3 lbs.; 26 ft., 38.4 lbs.; 27 ft., 38.6 lbs.; 28 ft., 38.7 lbs.; 29 ft., 38.9 lbs.; 30 ft., 39.0 lbs.

To find the number of cubic feet of silage in a silo, find the radius, or one-half the diameter of the silo (inside) in feet; multiply that number by itself and then by 3.1416 and you have the cubic feet for one foot of depth. Multiply that by the depth of the silage in feet and you have the total cubic feet.

HORSES IN DEMAND

Men experienced in market conditions state that there never before has been so strong a demand for good draft horses, nor such high prices paid, in the history of the Chicago horse market.

The demand is strong for all kinds, but the preference is much in favor of drafters standing sixteen hands and over, weighing 1,700 pounds or more. Prices range from $275 to $450, depending on the merits of the animal. This condition has prevailed steadily for the past four weeks.

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CUTTING SEED POTATOES

(Continued from page 579)

of Ohio has shown by a comparison of the varieties Bovel and Carman No. 3, a many eyed and a few eyed variety respectively, that with a given size of seed piece, the more eyes present, the more stalks that will develop through the ratio of eye to stalk increase is not proportional.

At the time of making a potato crop survey of production in Steuben County and on Long Island, New York, the questioner occasionally asked why the Rural type is preferred in Steuben County and why the Green Mountain type on Long Island. Curiously enough the Rural was preferred in Steuben County because too many eyes are present on the Green Mountain seed piece, while on Long Island one reason for preference to the Green Mountain was due to the paucity of eyes on the size of piece generally cut in this region.

A few growers even now practice clipping off and discarding seed or apicol end of tubers because of the idea that two many stems will form, causing the development of small unmarketable tubers. Other growers discard the stem end because of shallower and often less vigorous eyes on this portion. There are three potent reasons why these practices are both wasteful and unwarranted:

(1) Appleman of Maryland has shown that lateral and basal eyes, which tend to remain partially or wholly dormant on seed planted whole may be made of approximately equal viability and value by cutting the tuber;

(2) Equality in basal and apicol seed pieces is possible, and the likelihood of too many stems from the seed end avoided by cutting most seed tubers longitudinally, thus dividing the "Bud cluster" and leaving eyes of equal value on all pieces;

(3) In general all experiments have shown that yield is directly proportional to size of seed piece; therefore there is no just cause to discard any portion of the seed tuber.

Whipple, of Montana, thinned stands of potatoes planted to two ounce pieces to one stalk per hill in order to test whether the marketable yield might be increased thereby. Such thinning improved the market shape and uniformity, but the results do not justify any conclusion that either total or marketable yield was increased.

Most experiments testing the influence of number of eyes on yield have, in reality, also been tests of the influence of size of seed piece, because size of piece increased with the increase in number of eyes. Zavitz of Ontario should be again credited with a valid answer to this question, since in his five year test of the influence of number of eyes, he kept size of seed piece constant by using one ounce pieces in all plots. Comparing plots planted to such pieces containing one, two, three, four and five eyes, respectively, he found that as the number of eyes increased the total yield increased while the per cent of marketable yield decreased. The difference in marketable yield was, however, not more than five per cent in any case. These tests show that yield is proportional to number of stalks per hill. Since other tests indicate conclusively that yield is also proportional to size of seed piece, nothing is to be gained by cutting to a certain minimum number of eyes.

Interval Between Cutting and Planting

In general, seed potatoes are cut only a day or two before planting. This is by all means to be advised. On the contrary there are occasional regions and occasional growers who practice cutting several days, perhaps a week or more, before time to plant. An example of this may be found in Suffolk and Nassau Counties, Long Island, where apparently the practice is justified. Here, earliness of planting is important and bears directly on the marketing of the resulting crop at a date sufficiently early to profit by early market prices. These growers cut seed an average of six days before planting. The large quantity to be cut for the large average acreage planted makes it policy to cut in advance in order that the crop be **planted just as** soon as weather and soil conditions are favorable. A study of the practice by 272 growers on the Island in 1913 shows that as the interval between cutting and planting increased, the per cent of growers dusting seed increased. This being true no detrimental influence on yield on account of the interval was noted. In other sections of New York, the average interval is about two days, the increase in interval being accompanied by an increase in the dusting practice. Without dusting it is safe to say that the sooner seed is planted after cutting, the better for the seed and the yield. A few growers have been observed to purposely cut and store seed for drying some time prior to planting with the idea that such seed is thereby improved. Cut seed will as quickly callous and the vitality will be better conserved by planting at once.

Dust Material

There is little to choose between the several materials used for dusting. Among 1,390 growers visited in 1913 and 1914 in New York, land plaster or gypsum, sulphur, hydrated lime, air slaked lime, road dust and ashes were used. By far the greater proportion of these growers used land plaster or sulphur with preference for the former. Sherbakoff at Cornell several years ago showed that there is little benefit in the use of sulphur for scab prevention. Land plaster, because of its adhesive qualities and cheapness, has been and doubtless will continue to be most used.

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Typical Lumber Mills St. John, N.B.,—one of the 255 odd in active operation. This industry gives employment to about 5000 in the Province and represents an aggregate investment of over 21 million dollars.
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NOTES FROM THE N. S. AGRICULTURAL COLLEGE

(Continued from page 578)

every reason to believe that those who market their clip through the Canadian Co-operative will realize an equal gain this year.

The Provincial Department of Agriculture hs appointed Mr. L. A. Black, a student of the Agricultural College, to assist farmers in taking advantage of the machinery provided by the Wool Growers Ltd. There is still some uncertainty as to what the prevailing prices will be this season. The outlook is for continued high figures for medium and fine wools, which constitute by far the major portion of the Nova Scotia clip. For the coarser classes of wool, however, prices are more uncertain.

Sheep farmers all have a vital interest in this matter, but many may not be aware of the steps to be taken in order to get in touch with the Canadian Co-operative Wool Growers, Ltd. These should communicate at once with the Department of Agriculture, Truro.

CAPTAIN GOODE RESIGNS

Captain C. A. Goode, Assistant Provincial Entomologist and lecturer in Entomology at the Agricultural College, has resigned to accept a position with the Soldiers' Settlement Board. Capt. Goode has been on the College Staff for some five years, but during half that time has been overseas on military service. Since his return last fall he has taken full charge of the instruction work of his Department, in the absence of Professor Brittain. Capt. Goode is one of the most popular and efficient members of the College staff, and although he has resigned, it is hoped that his services can be retained as part time lecturer at the College.

THE CULTIVATION OF MUSTARD

(Experimental Farms Note.)

The seeds of two species of Mustard are used commercially, namely White Mustard (Brassica alba) and Black Mustard (Brassica nigra). The common names of both species are somewhat misleading as in both the flowers are yellow, while the seeds are yellow in White Mustard and brown dark purple in Black Mustard.

Both species sgrow rapidly, and the seeds scan be sown from the beginning of May to the end of the first week in June. The crop will, as a rule, be ready for cutting in August.

Experiments with both species were carried out at the Central Experimental Farm during 1916, and also to some extent during 1917 and 1918. The seeds were obtained from the United States, France, Holland, Sweden and Russia.

The plots swere of various sizes and the rates of sowing per acre also varied considerably. The yield of seeds varied and was influenced largely by the dryness or otherwise of the season at the time of flowering. The seed-pods of White Mustard usually remain closed when ripe, but in Black Mustard the pods open as they ripen and allow the seeds to escape, consequently the latter crop has to be cut as soon as the first pods sare ripe.

The particulars of yield per acre for White Mustard are as follows:

Sown at the rate of 7 lbs. per acre, yield of seed at the rate of 326¼ lbs. per acre.

Sown at 11¼ bs. per acre, yield of seed 198¾ lbs. per acre.

Sown at the rate of 14½ lbs. per acre, yield of seed 346½ lbs. per acre.

Sown at the rate of 14 lbs. per acre, yield of seed at the rate of 891 lbs. per acre.

For Black Mustard the yields were as follows:

Sown at the rate of 7 lbs. per acre, yield of seed at the rate of 439¾ lbs. per acre.

Sown at the rate of 11¼ bs. per acre, yield of seed at the rate of 22½ lbss. per acre.

Sown at the rate of 13¾ lbs. per acre, yield of seed at the rate of 30 lbs. per acre.

Samples of both species were sent to one of tre leading firms of Mustard Manufacturers in Canada, which reported as follows:

"The Yellow Mustard seed has a fairly good flavor but not as good as the standard English which we consider the best. The Black Mustard shows good volatie strength and good flavor and to our minds equals the best that is grown."—J. Adams, Assistant Dominion Botanist.

GETTING RID OF TWO BAD WEEDS

That twitch grass can be eliminated by the use of rape is the firm belief of Prof. J. E. Howitt of the O.A.C. Guelph, as a result of a series of experiments extending over a period of some eight years. He reports a series of fourteen trials of which he had eleven complete successes and no failures. His method follows— cultivate the field until about the middle of June, running over it frequently with the cultivator so as to keep the tops down, and thus weaken the roots. Then apply manure at the rate of 20 tons per acre, 12 good loads. Cultivate the manure in thoroughly, and after ridging between the ridges plant rape in rows at the rate of 1½ lbs. per acre. Cultivate the field every week or ten days until the rape covers the ground. If the twitch grass is not all destroyed that fall ridge up the field late in the fall and put in a hoed crop next year.

Prof. Howitt has also obtained excellent results in the destruction of wild mustard by spraying with iron sulphate. His recommendations are to dissovle 80 pounds of iron sulphate in 40 gallon of water and strain the solution through a cheese cloth to remove dirt and small particles that might clog the spray pump. Apply on a clear, calm day just as the first plants in the field begin to flower. If the work is delayed it becomes more difficult, and if a heavy rain comes within 24 hours after the soution is applied, it will be necessary to spray again. An ordinary handpump barrel sprayer may be used or a potato sprayer may be rigged up to do the work. The main point is to make sure that every plant is covered with the solution and at the proper time. Iron sulphate or copperas solutions do not destroy the standing grain.

TREATING SEED OATS TO PREVENT SMUT

As a result of several years' experimental work in treating oats for smut the Illinois Experiment Station recommends the following treatment:—

Mix one pint of formalin (40 per cent. formaldehyde) with 10 gallons of water. Use one pint of this solution per bushel of oats treated. Sprinkle this evenly over the oats and thoroughly but quickly mix until every grain is slightly moistened. Cover at once with a blanket, canvas, or sacks. Allow the oats to remain covered for two hours, after which time uncover. If the oats are not sown at once, thoroughly air to allow the formaldehyde gas to escape.

FARM WEEDS ARE SAVAGE FIGHTERS

A weed is a wild plant and trained to struggle and fight for its existence. A cultivated plant has had much of the fight taken out of it through long years of selecting and training it for useful ends. Nothing can remain a wild fighter and at the same time excel in useful qualities. One quality must give way as the other advances. The original dog and wolf are probably much alike in character. The modern house-dog, dwarfed in size and trained in gentle habits, must be protected from the wolf, or the latter would eat him up. In like manner, corn or wheat or potatoes or root crops can never hold their own against quack grass, ragweed, or redroot. Left to themselves in such a struggle, the useful or "cultivated" plants are always swamped. The cultivated grasses, in a sour, neglected lawn or pasture give way to the weeds and poor grass, but put on lime and nitrogen and phosphorus, and the better grasses come back and occupy the land. This same thing runs all through life, for as plants or animals are improved and made more useful through selection and care, they must have higher culture, better feeding, and more careful protection. They are no longer fighters, but things to be defended and fought for as the price of their improvement.

The high price as well as scarity of clover seed this year makes it necessary to prepare the soil properly and plant the seed in such manner that every good seed will do its full allotted duty in producing a healthy plant. During the last few years hundreds of bushels of clover seed have been planted with no appreciable success in securing a good stand or crop of clover. The clover plant is very sensitive to certain soil conditions. It is more sensitive than any other crop, a fact which a large number of farmers cannot understand. On soils where clover is grown with difficulty it is necessary to give the ground special preparation and treatment.

Mr. Geo. Robertson Poultry Department, Experimental Farm, Ottawa, claims that the greatest value of egg laying contests lies in the fact that they attract public interest to the producing end of the business rather than to form and and feathers as has been customary in the past.. They also create greater confidence in records and should go a long way towards increasing egg production and comemrcial poultry keeping.

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SPRING CARE OF THE FLOCK

With mutton and wool at present prices there is every incentive to prevent sickness and trouble in the flock and to raise every lamb that is born. Presuming that the ewes had proper fall and winter treatment, in other words, that they were dipped, flushed, had the services of a good purebred ram, had adequate hay, roots and a little grain with salt and water through the winter months, there should be a good crop of lambs in prospect, with the ewes in condition to undergo the ordeal of lambing successfully and raise a goodly lot of twins.

As the ewes approach lambing, they should have an increase of wheat bran with some oil cake in their ration and a decided lessening of roots, free access to salt, and water fresh daily.

Pens four feet by six should be provided by having suitable hurdles on hand to put up as they are wanted. When a ewe shows signs of parturition she should be put in a pen and fed rather sparingly. If the loose tags of wool about the udder have not already been clipped, see to their removal and thus avoid wool balls in the lambs' stomachs. When lambing begins, put on a night watch for not a single lamb should be allowed to perish from neglect. If the weather is cold, the lamb may need to be kept warm until it dries aff and gets a good feed of milk. It should get milk as soon after birth as possible. Keep the ewe in the small pen until the lambs are strong enough to follow their dam with out undue effort.

A warm drink as soon as the ewe will take it after lambing is beneficial and as she regains normal condition she should have, according to her capacity, from one to three pounds of grain daily. A good mixture is oats five parts, wheat bran one part and ground oil cake one part. Some good shepherds vary this ration by boiing peas and mixing the hot, soft boiled peas with wheat bran in equal parts by bulk.

Ground peas may also replace part of the oats in the dry grain ration. See that the grain ration is all cleaned up; if any is left remove it and feed more sparingly next time.

As the lambs grow, give them an enclosure where the ewes cannot enter and give them there a mixtuhe of crushed oats and wheat bran with a little oil cake added.

Until pasture is available, green feed in the form of roots or ensilage is desirable for both ewes and lambs. Salt should be accessible at all times and an abundance of water. Sheep will consume snow and seem to do fairly well, but it is not considered the best way of supplying water.

Shoud any ticks be found on the ewes before or after lambing, before shearing time, they can be destroyed fairly effectively by putting a pinch of Scotch snuff in close to the skin on four places along side each of the sheep and repeat in a week.—W. W. Hubbard, Supt. Experimental Station, Fredericton, N. B.

REAL VALUE OF BARNYARD MANURE

It is common to calculate the worth of manure in terms of the three chief fertility elements which it carries, namely, nitrogen, potassium and phosphorus. These are the plant food elements in soil which "wear out," so to speak, with greatest rapidity, and which need constant replacement if satisfactory cropping is to continue. Consequently, a ton of manure is said to be worth three, four, five or more dollars depending upon the current price of similar amounts of plant food purchased in the form of commercial fertilizers.

All of this is a true enough means of measurement, but it is none the less somewhat misleading. Five dollars worth of commercial fertilizer will by no means give the same results in soil enrichment as five dollars worth of barnyard manure, the value of which is calculated as indicated. In the first place manure carries organic matter. This produces a mellowness in the soil which is wonderfully effective in cropping. By this mellowing process a physical condition of the soil is reached whicr permits a better circulation of air and enables the soil bacteria to carry on their work with greater activity. It should not be forgotten that manure carries countless billions of bacteria through whose assistance fertility clements are wrought into forms in which plants can feed upon them.

The organic matter which manure carries makes possible also a gradual increase in the humus content of soil. The presence of humus not only renders a soil more retentive of heat, but it increases the power of soil to retain moisture—not excess moisture or drainage water, but the film water by which each soil particle normally is surrounded. All things considered it is quite possible to state the worth of manure somewhat as follows: Five dollars worth of barnyard manure, valued in terms of commercial nitrogen, potassium and phosphorus, is worth five dollars worth of commercial fertilizer plus a beneficial mellowing effect upon the soil, plus a better circulation of air, plus a warmer seedbed in spring and more soil moisture in times of drought, plus the inoculating effect of countless billions of soil bacteria. There may be other advantages which have not been enumerated but these are enough to prove our point. Fertilizers of the commercial type have their place, their use and their value, but manure has a great deal that these can never have. Conservation of stable wastes is therefore a matter of prime importance, for it is never possible to purchase by the bag the real soil enrichment which is possessed by manure.

SALT IN LIVE STOCK RATIONS

Common salt (sodium chloride) play an important part in the diet of most classes of farm animals. This will be better appreciated if we stop to consider that, of the minerals in the fluids of the body, salt is present in the largest amount. Salt does not contribute directly to the energy of the body as does the food consumed, but nevertheless it is necessary in the proper nutrition of the body. Besides its physiological action salt serves as an appetizer and increases the palatability of many foods. It also stimulates the secretion of digestive juices, promotes god circulation of the fluids of the body and prevents digestive disturbances.

Of the common classes of farm animals, namely horses, cattle, sheep and swine, the later have the least need of salt. This is in all probability due to the difference in diet, that of swine usually consisting largely of grain whereas other classes consume large quantities of roughage in which less salt is found. Too large quantities of salt derange the stomach and bowels of swine causing gases, diarrhoea, convulsions and paralysis, often resulting in death. Nevertheless pigs should have access to salt, the best means of priviling it being to keep before them at all times, in a covered receptacle if outdoors, a mixture of salt, charcoal, airslaked lime, bone-meal and wood ashes or soft coal cinders.

For sheep salt is very necessary. Keeping it before them at all times is here again the most advisable course for an irregular supply induces scouring. The salte tends to keep the sheep in a good state of health and they are better able to ward off attacks of disease or internal parasites. Furthermore sheep fed plenty of salt shear a better quality and heavier fleece than do those receiving no salt.

In the case of cows owing to their much larger size and the fact that they are giving daily large amounts of milk which contains considerable salt, a heavier ration of salt is needed. For cows being fed in the stable up to 2.5 ounces per day is recommended. While cows giving a heavy flow of milk require an abundance of salt, at the same time the dry, pregnant cows should not be overlooked as their requirements are even greater. Cattle on pasture usualy require less salt than those indoors and the amount necessary varies with the nature of the soil and vegetation. On this account it is advisable to have a supply before them at all times. Either rock salt or ground salt may be used but in either case it should be placed in a receptacle in which it will be sheltered from the rain or much of it will be lost. Young growing animals usually require a larger percentage of salt than do mature animals.

Horses are no exception in the matter of salt requirement. Here again it should be regularly supplied. A cake of rock salt in the corner of the manger where the horse can get it at will is the best means of provision. Horses at heavy work require more than those that are idle or at light work. An allowance of 2 ounces per day is generally recommended.—Geo. W. Muir, Asst. Dominion Animal Husbandman.

WHITE SCOURS IN YOUNG CALVES

Contagious scours with new-born calves is one of the most difficult contagions to handle on the dairy farm. If not given immediate attention upon its appearance, the disease is very certain to result in the death of the calves it attacks and also is very apt to appear in all the calves born in the stable.

So thoroughly does the organism seem to spread that ordinarily it is almost impossible to save calves which are dropped in a barn where the disease is prevalent. Very often the removal of a cow to a special building which has been unused and therefore is not infected, just previous to her freshening, will permit the survival of her calf.

On most dairy farms it is not practical to take freshening cows into quarters where cattle have not been maintained. It is possible, however, to thoroughly disinfect the whole stable and to repeat the disinfection enough times to be certain the stable has been freed of the organisms causing contagious scours. Even in stables which are apparently clean, the malady may persist, but this is unusual.

A very important measure is the immediate disinfection of the calf's navel as soon as it is dropped. It is wise to give the calving stall a thorough cleaning previous to the birth of a calf. In the stall should be an abundance of dry, clean bedding, which should be sprinkled with a carbolic acid solution. In disinfecting the navel, the cord should be tied with a string which has been taken from a strong solution of carbolic acid. The stump of the cord and the adjacent skin should be washed with a solution

of: Iodine, one-half gram; iodine of potassium, one-half gram; and water, one quart. As soon as the cord is dry it should be covered with collodion or tar containing one per cent. of iodine.

As quickly as a calf shows signs of this disease, it should be immediately taken to another building and the stall in which it has been kept should be thoroughly cleaned and disinfected.

In most cases, this system of treatment will give results if it is followed faithfully. The safest and surest practice is to accompany this with the hypodermic administration of polyvalent calf dysenteric serum or white scours bacterin immediately following the calf's birth. If the injection is not available when a calf is dropped and cannot be had until the first symptoms of the disease appear, a double dosage will sometimes have a curative effect.

PRUNING OLD APPLE TREES

Many people, especially beginners, when about to prune a tree, experience considerable difficulty in deciding where to begin and just what to do. This might be overcome to a great extent if one understands the real object of pruning, the main principle and the good and bad results of diffrent methods. Primarily we prune to get rid of excess wood; that is, wood which would never bear fruit, and which would prevent fruit-bearing branches from reciving their proper amount of sunlight. The first thing to do is to remove lower branches, heading only high enough to work under comfortably with a team or tractor in the early part of the summer. About the time fruit develops enough to weight down the branches work will have been discontinued in most orchards. The ease and cheapness of picking fruit from such branches makes them too desirable to be dispensed wth.

Next, cut out suckers or water sprouts and all dead wood, and then one is ready to begin the actual shaping of the tree. Remove enough branches from the centre to allow the sunlight to reach all parts. A few minutes careful survey of each tree before further pruning will determine the main structural limbs of each tree. With these main structural limbs always in mind we now cut out everything that interferes with their proper development. A successful pruner never hesitates to take out good, healthy, fruit-bearing branches when they seriously interfere with these limbs. Many make the great mistake of postponing their removal a year, and others make the still greater mistake of never removing them, knowing it means the temporary reduction of fruit. Among the first of these to remove are the limbs that grow backward in to the tree, as these are soon overshadowed by the main limbs, which stop their growth and make them unproductive. Besides they are likely to cross and rub other limbs.

When limbs and branches cross and rub, one of these should always be removed, unless they cross so near their bases that there is no friction. I consider this important, as branches soon become so scarred from the rubbing that not enough nourishment reaches the fruit to propery develop it. After these essential operations have been attended to one should devote some time to the less important but necessasry work that finishes the pruning of a tree. Limbs that are too long are liable to break with a load of fruit and should be shortened. This also helps make the tree symetrical. Most trees, unless properly pruned every year, develop too many branches along their main limbs. These should be trimmed enough so that the remaining ones have ample room for future development. Do not make the mistake, however, of stripping these main limbs of all the little fruit spurs just to make the tree look neater.

If there is a wide gap left by a broken limb, numerous suckers almost always shoot out in an endeavor to replace the missing wood. Rather than remove all of these, two or three of the sturdiest should be left. It is important to shorten these if they lengthen out too much, in order to strengthen the limb and encourage fruit spure. The upright limbs in the top of a tree should also be shortened to keep the tree from growing taller. Fast-growing trees often shoot up numerous suckers in the top, and these should be trimmed in the same manner. If this practice is closely followed year after year dishorning will be unnecessary.

While pruning a tree all cankerous growth should be cut away. If any orchard has not ben properly sprayed, cocoons and collections of caterpillar eggs will be found, and this is an excellent time to remove them.

The importance of burning all brush cannot be overestimated. A pile of brush in the neighborhood of an orchard is a source of contagion that even constant spraying will find it hard to overcome. In pruning always be sure to cut close and leave no stubs. Many a fine tree has been utterly ruined by the presence of such stubs, as they will not heal over before moisture enters and rots them and eventually the whole trunk of the tree. When trees have been long neglected and are greatly overgrown, caution should be used not to prune too much in one year. Excessive pruning will almost always result in too much wood growth, which will surely reduce the yield of fruit, and in some cases stop it for several years. Besides, the remaining limbs will sometimes be so weak and unsupported that an ordinary crop of apples will often put them far enough out of shape to prevent them regaining their old positions, and thus they never grow properly.

On the other hand, if pruning is extended over three or four years and only a little wood taken out each year, these misfakes will be avoided. Instead of the main limbs being weak and unsupported, they will make a continuous, slow growth that makes for sturdiness and strength.—E. D.

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It is really unbelievable the amount of feed that can be consumed by a bird family. The digestive organs of birds are so constructed that they can contain and dispose of large quantities of feed, and while the parent birds seem always to be hungry, the young birds are even more greedy for feed. In an experiment to see how much a young robin would eat, it was found that this one robin devoured from 50 to 75 cutworms and earthworms in a day, and it did this for 15 days in succession. One day it ate 165 cutworms. This shows how much good work is done when the parent robins seek food for their little ones.

At the recent annual meeting of State of Maine Orchardists, many expressions were heard re the effectiveness of dusting the orchards. Dusting seems to be meeting with approval by those who have tried it. Orchardists are keen for more knowledge on this subject. Geo. E. Sanders is our best authority along this line; if interested, get in touch with him. His aldress is Annapolis Royal, N. S.

What Fertilizers are Best for the Patato Crop?

By S. B. Haskell

Three only of the thirteen different plant-foods necessary to the growth of the potato are ordinarily lacking in the soil. They are ammonia, the stem and stock producer; phosphoric acid, which in available form induces a good root growth in early spring and later hastens maturity; and potash, which influences the starch content and produces big yields.

When ammonia is present in sufficient quantity, we always get a good, vigorous growth of tops. A deficient supply is indicated by weak top growth and a rather sickly, yellowish color of the leaves, instead of the full, healthy green color indicative of vigor.

The ammonia needed by the potato crop may be furnished in several ways. The soil itself furnishes some for a time but, in general, the older the soil the less the supply of this plantfood. Clover sod turned under, or a leguminous green manure turned under, furnishes some, but just how much is difficult to say. Much depends on conditions. Manure if applied may furnish sufficient ammonia for the growth of the crop. Typically, however, the use of ammonia in potato fertilizer is necessary to most profitable production, almost regardless of the farm practices under which this crop is grown. We must always remember that the root system of the potato is relatively weak. It cannot rustle for unavailable plantfood as can rye and buckwheat or similar crops. Its energies must go towards laying up starch in the tuber, instead of towards foraging for plantfood.

Phosphoric acid is especially valuable in hastening the maturity of the potato crop, and in giving it a quick start. In cold sections the early maturity is an essential factor. The soil is patricularly deficient in phosphoric acid. Often it is the lack of this element alone which limits the size of the crops. Manure applied to the soil will not remedy its deficiency of phosphoric acid, for it is itself lacking in this element. This accounts for the high proportion of phosphoric acid recommended in potato fertilizers.

The potash needed may be supplied either by the soil, by manure, or by fertilizer. There are still some soils, particularly in the far west, that are so rich in natural potash that the addition even to the potato crop does not pay. Here again, however, practice the country over indicates that at least some potash should be included in practically all fertilizers for potatoes.

Almost universally the potato crop responds to the use of fertilizer potash. Some say that this is because the potato is a great starch producer, and must have potash in building up this most important of human and animal nutrients. Others say that it is because potato roots are poor foragers and cannot take up the cruder forms of potash present in all soils. After all, the precise reason makes little difference. The main thing, from the practical standpoint, is that on nearly all soils, potash increases the potato crop sufficiently to more than pay its cost.

Fertilizers on the market always have a guarantee attached showing the percentages of each plantfood. In the North these statements always come in the same order, the first figure referring to the percentage of ammonia, the second to that of available phosphoric acid, and the third to water soluble potash. Hence a "4-8-4" is one carrying 4 per cent of ammonia, 8 per cent of available phosphoric acid, and 4 per cent of potash.

Fertilizer analyses need not vary as much as the grower might suppose, to take care of different soil conditions. On the contrary, a few analyses seem to answer best the requirements of the crop in the different soils and varying climatic conditions.

Aroostook County, Maine, with its fertilizer tonnage of about 100,000 annually, uses normally not more than three or four different grades of fertilizer. "4-8-6", that is, a fertilizer with 4 per cent of ammonia, 8 per cent of available phosphoric acid, and 6 per cent of potash, was popular before the war and is now back in favor, despite the cost and scarcity of potash. "4-8-4" is used by some farmers, apparently with results at least equal to those obtained on the higher potash goods. We have reason to believe that the old "5-8-7" will come back strong in days to come, for with a short growing season, Maine potatoes must be fertilized as much as are the early potatoes of the eastern shore of Virginia.

The problem in one case is to get the potato onto an early market, and in the other, to ripen the potatoes before an early frost. There are some farmers who demand a fertilizer with but 3 per cent of ammonia. We do not anticipate any great demand for goods of this grade, but the "3-8-6" and "3-8-4" are both useful in supplementing manure applied to potatoes.

It is of interest to note that fertilizers for potatoes are more or less similar under conditions apparently far different. The Long Island potato growers use precisely the same analysis as do their Maine brothers. In New Jersey the most popular grades have been the "4-8-4" and "4-8-6." South, in Virginia, we find the "7-6-5," but here earliness is such a prime essential that a farmer is not going to run the risk of a shortage of nitrogen.

Naturally, as we go West, there is less uniformity. Opportunity for experience has been too limited to give a sound basis for standardization. The soils are still rich in nitrogen compared with eastern soils. Yet even here there is evidence of a drift toward fewer formulas, and it is gratifying to note that the sale of misnamed potato fertilizers, such as our old friend, the "1-8-1," a fertilizer that was never meant to grow potatoes, is becoming less.

It is difficult to predict as to the future fertilizer use in these newer potato regions. The Soil Improvement Committee, in its campaign for fewer grades of better fertilizer, recommends a series of fertilizer containing 3 per cent of ammonia, 10 or 12 per cent of available phosphoric acid, and the potash varying with the soil. A "3-10-4" is suggested for potatoes grown on sandy land, particularly where it is known that the soil is deficient in available potash. On loamy soils, or where manure is applied directly to the potato crop or to the preceding crop, a "3-10-2" is suggested, the thought being that under these conditions the soil and manure, one or both, will furnish part of the needed potash. Finally, for those few cases where potatoes are grown on heavier soils, as on clays or clay loams, or where large quantities of manure are used, a "3-12-0" is suggested. Probably the greatest value of this last analysis is for use in connection with manure. Even here, however, there are indications that at normal prices fertilizer potash on potatoes will pay and pay handsomely.

It must always be remembered that these suggestions are based on growing potatoes as they should be grown —in a good rotation containing clover. Even a heavy application of any one of the foregoing analyses fails to furnish sufficient ammonia to grow what we call a heavy acre yield, part of this needed ammonia must be obtained either from barnyard manure or a good, heavy clover sod turned under. For a time, naturally, any new soil will furnish sufficient of this plantfood to the crop—but in all the great potato counties of the country, excepting only those in irrigated regions of the west, this time is past. Clover nitrogen and manure nitrogen must now be supplemented with fertilizer nitrogen.

After all, since potatoes are always potatoes and respond very similarly to treatment, the world over, the problem of what to use is comparatively simple. More difficult is the question of how much to use, for here must be taken into consideration the question of price of crops and cost of fertilizer. This will be considered in a succeeding article of this series.

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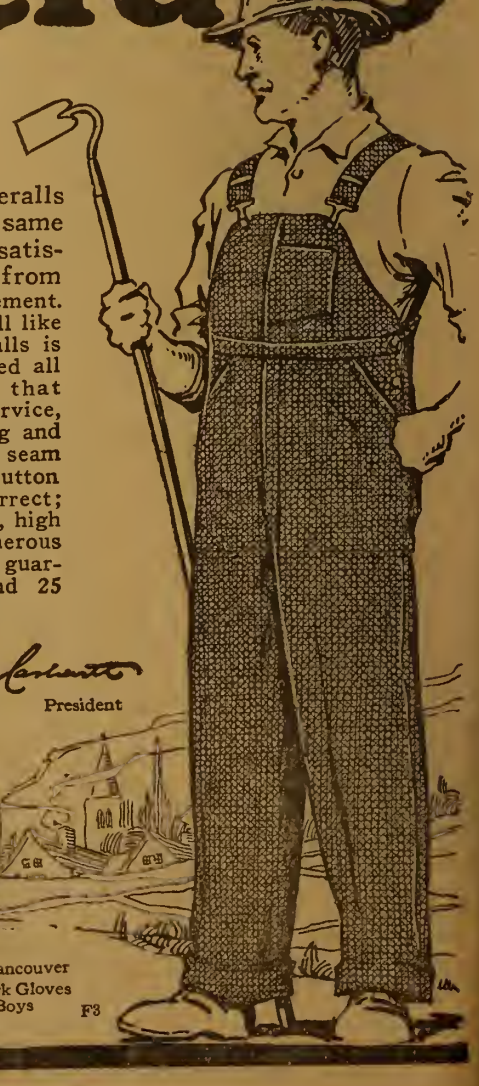

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Uncalled For Snubs Refuted

We read with a great deal of interest, in the April 21st issue of The United Farmers' Guide, Mr. W. B. Fawcett's eulogy of our good friend, Mr. S. B. Chute, farmer, pHilosopher, and financier, as Mr. Fawcett terms him.

Mr. Chutes' many friends in Nova Scotia will be pleased to know that he is still going strong in climbing the ladder of success in Florida, a feature so well demonstrated by him in Nova Scotia. We believe, however, that Mr. Fawcett was somewhat carried away with Mr. Chutes' hospitality when he says:—"He has already accomplished more for the practical, profitable development of Nova Scotian agriculture than the whole system of Experimental Farms and Institute farm lecturers inaugurated about (thirty years ago) by Professor Robertson, and maintained ever since at the public expense."

The Maritime Farmer does not believe Mr. Chute attributes this wholesale credit to himself, despite the fact that he has been a power for good in the promotion of the fruit growing industry in Nova Scotia.

The fruit growing industry is not the only industry in that province that is linked up to the farm. We wish to say in defence of the Experimental Farms and the good work done throughout Canada by Dr. Robertson, that there are hundreds of farmers who are not interested in fruit growing, who have never heard of the foremost lights in apple-growing throughout the Annapolis Valley, who have been benefited by the lessons gleaned from investigators at the Experimental Station. despite Mr. Fawcett's contention to the contrary.

Mr. Chute and many others of his fellow workers in apple growing have learned a great deal from the reports issued by men who spend years in investigating various phases of the fruit growing business at some of these experiment stations. Mr. Chute was always on the outlook for new ideas, and when such came his way, no matter from what source, if they looked sane and sound and appeared an improvement on his customary methods, they were tried and adopted or discarded according to their merits. In this way Mr. Chute made steady progress and achieved fame, while many who were not open to ideas from investigators remained stock still or retrogressed.

Mr. Fawcett gives Mr. Chute a boost for the position of the head of the Department of Agriculture for Nova Scotia when he says: "Just imagine the commercial revolution that would sweep Nova Scotia should ber farmers take charge of affairs and place S. B. Chute at the head of Agriculture, instead of the two pence ha'-penny policy of raising "one more pig" on five dollar feed or growing potatoes with cracked limestone rock that is not woth the freight. His first move would to import genuine high grade fertilizers in ship loads from the cheapest markets available, with the credit of the province behind him; he would supply every farmer all he would venture to buy at cost and expense, with ten months' credit to repay them."

We have no doubt Mr. Chute would make an excellent administrator of the agricultural affairs of any province, because he goes into his various undertakings with a clear brain and willing hands, and the inevitable result follows. We do not believe, however, that Mr. Chute is after the position, he has too many interests at stake to devote any time to a position the incumbent of which is not too well paid.

The present incumbent, Dr. Cumming, in common with hundreds of other wide awake farmers and investigators, recognize that live stock growing is the back bone of successful farming in the Maritime Provinces. The "One pig more" slogan was absolutely necessary to accomplish the results for which it was adopted. The one grew to mighty numbers, and the boys over there did not lack for food. The boys who have been under Dr. Cumming's tutorship at the College, and their fathers who have kept in close touch with them in their every day operations on the farm, best know what Dr. Cumming and those associated with him have done and are doing for Nova Scotia, in the upbuilding of her great agricultural industry. It ill behooves an outsider, who is not conversant with the work these men are doing, to throw out any sneers along this line. It is not well received by the Maritime Farmer nor its thousands of readers in Nova Scotia, as well as those of our readers in other provinces, who have every respect for Dr. Cumming and his work, both as Secretary for Agriculture and as head of the N. S. A. C.

Mr. Fawcett evidently has not been keeping in close touch with investigational work re the use of ground limestone, when he says "it is not worth the freight." Dr. Cumming has never advocated ground limestone for potato growing, but ground limestone is proving a mighty factor in the Maritime Provinces for the production of clover, the sod of which is held in such high favor by our potato growers as a suitable bed for the growth of potatoes. There are hundreds of farmers in the Maritime Provinces who have tried ground limestone and achieved results they were never able to achieve by the use of expensive fertilizers.

To our mind, drainage and the use of ground lime to sweeten the soil, are two big foundation stones in our agricultural policy that are well taken, and that must be attenedd to before spending time and expense on expensive fertilizers. The fertilizer policy outlined by Mr. Fawcett may be a good one, but we have our doubts. When drainage and liming are properly attend to it will not take so much expensive fertilizers to produce the crops. The two foundation stones in question are being ably advocated by Dr. Cumming and his staff, and we believe he and they are on the right track.

KEEP HENS FROM COLD

For maximum egg production during the winter months, the hens must be confined to quarters. The poultry-not be allowed outside range but must keepers who get the best egg production during the winter months shut their hens in their houses as soon as the weather gets bad in the fall, and keep them in until spring comes. If the birds are allowed to run at large during the winter months they will spend most of the time standing around behind buildings and windbreaks, trying to keep warm, when they had much better be in the poultry house scratching for feed. Turning the birds out even on pleasant days during the winter months will cause slumps in the egg production. This is probably due to the fact that when the birds get outside, the ground is cold and wet, and this produces enough shock to affect the production of the birds. If the hens are to be kept inside for several months, the poultryhouse must not be overcrowded. Each hen should have at least two and a half or three square feet of floor space.

Some attention is necessary with birds that are confined, to insure plenty of exercise. One method of providing exerise is by feeding all grain in a straw litter, covering the entire floor to a depth of not less than 12 inches. Another good means of keeping the birds busy is to hang cabbage, turnips, beets or other green stuff just above the bird's heads in the house, so that they are kept busy jumping to get this material.

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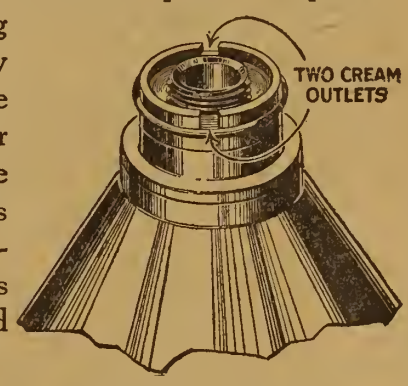

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WHITE DIARRHOEA DISEASE SCOURGE OF CHICK REARING

By Dr. L. Van-Es, of the Department of Animal Pathology, University of Nebraska.

Under the name of white diarrhoea poultry raisers include more than one disease in which abnormal bowel conditions are a more or less constant symptom. There are many of those conditions about which but little is known, but quite fortunately the one which is the source of the greatest losses is now fairly well understood. The disease is now commonly called bacillary white diarrhoea, because its specific cause is known to be a bacillus (Bacillus pullorum). This name distinguishes the disease from the others which are as yet not so well known.

In its most conspicuous form, the disease is particularly fatal to chicks recently hatched. In fact, most of the losses occur during the first two days after the chicks leave the egg. After they are four or five days old their susceptibility becomes reduced to a minimum.

Symptoms of Disease

The symptoms of the disease vary more or less and this variance sometimes give rise to some confusion. On the whole, however, the following symptoms are fairly constant, even if they may not be all present in the same outbreak.

In many cases the young chicks die within a day or so after hatching. In those nothing very conspicuous may be observed. The chicks are weak, dull, lack the normal vitality, and simply die, apparently as a result of this condition. This is quite important as not uncommonly poultry raisers otherwise well acquainted with the disease under consideration, are inclined to believe that some other cause is responsible for their losses.

When the chicks do not die during the first days of the disease, the abdomen becomes enlarged and produces backward, giving them the appearance of being "short-backed" as poultrymen call it. In such a condition the chick may live for several days. The virulence of the infection probably has much to do with the duration of the disease. Not many survive, and most of the infected birds succumb before they are three or four weeks old. The few which recover are apt to remain stunted, scrawny, with imperfect feathering, although a small number may regain a certain degree of vigor.

Internal Symptoms

When we carefully open and examine a chick recently lead of the disease, we uscally find the crop either empty or filled with a viscid fluid.

The same is found in the gizzard which, along with the intestines, is marked by an unusually pale color. The latter are commonly empty, although occasionally there is a dark grayish or brownish content. In the blind guts we may meet with a cheesy matter somewhat firm in consistency.

The liver is commonly pale or of dull ochre color, marked with streaks or patches of red. The organ is soft and friable and in the more chronic cases we often meet with a distended gall bladder.

The other organs ordinarily have a normal appearance with the exception of the almost constant pale color.

There is nearly always present in the abdominal cavity an unabsorbed yolk. Several authors regard this as a phenomenon of diagnostic importance. It ranges in size from that of a pea to a normal sized yolk. The color varies from yellow to brownish green or almost black. It may be gelatinous, watery or cheesy in character.

Such then is the disease which is capable of destroying great numbers of young chicks almost as fast as they can be hatched by incubator or by natural methods. We must now inquire into its natural history. On this point careful research has thrown considerable light.

They should understand that the diarrhoea is merely one result of the invasion of the chick's body of the germ. In many instances, the latter is capable of causing death before the typical diarrhoea has had time to develop. In the majority of the cases, however, the latter is a rather marked feature.

Then there is noted a whitish, creamy, sticky bowel discharge, occasionally streaked with brown. It may be quite profuse, but often the evacuated material is but slight. It has a tendency to stick to the down of the vent, which may thus become effectually sealed. Often it seems that the evacuations are painful because the chicks will as it were utter a cry of pain when the excreta are being voided. In other cases the chicks peep and chirp almost constantly. The little birds have little or no appetite; they apear sleepy, dull and inclined to remain quietly under the hover. Their feathers are ruffled, their wings begin to droop and they keep their eyes closed as if life has no further interest for them.

Usually they die in this condition, but a few manage to survive a while longer. Such become very poor and so extremely weak that often they are found lying about in a perfectly helpless condition.

Source of Infection

It was found that the young chicks became infected when during the incubation period they are still contained in the egg. It was further discovered that the egg became infected before it is laid and that the hen which laid it is the real source of infection.

This important feature may come about in two ways. In the first place the hen, when a chick, may have survived the disease and have remained an infection carrier. It was shown that birds surviving the disease contain the germ during the rest of their lives. On the other hand, perfectly normal birds are capable of taking in the germs along with food and drink which was contaminated with them through the dropping of sick chicks.

Scarcely of less consequence is the fact that the organism once introduced into the older fowls will localize itself in the sexual glands, the testicles and the ovaries. The latter are especially important in this connection because, while they are diseased, they continue to form eggs, to be sure in a reduced number, but nevertheless eggs of normal appearance otherwise. Such eggs are mainly responsible for the outbreaks of the disease. All the eggs in a hatching may not contain the germs, but the chicks hatched from a few will be capable of infecting the others within a short space of time. The ovaries of the infected hen always contain the germs of the disease, and the eggs derived from them do so with a high degree of constancy.

The infected ovary may be recognized as such upon careful examination. It is composed of both normal and abnormal ova (eggs). The normal ones are like the ones we meet in healthy chickens. As a rule those vary considerably in size. In the abnormal ones this variation in size is not so marked and in one ovary we may find many which are nearly alike in volume. The larger ones distinguish themselves from the normal ones by being less rounded. They have a tendency to be irregular in outline and angular in shape. Their surfaces are more or less mottled. In place of the uniform yolk yellow of the normal ova, they range in color from a light yellow to a dark greenish brown. They are more firm than the healthy ones and consist largely of a solid cheesy material and a clear yellowish fluid. The germs of the disease are always present in such ovaries.

Preventive Measures Important

In dealing with this disease we must especially depend upon preventive measures. Those may be divided in general and specific ones. To the former belong sanitary measures, such as cleanliness and disinfection of incubators and brooders, proper feeding, the selection of vigorous breeding stock, and protection against cold. The more specific preventive measures are directed against the introduction of the disease and its suppression after this should have taken place.

As a rule the disease is introduced by the use of infected eggs for hatching purposes. It is, therefore, extremely important that only eggs be selected from such flocks or poultry yards where there has been no trouble with white diarrhoea. It is important that when chickens are killed for food, the ovaries be examined for the diseased condition described above. When diseased ovaries are found, it would be better not to use the eggs coming from the flock for hatching purposes. It may even be advisable in certain cases to kill off the entire flock and make a fresh start with uncontaminated fowls after a month or two. Fowls having diseased ovaries are fit for table purposes.

It is possible to detect the infection carrying fowls by the bacteriologic examination of their eggs or by certain blood tests, but it is doubtful that, in view of the cost of these procedures, those methods are very practicable at this time.

Cannot Rely on Medicine

When the disease once has been introduced on a cetrain farm, it may be advisable to suspend further hatching for a time, although with good care this may not be imperative. At any rate all utensils used in the business must be carefully disinfected after the removal of the chicks, and eggs of an unquestionable source must be procured for the next venture.

The brooders in which an infected lot of chicks are kept must be cleaned and disinfected daily. The floor should be sprinkled with such a substance as alfalfa meal, which facilitates the cleansing process. The chicks should be divided in as many lots as are convenient or practicable. As soon as any chick shows evidence of sickness it should be removed, before its droppings can increase the infection danger.

There are no medicines upon which reliance can be placed, but it seems that the use of sour milk as a food exercises a favorable influence upon the mortality rate. Of course, a sick chicken hatched out of an infected egg cannot be saved by sour milk, but it is possible that the latter substance may prevent harm being done by germs picked up with the feed. It is probable that the only way in which sour milk has reduced the mortality in some outbreaks is merely by being an excellent, wholesome and nutritious food; but however this be, its use is recommended to those who are confronted with this disease.

Food and water must be absolutely free from any contamination. They should be given regularly and in such

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a manner that the droppings of any sick chick cannot gain access to them. When fresh clean water is used and ocered in clean containers, it is not necessary to add any antiseptics, while, furthermore, the latter are not particularly safe for such delicate creatures as decently hatched chicks.

CLEANLINESS IN POULTRY HOUSE

It requires constant effort to keep the hen house clean and sanitary at all times, but the extra work that it will take will well pay one for his trouble. It is not sufficient to keep the house clean in the summer, but in the winter when the fowls are confined to the piultry house most of the time, it is more difficult.

Then, the litter will soon become damp and packed and will have to be changed frequently as the birds scratch the best in loose litter. Also, there will be more droppings and they will freeze and be harder to remove. The birds being in close quarters and not having the exercise that they are accustomed to will be more apt to become diseased and lead to insanitary conditions.

The house should be constructed with a view of keeping it clean easy. If dropping boards are used it takes but a little time to remove the manure which is quite difficult if allowed to drop on the ground. Cement floors are easy to keep clean although not liked by some persons. All poultry appliances should be made removable so that they can be taken outside, cleaned and disinfected in short time.

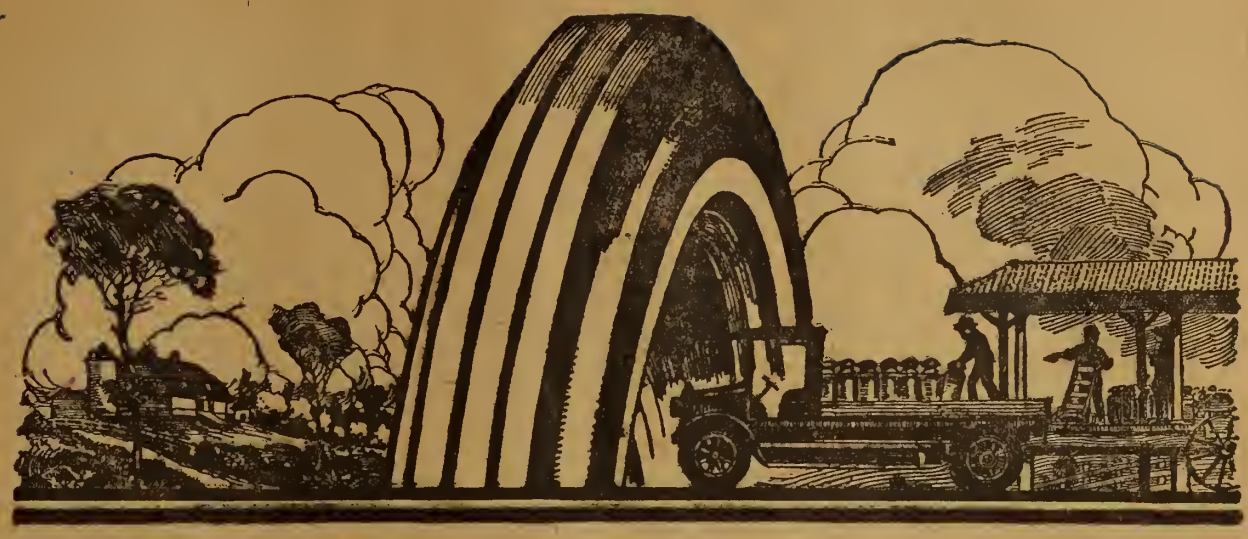
A poultry house that is not watched soon becomes a harbor for lice. It should be cleaned and disinfected at frequent intervals. Sanitation is necessary to success with poultry.

O. L. I.

PROF. W. H. J. TISDALE JOINS STAFF OF WOOL GROWERS

Prof. W. H. J. Tisdale, Animal Husbandry Department of the University of Saskatchewan, Saskatoon, has resigned his position at the University to acecpt a position with the Canadian Wool Growers, Ltd. Prof. Tisdale, while he will be located at the Head Office of the Wool Growers, will have all Canada as his scope in sheep and wool work, and he is well recognized as an authority on Sheep Husbandry.

Prof. Tisdale was born in April, 1891, and raised on a farm near Paris, Ontario. He received his early education in the Public and High Schools of that district and entered the Ontario Agricultural College in 1909, graduating from there in the spring of 1913 with the B.S.A. degree. Dur his four years at College, he took an active interest in organization and executive work, being president of his class, president of the Athletic Association and class representative on the Literary Executive. In his final year he was a member of the Live Stock Judging Team to represent the college at the Chicago International. By the vote of his classmates and with the approval of the faculty, he was awarded the '05 Scholarship at graduation. Upon gradution, he took a position with the Ontario Department of Agriculture as District Represntative for Peel County. In 1914 he went west to join the staff of Saskatchewan University as Assistant Professor of Animal Husbandry, attaining a full professorship in that Institution in 1919. During the six years spent in this later position he has given spocal time and attention to the sheep industry of Western Canada.



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Lawndale Stock Farm

Jerseys and Shorthorns (Pure Bred)

We are at present, owing to increased demand and sales, about sold out, with the exception of one young Durham bull, dropped in July, 1919—but watch our new offerings during the summer of 1920.

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

Elmwood Stock Farm

We have a few young bulls to offer, sired by Dutchland Colantha Sir Rag Apple, a son of Colantha Johanna Lad. His dam is a granddaughter of Pontiac Korndyke. Thus combining the blood of two of the greatest bulls the world has ever seen.

The dams are daughters of Dutchland Pieterje Count. These calves are a nice straight growthy lot.

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High grade registered stock Of for sale

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HOLSTEIN BULL CALVES FOR SALE

I am offering for sale 5 bull calves from a week to 18 months old. While the dams of these calves are not tested, the dam's dam and the sire's dam of each calf has a record, some as high as 32 lbs in 7 days. The sire of these calves has 14,000 lb. 2 year old daughter. They will be sold at a bargain prices if taken within a month.

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Five head of young Holstein cattle.
Three Heifer Calves and two Bulls.
Prices right if taken at once. Write

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FOR SALE—Registered Shorthorn bull (General Joffre 109611), colour roan, 4 years old July, 1920. Weighs 1850 lbs. Is quiet and a sure stock getter. CARL SMITH, Newport, Hants Co., N. S.

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Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T. D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

"Carleton County Holstein Breeders' Club, R. W. Maxwell, Woodstock, Secretary."
F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B

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C. A. Archibald, Truro N. S.
John H. Hughes, Petitcodiac, N. B.
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Isaac Chipman & Son. Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
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J. James Ross, Pictou, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

MORE LIVE STOCK NECESSARY

On the basis of live stock per unit of human population there was practically no comparative increase in the production of cattle, sheep and hogs in Canada during the past decade.

Statistics show an increase in the live stock holding in Canada in 1919 as compared with 1909, of approximately 2,850,000 cattle, 716,000 sheep and 1,127,000 hogs, while a comparison of the human population for the same years indicates an increase for 1919 over 1909, amounting to approximately 2,315,000 persons.

The following table aptly illustrates the statistical situation:

Class	No. Head of Human 1909	Per Unit Population 1919
Cattle	1.08	1.12
Sheep	.40	.38
Hogs	.44	.45

If domestic consumption per capita had remained constant, the volume of the export surplus during 1909 and 1319 would have been about equal. Statistics show, however, that the exports of animals and animal equivalents during 1919 were in excess of those of 1909, to the extent of 596,800 cattle, 53,990 sheep and 1,171,857 hogs. The increase by percentages were: cattle 325.81 per cent.; sheep, 1.34 per cent., and hogs 115.00 per cent.

The inference is that the growth in live stock population has not been rapid enough to allow of a wider margin of exports without infringing on normal domestic requirements.

Recent marketings have been in excess of normal chiefly owing to unfavorable feed and weather conditions.

Any further increase in the volume of exports will clearly still further encroach upon domestic consumption of meats, except on the basis of increased production of live stock.

COW SENSE

A man puts $1 worth of food before a good purebred cow and is rewarded with $1.10 worth of milk—that's labor.

Another man takes the same cow, puts $1 worth of balanced ration before her, and secures $1.50 worth of milk—that's skill.

The third man secures her and breeds her to a heavy-production-bred bull—that's good judgment.

The fourth man buys the heifer calf—that's good business.

The early lamb for the early market, the feeder, the breeder, or for the show ring.

SUNNYSIDE STOCK FARM

Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

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Phone 111. - - - - Sussex, N. B.

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Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.

We have young bulls for sale whose two nearest dams (both Canadian champions) average as bigh as 35.62 lbs. butter in seven days; anotber whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yonge St. Radial) JEFFERSON, ONT

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for salo calves of both sexes, sired by Dutchland Pieterje Count, a bull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantba Johona Lad, who was 101 A. R. O. daughters 4 over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want sometbing cboice. come and see these calves or write for further particulars.

We will also book orders for young Yorkshire pigs for the next spring's delivery.

WM. S. HARDING, Prop.

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Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewbere

C. C. H. EATON, - - - CANARD, N. S.

COBEQUID FARM HOLSTEINS

We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows bave in turn been hred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter eacb in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a heifer calf or two. Get your orders in quick, they won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

Special Offering

Maple Green Farm Holsteins

On account of the great shortage in the supply of milk in our home town, we have decided (with regret) to dispose of our entire crop of Bull and heifer calves.

If taken inside of the next 30 days will price them away below their value.

The Dams of these calves are now running in the R. O. P., and the last official test conducted by the R. O. P. inspector showed an average test of 4.62% fat for the lot.

All are sired by our 32.32 lb. herd sire "King Korndyke Johanna", whose Dam is a full sister to Canada's Champion R. O. P. cow, "Jemima Johanna of Riverside". Milk in 365 days 30373; butter in 365 days, 1280 lbs.

Phone or write,

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Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

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If you want the best in Ayrshires come to Hillside. Our Stock sires are a son of the great "Jean Armour" and a son of "Gardrum White Floss", 1919 Amherst champion over all breeds.

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White Plymouth Rock

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Our matings include 1st prize N. Y. State 1919 Pullet, 1st and 4th Cockerel, 1, 2, 3, 4, 5 Pullet and 1st Pen at Moncton, 1920.

A good hatch guaranteed or we will replace at half price.

$2.50 per 15 Eggs
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Successor to J. MacDonald & Son

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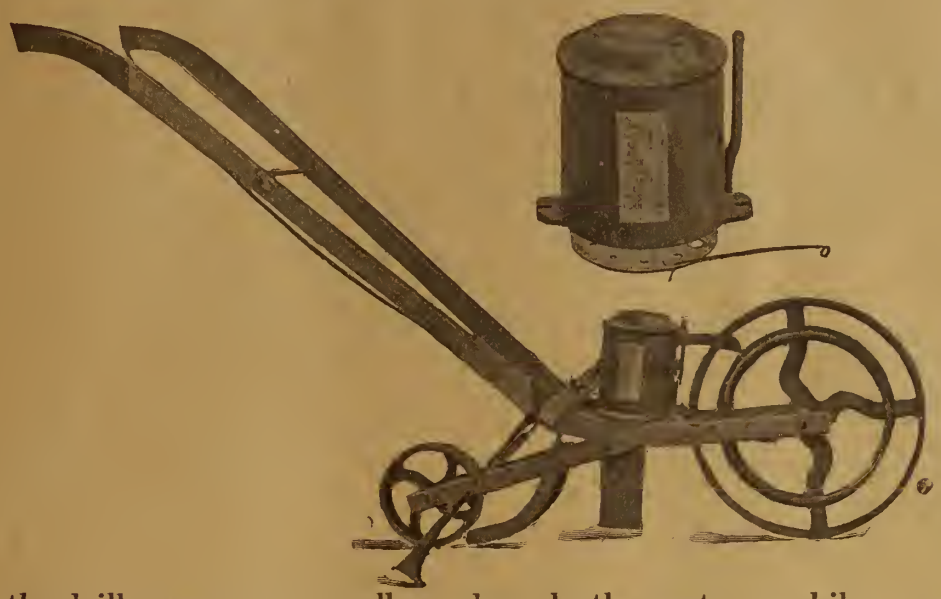

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Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in

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send for booklets—they contain much valuable information.

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FOR SALE

We have to offer a nice bunch of Shorthorn bulls and heifers ages 1 to 3 years.

Also span 4 year old horses, span 5 year old horses, span of brood mares and a choice driver

For further particulars apply to

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AYRSHIRES BULLS!

fit for service, bred from heavy producing stock.

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Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

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Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

We are presently offering, one imported Clydesdale Stallion "Dunure Crag" sired by the famous breeding horse "Baron of Buchlyvie."

Also

One Canadian bred Clydesdale Stallion "Baron Cossar", rising 5 years old.
Further particulars on application.

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Holstein and Yorkshire Swine

Calves of either sex, eight mos. of age and younger, from well bred and Tuberculin-tested Dams. Write for further particulars or come and see them.

Booking orders for Yorkshire Pigs for Spring delivery—from 1st Prize Sire and Dams at Fredericton Exhibition, Fall 1919—either sex, six weeks old. $10.00 each.

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Have 4 good bulls fit for service, that are well grown and are extra choice individuals, and out of goid, big, heavy producing cows. Also 4 or 5 good bull calves from one to two months, as well as a few good heifers ready to breed, and some already bred to Sir Johanna Ormsby of Hickory, whose dam has a yearly official record of 22,159 lbs. milk asd 971.25 of butter in 365 days. For description and prices write, or come and see our herd.

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Firshade Farm
Dual Purpose Shorthorns

P. R. L. FAIRWEATHER
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Two yearling Gurnsey bulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

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We are offering two Ayrshire Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

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Treatment of diseases of all domestic animals.

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We have to offer one bull, 24 months, 1st prize at Woodstock, Fredericton and Chatham, 1919. Six choice bulls from 8 to 20 months, sired by the prize winning bulls "Morton Mains", Amanth Imp. and Cherrybank Cicero. Also females, all ages.

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GUERNSEYS!

For Sale—Registered stock. Male or female.

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Willow Glen Shorthorns!

Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

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British Records
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Casey at the Dentist's, and **Casey as a Doctor,** Michael Casey. *A1886*

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TRADEMARK REGISTERED

Published Fortnightly in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., MAY 25, 1920 No 17.

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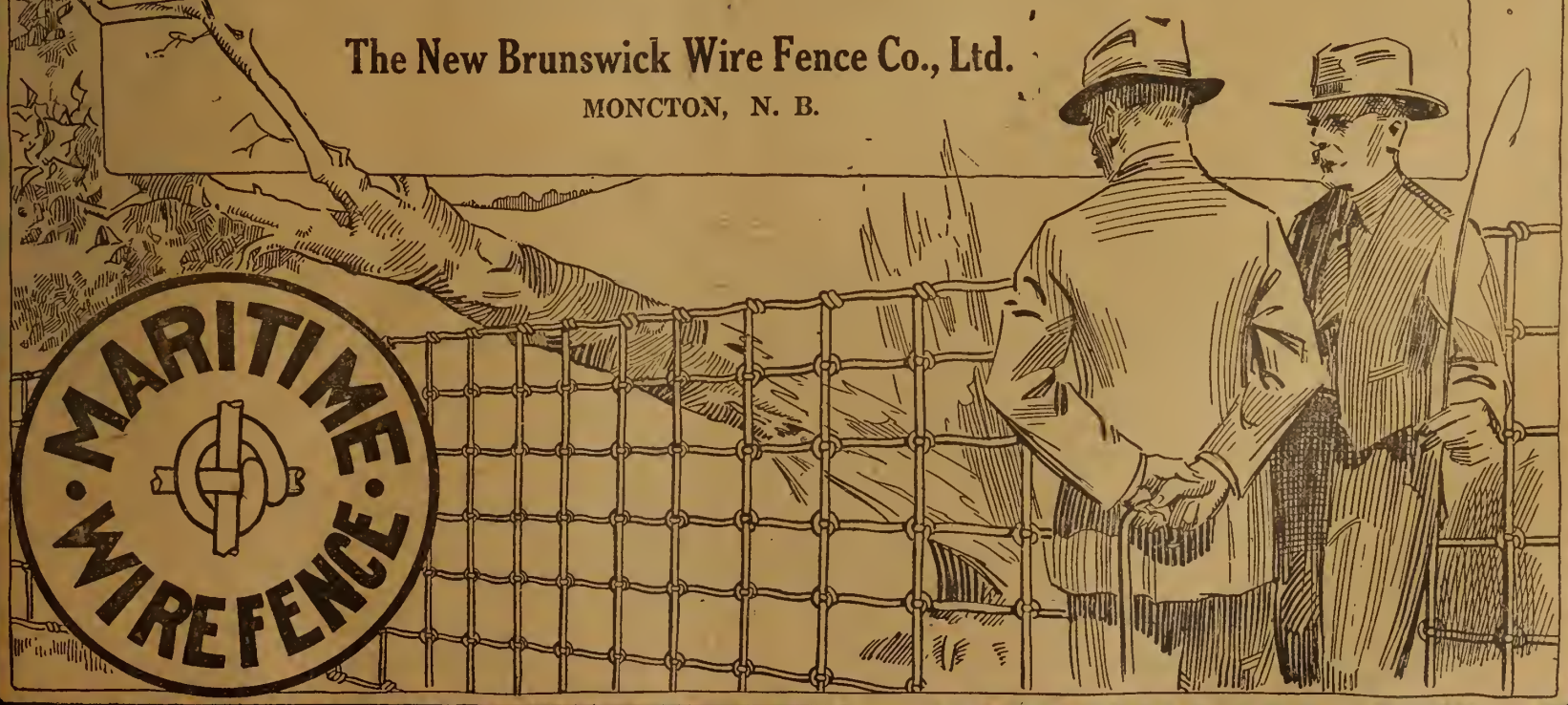

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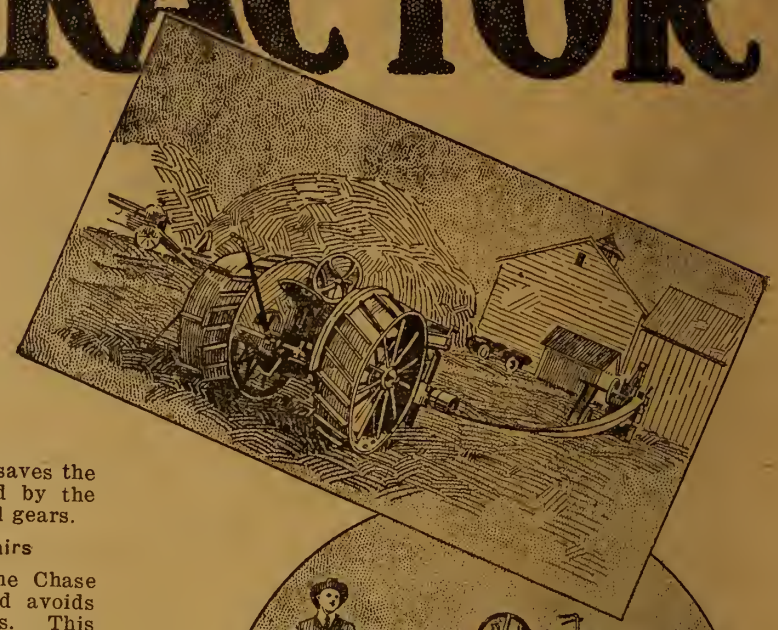

Because the Chase has no differential gears it avoids many frequent causes of tractor trouble.

Understand how differential gears affect the operation of a tractor and the superiority of the simple design of the Chase is clear.

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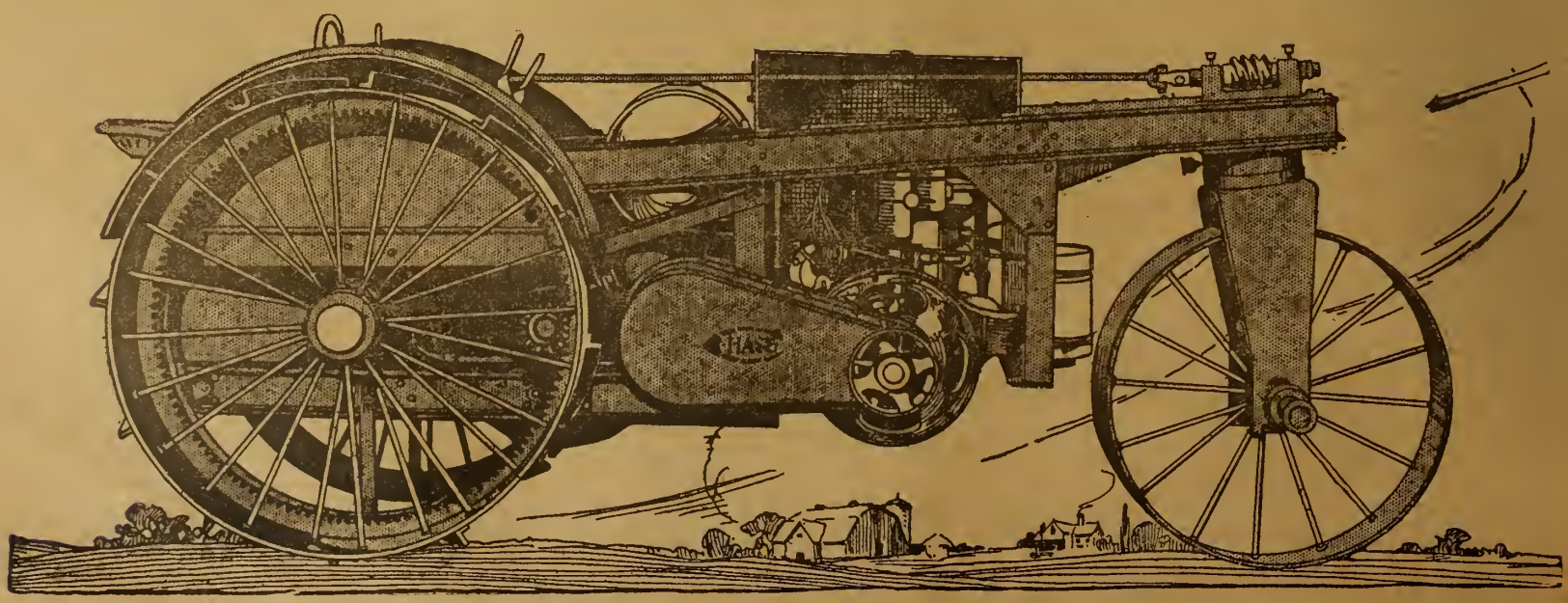

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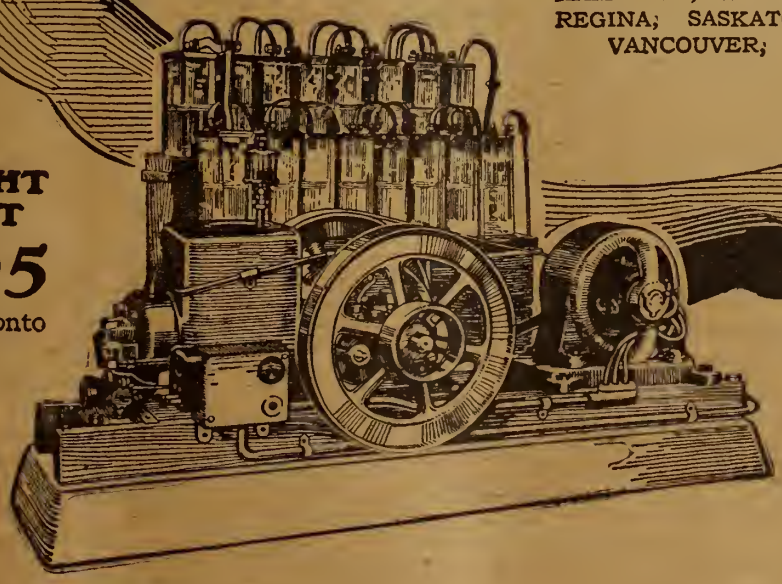

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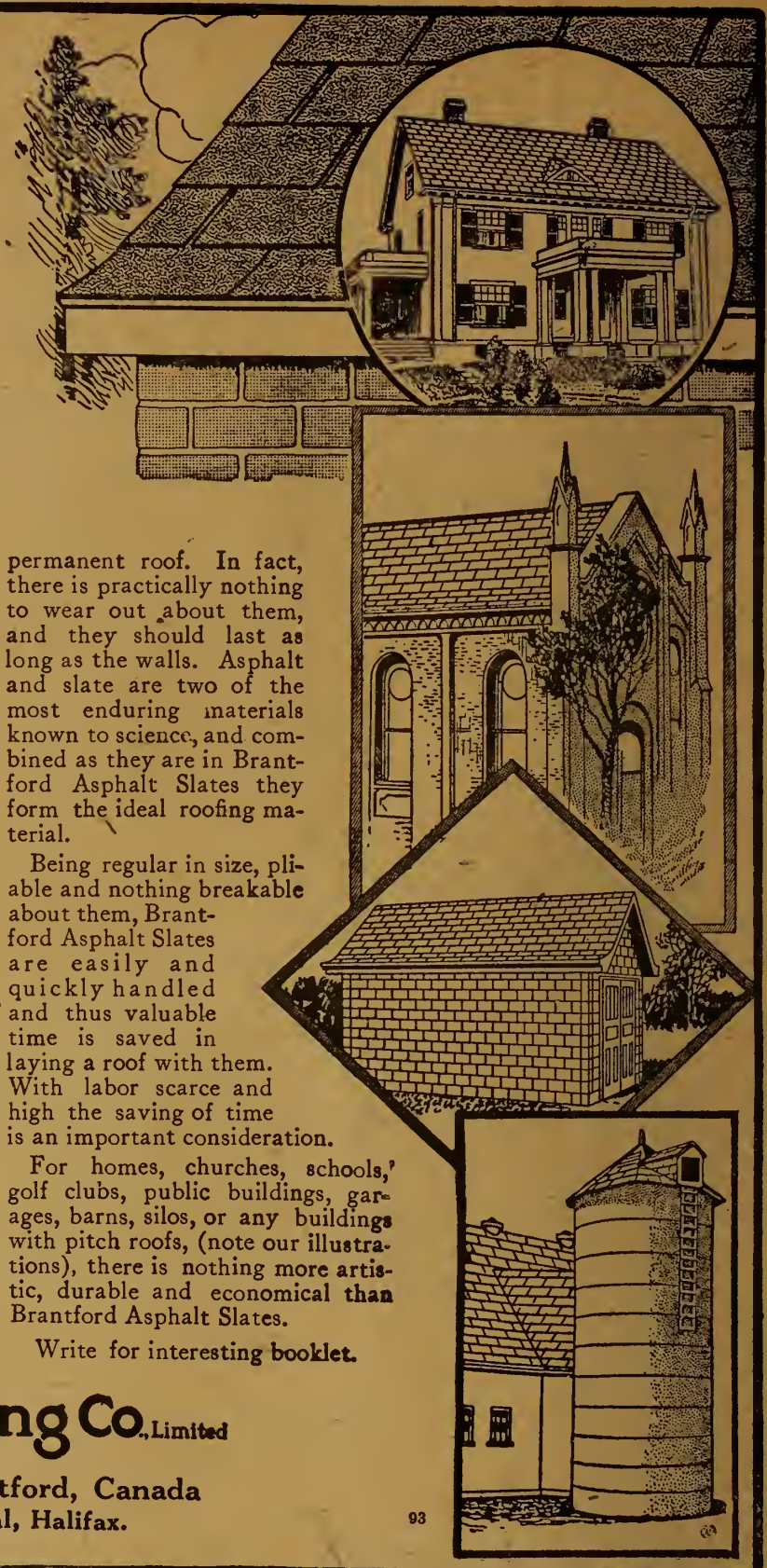

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SOFT OR PIEBALD WHEAT

It is well known that, when grown on certain soils and especially in certain seasons, wheat instead of being dark and translucent, is pale or spotted with patches of light color. If this condition is very marked the wheat is called "soft," and if it is less evident the term "piebald" is often used. In Kansas and some other States the phrase "yellow berry" is employed to designate the same condition. There is considerable misapprehension in regard to softness in wheat. Some varieties, such as Prelude for instance, are extra hard in their nature and very seldom produce soft kernels, while others, such as White Russian, are essentially softer. But most of the popular sorts, though usually hard in character, become soft under special conditions of soil and climate. Even the extra hard wheats of the Durum class, such as Wild Goose, sometimes show softness.

Soft kernels of wheat contain a lower proportion of gluten and a higher proportion of starch. The interior of a hard kernel is horny and translucent, while the interior of a soft kernel is whitish and opaque. As bran also is translucent, the soft kernels are paler than the hard ones. The bran itself, however, does not change color when the wheat becomes soft and the term "yellow berry" is quite misleading. A soft sample of a so-called red wheat (which is really reddish-brown, rather than red, in color) is not yellowish but pale reddish-brown. The popular idea that Red-Fife wheat turns into White Fife when it becomes soft is enteirely erroneous; the difference between these two varieties lies only in the color of the bran. White Fife is just as hard a wheat as Red Fife though of a different color; yellowish rather than reddish.

Softness is the outcome of peculiar soil conditions especially in regard to soil structure and the quantity of moisture present. Land from which trees have recently been cleared is particularly liable to produce soft wheat. It is also well established that in countries where the summer is rather long and where the temperatures are moderate the wheat is usually softer than in districts where the temperatures are moderate the wheat is usually softer than in districts where the summer is short and where great extremes of temperature occur. A full explanation of the causes has not yet been arrived at.

It is generaly believed that soft wheat is inferior in quality to hard wheat for bread making; this is usually true, provided the samples compared belong to the same variety. However, some soft varieties are superior to some hard ones. For milling purposes hard wheat is preferred as it is easier to handle and usually gives better satisfaction to bakers who desire to make extremely light bread. For pastry and cake, flour from soft wheat is better. Hard wheat being more in demand usually brings a higher price than soft wheat. As a rule, therefore, farmers whose wheat is soft suffer a financial loss on that account. Such wheat, however, (if of a usually hard variety) is perfectly good for seed purposes, because the softness is not inherited.

Not very much is yet known as to the best way to overcome the tendency of any soil to produce soft wheat. To a certain extent this is doubtless beyond control, but it appears probable that cultivation and especially the ploughing under of sod will produce harder wheat. This could be expected particularly if the land under tillage were formerly covered with trees.—E. C. Saunders, Dominion Cerealist.

In the business of breeding and raising hogs, the foundation for success is in the proper feed, care and management of the brood sow. Unless she gets the right attention, large and thrifty litters can not be expected.

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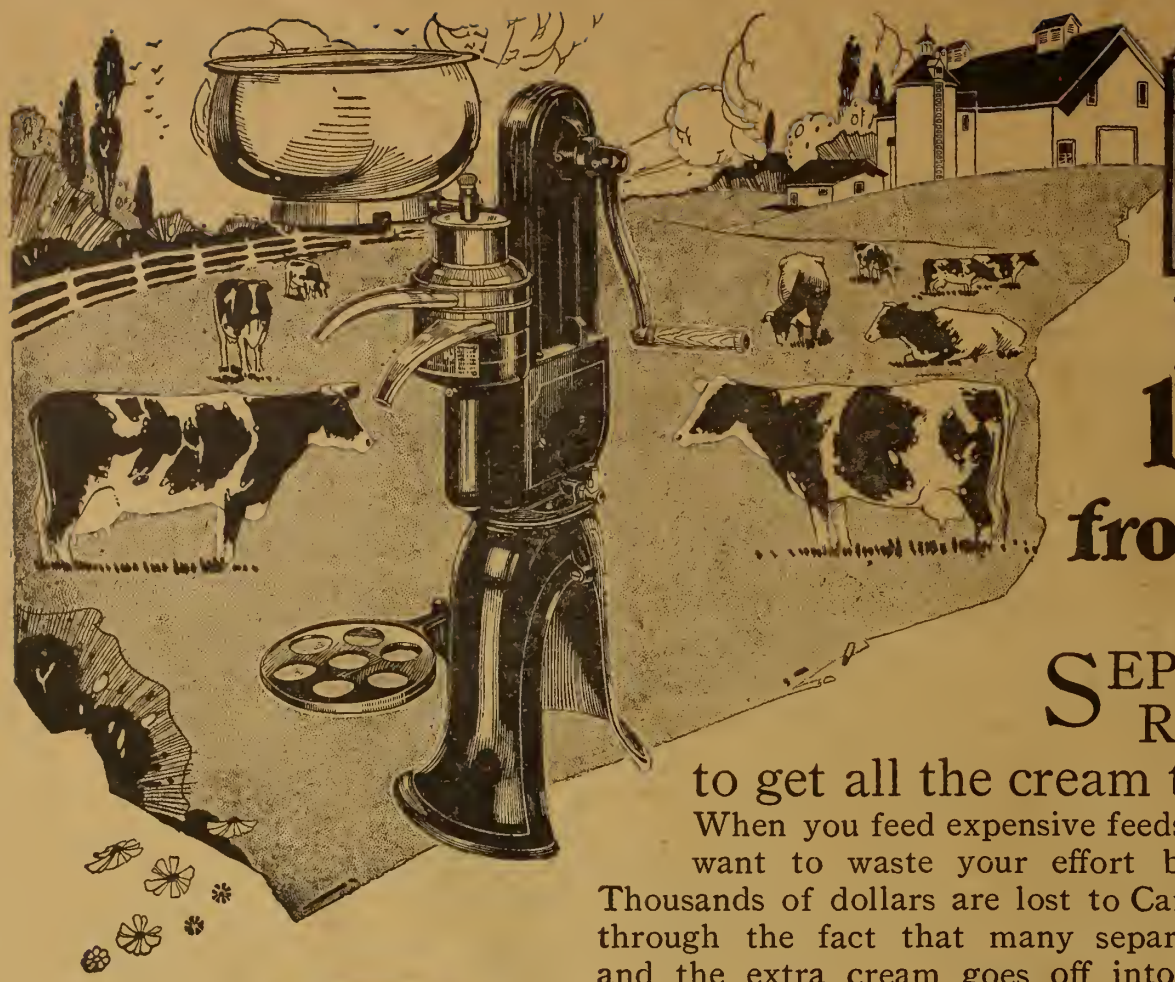

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The Renfrew is the only separator with an interchangeable capacity.

The milk supply can is placed low, which is a great convenience and thoroughly appreciated by women. The crank for turning is high, which makes it easy to turn without stooping.

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AND

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Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 25. SUSSEX, NEW BRUNSWICK, MAY 25, 1920. Number 16.

That Broad National Policy

Absolute Exclusion of the Maritime Provinces in Wheat Prices--Quebec, Ontario and West Get Boosts--Premier Drury Rebels --Farmer's Sun Against Price Control

The Maritime Farmer has consistently advocated the organization of the farmers of the Maritime Provinces with a view to forwarding the interests of the farmers of this particular part of Canada. We have been condemned and abused for this, and we have been told that we are trying to separate the farmers of this country. We repeat that in our judgment, the day is fast coming when the farmers of the Maritime Provinces will discover that they will be best repaid, if they keep an eye on their own interests, and get together to impress upon the Parliament of Canada the fact that there is such a place as the Maritime Provinces and that we are entitled to the same kind of treatment as the rest of Canada.

A short time ago the Maritime Farmer called for equal treatment for the wheat growers of the Maritime Provinces and for the same "privileges" for Eastern farm produce as for that demanded for the wheat of three middle west provinces. Again we were denounced. We were told that we were wrong in asking for any such concessions for potato growers or for dairy producers. It was all right for the West to get this, but the East could have nothing.

Well, a special raise was given to the price of western wheat, which was advanced fifty cents per bushel, while the wheat of the other proyinces was allowed to stand where it was. Then it was announced that the farmers of Saskatchewan would get $32,000,000 more money for their wheat, in view of the government handling of the wheat situation. Manitoba is to get $20,000,000. Not satisfied with that the Wheat Board has boosted the price of western wheat thirty-five cents per bushel higher. This time Quebec and Ontario wheat goes up forty cents per bushel. New Brunswick, Prince Edward Island and Nova Scotia wheat stays at the old price and not one cent of consideration is given the wheat of Eastern Canada. Why?

Take cheese. The price of this commodity was kept down for the benefit of the consumer of Great Britain. Has anybody in the cheese producing sections of Kings and Westmorland been advised that any such consideration was to be given them, because prices were regulated? It goes without saying that no such thing has been heard of and again the Maritime Farmer repeats that it is about time the farmers down here began to think for themselves, and to act for themselves. Just so long as they are content to be advised and guided by Winnipeg, just so long will they find themselves the smallest pig in the litter.

The Maritime Farmer is not afraid to advocate such a policy. We believe that if there are to be no "special privileges", then this part of Canada is entitled to every consideration. So far we have received nothing but hot air. Our farmers have been told of the wonders that would follow, if only the farmers of the East would line up with the western grain growers.

When may we ask, are all these wonders going to develop. There are on the Canadian Wheat Board three representatives of the Grain Growers. How is it that these gentlemen overlooked the wheat of the Maritime Provinces entirely, when they made their last award. They don't forget the farmer of the Maritime Provinces when they ask for his votes, but when it comes to dollars and cents, they seem to be thinking of other things and other places.

Last week we published the Grain Growers' opinion of western apples. So that no denial could be made, we reproduced a photographed page, in which the "size, color, flavor, keeping qualities, etc." of western apples were enlarged upon, three months after the United Fruit Growers of Nova Scotia, had engaged to pay $6,000 to the Grain Growers Guide for the establishment of a branch of that paper in the Maritime Provinces.

Again the Maritime Farmer called attention to the arbitrary manner in which prospective candidates of the United Farmers, by the platform of the Grain Growers, were made to swallow the whole dose and to be subject to recall, if they did not do the bidding of a committee, appointed to control their thoughts and statements. Again we were all wrong. Well, we have been vindicated in a pretty thorough manner, by no less a person than Premier Drury and eighty per cent. of the farmer representatives of Ontario.

Recently a bill was introduced to provide for superannuation of the civil servants of Ontario. Premier Drury and all but sixteen of his followers agreed to support the measure. Then, in steps Mr. J. J. Morrison, the gentleman who made the trip from Toronto to advise the farmers of Nova Scotia to endorse the eight hour day. Mr. Morrison, as secretary of the United Farmers of Ontario, wrote Premier Drury that he would not stand for the passing of any such legislation. The Premier told Mr. Morrison to "go to." The bill is going through and eighty per cent. of the United Farmer members are standing back of their leader and are against Mr. Morrison, who has been trying to run the most water tight political machine ever devised in Canada. So, if the Maritime Farmer was wrong, we are pleased to be in such good company, and we wish to commend Premier Drury for his firm stand and his refusal to be led by the nose.

Once again is the Maritime Farmer endorsed by such an acceptable supporter as the Farmers Sun, the organ of the United Farmers of Ontario. The Sun is out hot foot against price control. It wants the markets of the country to be thrown open. It is standing just where the Maritime Farmer stands, and has stood and it is against a principle, which is being advocated alone from Winnipeg and the west. Again we find ourselves in good company.

So it would seem that Premier Drury, The Farmers Sun and the Maritime Farmer have conspired to injure farmers, simply because they do not see eye to eye with Winnipeg and its "Big club methods." This support from such unexpected quarters is rather refreshing. It shows that what we predicted is coming true. It offers a double reason why the farmers of the east should get together and stand together for their own good. Premier Drury has defied Mr. J. J. Morrison. The Maritime Farmer and the Farmers Sun have had courage to speak for open markets and to protest against price manipulation. The Grain Growers Guide and its controlled offshoot the United Farmer's Guide are for anything that will help the western grain grower. We want for our people anything that is to be given the west and we think we are right in asking for it.

Not so long ago the editor of the Grain Growers Guide was out blackmailing the manufacturers of this country for revenues, with which to support the policies of the western grain growers. We exposed the trick and condemned it. The campaign ceased as suddenly as it started, (in public), but all over the west, circulars were issued, asking farmers to unite in forcing men who had been denounced as robbers, crooks, etc., to advertise in the Grain Growers Guide and provide funds for the carrying on of the propaganda of the western farmers. We do not know who is responsible for ending Mr. George Chipman's little game, but if it was Hon. T. A. Crerar, this paper wishes to congratulate him on putting an end to one of the most brazen holdups ever attempted in this country.

The Maritime Farmer is doing the farmers of the Maritime Provinces a real service. When the fall months come, and feeds advance to the highest pirces ever heard of in this country, particularly if the Wheat Board is maintained, those farmers who pay the price will appreciate how sound is the stand of this paper against special privileges for the West. Already feeds have gone away out of sight in price. But wait until you see them next year.

The whole scheme is one for the benefit of the West. Every move indicates that. Here in the Maritime Provinces where we have brains and ability to look after our own interests, there should be an awakening of the farmers to an appreciation of the role they are asked to play. We have not asked a farmer how he is to vote, all the free advice is coming from Winnipeg.

The game is one to build up a party to do the bidding of the West. We say that if the West wants the earth, they will get it, if we do not meet the onslaught. It has been said that the farmers have no paper. If the Maritime Farmer had sold itself to Winnipeg, there would not be a paper left to represent those farmers who are opposed to western domination, and judging from the letters the Maritime Farmer is receiving in support of its policy, these number many thousands.

If any considerable number of Maritime Province farmers want a paper to represent a Maritime Province organization, absolutely independent of Winnipeg, the Maritime Farmer will place itself at their disposal. They can then formulate their own policy. They will have a paper which stands for the East and for the farmers of the East. They will have an organ, which is not directed from Winnipeg and one which has served the farmers of Eastern Canada well in the last 25 years.

Denial has been made of the control of the United Farmers Guide from Winnipeg. We have at hand "The Guide Post", published by the Grain Growers Guide, Winnipeg. It fathers, mothers and adopts its Moncton child. Both papers are out for a national policy as narrow as ever the Maritime Farmer termed it.

However, we are glad to note that our views are finding favor in high places. Presently the farmers of the Maritime Provinces will awaken to the true meaning of it all. The thousands of dollars being spent by Winnipeg in this territory, are not being wasted, in the estimation of the spenders. The bread is being cast upon the waters with a view to its return many fold.

The Maritime Farmer has never advised the farmers of eastern Canada except along sane lines. We have made an offer which we are prepared to carry out at any time. It is a pretty good guarantee that we are at least sincere, when we express our opinions. If the Maritime Province farmers want a paper, through which they and not Winnipeg can talk, they can have it, so long as we are assured that it will really be Eastern farmers that are being served.

Endorses Bolshevism and Radicals

United Farmers Guide Praises Article in Favor of Cults Which Would Ignore All Property Rights--When are Farms to be Confiscated

One of the most remarkable articles which to the knowledge of the Maritime Farmer has ever appeared in the press of the Maritime Provinces was published in the May 5th issue of the United Farmers' Guide. Not only was it given prominence but the editorial columns of that paper pronounced a benediction in its opening article as follows:

A short but very pointed article apwhich appears on page 16 entitled, "The Meaning of the Opposition" shows what an intelligent farmer thinks of the attacks on the organized farmers movement on the part of those who have been living at the Farmers' expense for a long time." (Meaning the Maritime Farmer, no doubt.)

The article which appears on page 16 is as follows:

"THE MEANING OF THE OPPOSITION"

The following reply is from the Kings County, N. S., Farmer: "You say that you are unable to understand the reason behind the attack which the 'Maritime Farmer' has made upon the grain growers and the 'Grain Growers' Guide.' "

There might be the question of the competition of the United Farmers' Guide with the Maritime Farmer. It must be well known to you that there are powerful interests in Canada which would like to see the Farmer's Movement fail. It will be a serious mistake on the part of the friends of that movement if they underestimate the strength of these interests and the means which they will employ to bring about the failure of the Farmers' Movement or any like movement. In my opinion you should be prepared for much more serious attacks than you have witnessed in the "Maritime Farmer."

Has it ever occurred to you to what extent the Press in general is under the influence of, or in sympathy with, the moneyed interests of the world? These interests are not going to give up without a struggle and it is my opinion that they number the Farmers' Movement in Canada among their enemies. Note the treatment of the Non-partisan League of North Dakota, the radicals of the United States, and how the Press has misrepresented the Bolshevists of Russia and of Hungary. I do not want to discourage you, but rather forewarn you that you are not engaged in any picnic in your work in connection with the Farmers' Movement. I hope you will always be of good courage and live to see the triumph of your ideals."

So the Guide believes in the Bolshevists and the Radicals of the United States and the Non-partisan league of North Dakota? Well, the Maritime Farmer does not believe in any one of the three and isn't afraid to say so. It will be noted that the writer does not sign his name, but the Guide refers to him as an intelligent farmer. The Maritime Farmer doubts that. Any man who would defend the Radicals of the United States, men who are plotting to upset organized government; men who declare that property ownership should be abolished; men who hindered in every possible way the prosecution of the war by the Allies; men who have stooped to commit every crime in the calendar; is hardly to be regarded as intelligent. Does the United Farmers' Guide approve of radical methods as followed in the United States? Whose votes is it after now with that sort of rot?

And what does the Guide think of the intelligence of a man who endorses the crimes of the Bolshevists. There all property rights have ceased. Apply that lovely form of government to this country and ownership of farms farm machinery and stock disappears. Apply Bolshevism to Canada and the women of this country become common property, as they have in Russia. Apply the methods of the Bolshevists in New Brunswick and law and order ceases and murder and unspeakable crimes rule. The Maritime Farmer is talking whereof it knows. One of the many brilliant sons of Albert County spent months in Russia investigating conditions for the United States Government. His story of the horrors of that country would not indicate that the correspondent of the Guide deserves the praise editorially bestowed on him.

Neither does the Non-partisan league of North Dakota appear to the Maritime Farmer to be anything to hanker after. That cult has imposed on North Dakota taxes undreamed of. The farmers there have had a sickener of the whole show. No more arbitrary form of government has ever been devised by a state in the Union and this is what this intelligent farmer advocates.

Let the Maritime Farmer state as plainly as it can that it is opposed to Bolshevism; that it is opposed to Radicalism, as it is in the United States; that it believes that North Dakota has been cursed with the Non-partisan League and that it also believes that if the United Farmers' Guide believes that men who advocate that sort of thing are displaying intelligence, then the sooner the Guide comes out flat-footed for property confiscation and communism, the sooner will the farmers of this part of Canada learn what is being inflicted on them.

The Maritime Farmer has never opposed organization among farmers. It repeats that the grain growers of the west are spending thousands of dollars down here for their own benefit. We again say to the farmers of the Maritime Provinces: Get together in your own interests. When property confiscation is openly advocated in this way we say the farmers of this part of the country had best look to their rights and their interests.

Not very long ago, one of the leading farmers of the Parish of Salisbury had a visit from one of these "intelligent" persons, on whom the Guide dotes. The farmer listened and then pointing to some rifles which his boys had carried in France, informed the caller that when the day came for the introduction of Radicalism, the guns would be found in action and the boys who had left the farms would be found using them. Which do you admire, Mr. Farmer, that intelligent farmer from Kings County, Nova Scotia, or the New Brunswick farmer who is prepared to stand for British institutions and British love of stability and decency?

Let the Maritime Farmer say squarely that when men write such rot as the Guide chooses to describe as "intelligent" some free tickets should be given them, so that they may go to Russia and taste of the delights of that country. In pity's name, though let their women folk be left under the British flag and in touch with men who respect the most sacred things in womanhood.

We trust we have answered the intelligent farmer of Kings Co., N. S., and that he will understand where this paper stands.

What Quantities of Manure to Apply

The farmer is generally inclined to furnish weak rather than strong doses of mineral manure to his crops. It may therefore seem superfluous to advise him to employ moderation in the use of these fertilizers. However he may be tempted to apply them in large quantities, by way of experiment for instance, and if he does not obtain good returns from the trial, he will be tempted to criticise the fertilizer employed without taking into account the real reason for the failure of his trial.

This is why we think it useful to give some information regarding the maximum quantities of the manure in question that should be employed, and especially when it is considered that it is not only necessary to return to the soil the fertilizing elements which have been taken from it by previous crops, but often also to further fertilize it in advance.

From this fact some may conclude that the farmer need not be afraid of applying the manure in too great quantities. This would be a grave error. Exaggerated amounts of the fertilizer should not be used, and this for several reasons.

1.—What the farmer seeks to obtain is a maximum profit not a maximum crop. It may be interesting to have an extraordinarily abundant crop, but if it is not remunerative, it becomes a simple feat of force and of no practical benefit.

Numerous experiments, wisely directed under the control of distinguished agriculturists, have shown that beyond a certain limit, the effects of manures are no longer proportionate to the quantities employed. In other words, if, at first sight, the products increase proportionately to the quantities of manure furnished to the plant, this proportionality disappears beyond a certain limit. The surplus furnished by a new quantity of manure constantly diminishes until it does not pay for its cost, which, consequently becomes so much money lost.

This is what A. Gouin shows in regard to nutrition. He remarks that if it is useful to indicate to cattle raisers the advantage of giving oil cake to their animals, it is necessary to show them the result of exaggerated doses of these nutritive substances; for the increased production of milk, for example, is not proportionate to the expense incurred, and there is a limit, beyond which this expenditure exceeds the results obtained, and consequently is not advantageous.

It is well knwn that the increase in the speed of ships, which Maritime Companies seek to obtain in order to diminish delays in transportation, and thus to increase their clientele, which demands, more and more, the rapidity of ocean voyages, is only acquired by outlay for coal which materially deviates from following an arithmetical progression.

It is the same thing in agriculture. Much more manure is proportionately necessary to increase a crop of wheat from 35 to 40 bushels than to increase it from 20 to 25.

It is not possible to fix in a precise manure this limit of the maximum of manure which should be used. It is not absolute and connot be determined by figures. It will vary first, evidently, according to the price of the manure and of that of the crops. It will also vary according to the special requirements of each crop and also acording to the richness and nature of the soil cultivated. Experience alone, aided by chemical analysis, can establish the facts.

2.—It is useless again to employ exaggerated quantities of manure, for the reason that although in certain cases the excess which is not utilized by the crop for which it is used, is able to remain buried in the soil, at the disposal of later crops, thus increasing the fertility of the field, this storage of reserve does not always occur. The soil must posses a sufficient absorbing power in order to retain it; that is to say that it must include suitable quantities of clay soil, and limestone. Again, this power in the soil fixing, only acts on certain fertilizing elements such as phosphoric acid and potash. It is nul or nearly so in its effects upon lime and nitrogen especially if this latter mentioned is in the nitric form. Rain waters carry them away and rapidly impoverish the soil. The farmer, who with good intention has used large quantities of manure and who has not obtained correspondingly large increases in his crops, has not then in the majority of cases even the consolation of knowing that the following crops will be able to utilize these surpluses of nutritive elements and thus t oreimburse him for the loss sustained.

3. — Lastly, there are manures which, when applied in too large quantities are not only unremunerative but are actually injurious. Such are the nitrogenous manures. They increase the productions of leaves to the detriment of the value of the crop propertly so called. Wheat, for example, is developed by them in an exaggerated manner. The stalks are thick, the leaves large, the shoots numerous; in a word, the vegetative organs show considerable development. But the growth is abnormal, uneven; the grains are not uniform and their maturity is retarded. The wheat is exposed to heating, to be beaten down, and to the attacks of cryptogamic diseases. There is much of straw but not of grain. The crop is not in proportion to the quantity of nitrogen added to the soil.

It follows therefore from these observations that if farmers are to be advised to use mineral manures, it is necessary to advise them that they should not be employed in an inconsiderate manner. They will never prove beneficial so used, and serious inconvenience will sometimes result. —C. F.

CROP-BOUND HENS

What can be done for a fowl when they become crop bound? J. C.

Knead the crop back and forth with the fingers to loosen up the clogged mass. A couple teaspoonfuls of sweet oil will help to loosen up the clogged crop. Isolate the bird after treatment to find if the condition has improved. If the mass will not go down it is necessary to cut open the crop and remove it. Then sew up the wound and only feed the bird on milk for two or three days. The wound will heal quickly and the operation does not seem to cause the bird severe pain.

N. B. Dept. of Agriculture Standing Field Crops Competitions 1920

Field Crops Competitions were instituted for the purpose of encouraging the growing of good seed and incidentally better crops. Farmers who do not grow a sufficient quantity of seed to supply their individual needs and who do not have a surplus for sale as seed have no right to participate in competitions of this kind.

In years gon by the Federal Seed Division, Ottawa, gave every Provincial Department of Agriculture grants of money for the purpose of conducting competitions in the growing of good seed. The various crops, on which prizes were awarded were judged in the field and many farmers participated in the prize monies.

The Federal Seed Division officials in common with many other persons who have given this matter serious consideration feel that while Standing Field Crops Competitions have been the means of stimulating an active interest the sowing and producing of good seed, the time has arrived when the inspection given in the field must be supplemented by the inspection of the seed in the bin after it has been graded for the seed market. Consequently the Federal Seed Division has decreed that at least twenty-five per cent, of the money to which any province is entitled as a subvention for Field Crops Competitions, must be expended on a competion which will include both field and bin inspection.

For a combined field and bin inspection competition there must be at least fifteen entries and prizes shall be based thirty-five per cent. on the awards of the judges for the Standing Seed Crops and sixty-five per cent. on the awards of the judges for the cleaned seed, the latter to be judged either in the sack or bin on the premises of the competitor on or after December 15th following harvest and before March 1st, 1921. The stock seed must be of origin approved by a committee appointed by the Provincial Minister of Agriculture.

The minimum quantity of cleaned seed that competitors must be prepared to submit to the judges on their premises in order to qualify for awards are:

Oats, 200 bushels.
Clover, 10 bushels.
Potatoes, 150 bushels.

Crops produced solely for purposes other than for seed are not eligible fo participation in any monies granterd for Field Crops Competitions by the Federal Seed Division. Consequently there will not be a Turnip Growing Competition in the Province of New Brunswick this year. There will be competitions in the growing of wheat, oats, clover and potatoes as follows:

Wheat, any named variety, 1 acre. Ten prizes: 1st, $10.00; 2nd, $9.00; 3rd, $8.00; 4th, $7.00; 5th, $6.00; 6th, $5.00; 7th, $4.00; 8th, $3.00; 9th, $2.00; 10th, $1.00 in each county from which fifteen or more entries are received. Judged in the field only.

Oats, any named variety, 5 acres. Ten prizes: 1st, $30.00; 2nd, $27.00; 3rd, $25.00; 4th, $23.00; 5th, $21.00; 6th, $19.00; 7th, 17.00; 8th, $15.00; 9th, $13.00; 10th, $10.00.

This is a combined 35% field and 65% bin inspection competition and is open only to the County of Westmorland, where it is hoped to establish a seed growing centre.

Oats, any named variety, 2 acres. Open to all counties with the exception of Westmorland County. Ten prizes: 1st, $10.00; 2nd, $9.00; 3rd, $8.00; 4th, $7.00; 5th, $6.00; 6th, $5.00; 7th, $4.00; 8th, $3.00; 9th, $2.00; 10th, $1.00.

Judged in the field only.

Potatoes—Green Mountain type or Irish Cobbler type—2 acres of either type. Competition in each of Restigouche, Gloucester, Northumberland and Westmorland Counties, from which 15 entries are received.

Ten Prizes: 1st, $23.00 2nd, $19.00; 3rd, $17.00; 4th, $16.00; 5th, $15.00; 6th, $14.00; 7th, $13.00; 8th, $12.00; 9th, $11.00; 10th, $10.00.

This is a 65% field and 35% bin inspection competition.

Potatoes, Green Mountain type or Irish Cobbler type, 1 acre of either type.

Ten Prizes: 1st, $10.00 2nd, $9.00; 3rd, $8.00; 4th, $7.00; 5th, $6.00; 6th, $5.00; 7th, $4.00; 8th, $3.00; 9th, $2.00; 10th, $1.00. In every county from which 15 entries are received, excepting Restigouche, Gloucester, Northumberland and Westmorland.

Judged in field only.

Clover, 5 acres.

Ten Prizes: 1st, $30.00; 2nd. $27.00; 3rd, $25.00; 4th, $23.00; 5th, $21.00; 6th, $19.00; 7th, $17.00; 8th, $15.00; 9th, $13.00; 10th, $10.00.

This is a province wide competition to be judged in field and bin.

First crop clover will be judged early in August. Second crop in September.

General Rules

(1) The variety must be named and source of seed designated when making entry.

(2) An entry fee of twenty-five cents per crop will be charged.

(3) Entries will not be received for more than one variety of wheat or oats from one farm.

(4) Entries accompanied by the stipulated entry fees must be lodged with the Secretary of the Agricultural Society located in the competitor's district before July 15, 1920.

(5) The Secretary of each Agricultural Society will forward all entries and one-half of fees thus received to the Superintendent of Agricultural Societies, Department of Agriculture, Fredericton, N. B., on or before July 20th, 1920.

(6) Entries not lodged with the Department of Agriculture before July 25th, 1920, and entries not accompanied by the specified entry fee will not be judged.

(7) The minimum number of contestants necessary to constitute a competition in any one crop in a County will be fifteen.

(8) A prize will not be awarded on any crop that does not score 85 points out of a possible 100 points.

For any further information write the Department of Agriculture, Fredericton, or call on your nearest Agricultural Representative: Jas. Bremner, Jr., Chatham; J. H. King, Moncton; J. H. Hoyt, Perth; J. E. McIntyre, Perth.

Pass this information on to your neighbors and help make the 1920 competitions the best ever held in the Province of New Brunswick.

M. A. MacLEOD,
Supt. Agricultural Societies.

ENTRY FORM

N. B. Field Crops Competition

To .....
Address .....
Sec'y Agricultural Society No.....

I wish to enter the following crops in the New Brunswick Field Crops Competitions:

Wheat Oats Clover Potatoes
(Cross out the crops you do not wish to enter)

Enclosed fine $.....entry fees.
Name .....
Address .....

Nearest Railway Station or Steamboat Landing is .....
(Name of Station)
.....miles.
(Distance)

My first crop will be ready to judge about .....
(Date)

Central Principles of Weed Control

At all times weeds are a serious menace to the farming industry. Instances are not uncommon where farms have become so overrun, with them that the owners have moved away. If the exact loss weeds cause to farm crops could be figured accurately in dollars and cents its magnitude would be appalling. This loss goes on year after year. On some farms it is trifling on many others it takes a heavy toll of the crop yield. Weeds are introduced in various ways. One of the most common ways being through threshing machines moving from farms badly infected to clean farms. Many farmers still continue to buy the cheaper grades of clover and grass seed that contain many weed seeds per ounce and thus lay up trouble for themselves at a later date.

Classification of Weeds.—In order to combat weeds successfully, one must have a knowledge of two points, (1) How long the plant lives, (2) How it reproduces and spreads.

Weeds may be classified according to length of life as follows:

Annuals.—These come up from the seed, bear flowers and seeds and die down, all within one year. Example, common mustard.

Biennials.—These grow from the seed, but produce only leaves and a root the first year. The second year a flower stalk comes up, seeds are produced and the plant dies. Example burdock and blue weed.

Perennials.—These live on year after year unless the root is killed in some way. Depending upon conditions, the plant may or may not produce seed every year. Quack grass or Couch grass, and perennial sow thistle are familiar examples.

Weeds may also be classified according to their methods of reproducing and spreading. Plants reproduce in various ways; by seeds alone by roots alone, by both seeds and roots, and by runners and root stocks. The importance of knowing the habit of any weed lies in applying this knowledge to the eradication of the plant. For instance, it would avail little to attempt to destroy perennial sow thistle and Couch grass by preventing it from going to seed because it really spreads more rapidly by the underground stems than it does by seed.

General Methods of Controlling Weeds

There are at least eight well known methods for controlling weeds:

1.—**Crop Rotation.** Each farmer must select the rotation which will best enable him to fight the particular weed or weeds with which he has to contend. In general it can be said that the shorter the rotation the more eeffctive will be the control of the weeds.

2.—**Hoed Crops.** Breaking up land often with the use of hoed crops tends to keep it clean. These crops cannot be depended upon alone, however, to control creeping perennials. This is due to the fact that although in cultivating the rootstocks are cut, they are not all destroyed, and, in a short time, begin to grow again.

3.—**Summer Fallowing.** It is generally conceded that summer fallowing is too wasteful of land to be employed very extensively. It is possibly, the most effective way of controlling the hardy perennials. Where a field is badly infested with sow thistle, it might pay to lose one crop in order to effectively eradicate this weed.

4.—**Early After-Harvest Cultivation.** This is one of the best ways to destroy annual of winter annual weeds.

5.—**Seeding Down.** A heavy seeding of grass and clover will effectively control many annuals. Cutting the hay crop early will prevent most of these seeds from going to seed.

6.—**Smother Crops.** The aim of this method is to kill the weeds by depriving them of light and air. This is accomplished by getting some quick-growing crop, such as buckwheat, established on the land while the weeds are in a weakened condition from recent cultivation. This is a very effective way of controlling many weeds.

7.—**Hand Pulling.** This is practical only when a weed is not very abundant. If a farmer is watching his crops and fields closely he can frequently check the spread of a bad weed by digging it out upon its first appearance. This may save an endless amount of trouble later on.

8.—**Sheep.** It is well known that a flock of sheep will do a great deal toward helping to keep down weeds. In fact, there are few weeds that sheep will not eat. At the present time they are a very profitable class of live stock as well.

Bad Weeds in New Brunswick

1.—**Wild Mustard.** Owing to the great vitality of the seed this is a hard weed to eradicate. The seed will live for years in the ground and when brought to the surface will germinate and grow. If the weed is just starting on the farm and only showing to a small extent hand pulling is the best thing to do. If, however. as is usually the case, the field is overrun with it, the following system is recommended: Cultivate the stubble ground early after harvest. As soon as the seeds have had time to sprout cultivate again thoroughly, repeat this at intervals and plough the last thing in the fall. Put in cultivated crop the following spring and cultivate thoroughly throughout the growing season. Cultivate with the disc or spring-tooth cultivator after the cultivated crop is removed but do not plough in the fall. Cultivate again in the spring and seed down with a grain crop the following year.

Spraying with Chemicals.—Demonstrations have been conducted which have shown that mustard can be prevented from flowering and going to seed by the use of sprays. If these were continued long enough a field would eventually become rid of the weed. Those sprays destroy the mustard but do not injure the grain. Iron sulphate (copperas) 80 pound to 40 gallons of water, may be used. Spray on a bright sunny day when the young mustard plants are well up, but before they come in bloom. Spraying attachments can be secured to go with any barrel pump and the material can be very quickly applied. Copper sulphate (blue stone) can also be used ,eight pounds to 40 gallons of water being a strong enough solution. It has not proved quite as effective as the iron sulphate.

Orange Hawkweed or Devil's Paint Brush.—This weed is readily controlled by cultivation. It gains a foot-

(Continued on page 644)

Gleanings of Agricultural Progress in New Brunswick

VALUE OF NEW BRUNSWICK'S FARM CROPS MORE THAN DOUBLED SINCE 1914

Only Two Provinces in Canada Show Larger Per Centage of Gain in Progress in General Farming. Larger Acreage Under Crop in 1919 Than in Nova Scotia

The Business Review and Maritime Retailer recorded with some satisfaction in a recent issue the fact of New Brunswick leading all Canada in the increase of its live stock and it is gratifying to find that this province is also among the leaders in percentage of gain in the value of farm crops during the last four years. Counting the war period, 1914 to 1919 Quebec has made the largest gain, 310 per cent; Nova Scotia comes next with 287 per cent; New Brunswick a god third with 263 per cent; Alberta 250 per cent; Manitoba 248 per cent; British Columbia 210 per cent; Saskatchewan 198 per cent; Prince Edward Island 191 per cent; and Ontario 189 per cent. The figures for field crop values in the provinces for 1914 and 1919 are as follows:—

	1914	1919	p.c. gain
Que.	99,279,000	307,944,000	310
N. S. ...	21,969,700	63,086,000	287
N. B. ...	20,045,100	52,834,000	263
Alta. ...	59,779,600	149,580,800	250
Man. ...	65,528,400	162,462,200	248
B. C.	11,463,000	24,120,000	210
Sask. ..	152,751,500	296,831,800	198
P. E. I. ..	11,544,000	22,067,200	191
Ont. ..	196,220,000	373,507,500	189

Saskatchewan in 1919 had the largest area under crop, 17,430,354 acres; the other provinces being in the following order, Ontaria, 9,915,884; Alberta 8,170,971; Quebec 7,973,021; Manitoba 6,344,318; New Brunswick 1,335,118; Nova Scotia 1,011,144; Prince Edward Island 526,628; British Columbia 340,002.

The prairie provinces produced 165-544,300 bushels out of the total production of 193,260,400 bushels of wheat.

Taking Canada as a whole, the year 1919 holds the record in the value of field crops, the total value being $1,452,437,500. It also holds the record for the amount of land under cultivation, 53,049,640 acres. The value of the crop was $79,501,530 over that for 1918, the increase in the area under crop being 1,622,450 acres. The value of the crops for the last six years is as follows:—

1919	$1,452,437,500
1918	1,372,935,970
1917	1,144,636,450
1916	886,494,900
1915	825,370,600
1914	638,590,300

The acreage under crop during this period has been as follows:—

	Acres
1919	53,049,640
1918	51,427,190
1917	42,602,288
1916	38,930,333
1915	39,140,460
1914	33,436,675

Wheat was the most valuable crop during 1919, being worth $364,857,000; hay and clover second with $338,703,-200; oats third with $317,097,000; potatoes $118,894,200; barley $77,462,-700; flax $22,609,500. The wheat crop was worth $83,000,000 more than in 1918; the oat crop was worth $16,-000,000 less; hay and clover were worth $97,000,000 more.

NOTES REGARDING THE CO-OPERATIVE MARKETING OF WOOL

Work in connection with the distribution of supplies needed in the Co-operative Marketing of Wool is going on very smoothly. Wool, sacks paper twine and shipping tags are being distributed by counties as follows:

Resigouche and Gloucester—J. K. King, 347 St. George St., Moncton.

Northumberland—James Bremner, Jr., Agricultural Representative, Chatham.

Westmorland, Albert, Kent and Kings—J. H. King, Agricultural Representative, Moncton.

St. John, Queen's, Charlotte, York Sunbury, Carleton, Victoria, Madawaska—F. W. Walsh, Asst., Supt. Livestock Division, Department of Agriculture, Fredericton, N. B.

If you have not secured your supplies do so at once. The following instructions are being sent out to those marketing wool in this progressive manner.

Packing and Shipping Instructions

1. Tie each fleece separately, using one paper string, per fleece. If "Wool Tying Box" is used, two strings per fleece are required.

2. When fleece has been tied, pack snugly into a wool sack.

3. Sew wool sack up securely, taking care to place one shipping tag (properly filled out) inside the sack. The second tag should be fastened securely on the outside of sack.

4. Keep wool in a dry place after shearing until it is shipped to Wool Ware House, Fredericton.

5. Wool will be received at the Wool Ware House between May 20th and June 20th, therefore do not ship until after May 18th.

6. The wool is to be sent by freight or express (freight when possible), with all charges collect to the Wool Ware House, Fredericton.

7. In shipping make out the Bill of Lading correctly and write distinctly. Ask the agent to write the full name of the consignor on the freight advices as this saves considerable trouble at this end.

8. As soon as wool is shipped, write to F. W. Walsh, Livestock Division, Department of Agriculture, Fredericton, enclosing the Original (No. 1) Bill of Lading.

Follow the above instructions closely and in filling in shipping tags write distinctly.

Warehouse

The New Brunswick Wool Growers have been very fortunate in securing the use of an up-to-date warehouse in the Exhibition Building, Fredericton. This building has a splendid concrete floor which prevents any drying out of the wool in the process of grading and at the same time the building is supplied with plenty of windows.

Prospects

From all indications 1920 will be a banner year for the Co-operative Marketing of Wool in New Brunswick. It is expected that over 100,-000 lbs. will be handled. Last year, 55,840 lbs. were handled.

Canadian Co-operative Wool Growers

All wool is shipped to the Wool Warehouse, Fredericton, to be marketed co-operatively and sold to the manufacturers by the Canadian Co-operative Wool Growers, Ltd. This company is made up of sheep-raisers from all provinces of the Dominion, and A. E. Trites, of Salisbury, is the Director for New Brunswick. This Company handles the bulk of the Canadian Wool Clip. Last year over 4,000,000 lbs. were sold through them. This year they are planning on a still larger amount of business. Recently they secured the services of Professor Tisdale, who has been connected with the Animal Husbandry Department of the University of Saskatchewan, Saskatoon, and has proved his ability in sheep husbandry. Professor Tisdale thoroughly understands the problems of the sheep industry in Canada and will be most invaluable in the future development of sheep and wool work in the Country. He plans on visiting all the wool associations this summer and expects to be in New Brunswick shortly.

Mr. W. W. Thompson formerly Director of the Co-operative Organization work, of the Saskatchewan Department of Agriculture, Regina, has also joined the staff of this company.

Notes From the Nova Scotia Agricultural College

Gleanings from Institute Reports

The Spring report of the Institutes show an active interest in gardening; the care and raising of poultry; School Gardens and School Improvement campaigns. A clean-up day is a feature of Institute work in some localities, and it grows in popularity and importance each year. It is most inspiring to read the reports which come in steadily from the Institutes. The members work hard with no thought of reward or spectacular glory, but the sum total of their work throughout the Province show that the ideal of "Home and Country" is well worth the effort expended.

We welcome two new Institutes in Kings County. One at Medford and the other at Cambridge. We are quite sure that these new Institutes will be splendid aids to our work.

A number of the Institutes are small in number, their members busy housewives who have to drive some distance to the meetings. When these handicaps are considered, one wonders how they accomplish so much, but as is often the case, it is the busy woman who can find time to do a little more.

Detailed reports of the Institutes as gathered from their reports follows:—

Arcadia is still interested in their school and recently sanitary towels were supplied to the school by the Institute. A Pie Social held brought them the sum of $17.30, and the young people of the place held a St. Patrick's Party and handed over the sum of $11.50 to the Institute.

Bridgetown Institute is sewing and caring for needy children in their town.

Bridgewater is interested in Social Service. Their April meeting included the report of the delegate who had attended the Social Service meeting in Halifax. The Roll Call at the last meeting was responded to by quotations on "Friendship." A resolution was passed that the Institute do all the hemming of sheets and pillow cases for the new Dawson Memorial Hospital.

Bible Hill Institute is interested in Community Improvement. A Special Committee appointed for this work decided to confine their energies to the School Grounds, this year, May 5th was set as Arbor Day, and all the people in the Community were invited to the School Grounds to assist in the work. Men and women and boys and girls were present and all interested. Several teams worked all day hauling gravel to make a new roadway. Several donations of trees and shrubs were gratefully received. Mr. Allen of the Horticultural Department of the College has the work in hand and has given much time and assistance to the Institute. They hope to make the grounds an example as a model rural School Ground. A committee of ladies served refreshments during the afternoon, which were greatly apperciated. The W. I. on Bible Hill looks forward to great progress in the future.

Brookfield is preparing for its School Exhibition which is held in the Autumn.

Bear River is interested in the sanitary condition of the school. Also the need of fire escapes in the school building was brought forward by the Institute.

Gaspereaux, one of our new Institutes, is growing. School and community improvement are being undertaken by them.

Caledonia also is interested in School and Community Improvement "In Times Like These," by Mrs. Nellie McLung, is being read and discussed at their meetings.

Halfway River Institute is interested in helping the needy in their district.

Lakeville Institute is reviving after a trying winter of meetings interrupted by storms and sickness. They have taken as their objective the care of an unfortunate child in their locality.

Lawrencetown always has a fine School Exhibition under the auspices of the Institute. Members of the Institute give instruction and assistance to the pupils in sewing, cooking and canning. A Short Course in Cookery is planned for the summer. They are also interested in starting a Supervised Playground this summer.

East Leicester Institute visited the school and at the close of their visit treated the pupils with delicious maple cream. No doubt their visit was greatly appreciated.

Oxford Institute has been busy caring for families who were left destitute by a bad fire in their town. Money, clothing, bedding and furniture was collected and given to the sufferers. They report, with pleasure, that these families are now comfortably situated and grateful to the Women's Institute for its timely assistance. The Institute there does so much to help others; and it has become an important factor in the community.

Port Williams has had a most instructive talk by an expert on "Care of the Teeth.' Grand Pre also had the same talk and derived much benelt from it. Both of these Institutes are greatly interested in Social Service work.

Point Edward, one of our new Institutes is making plans to improve the school house by painting and putting in a new foundation to the building.

Paradise is interested in School and Community Improvement. A pump with fittings has been recently installed in the school by the Institute. They are now taking over the care of the cemetery. The memorial to their boys is to take the

form of entrance gates to the cemetery.

South Side—Middle Stewiacke—has recently held a supper and sale and has raised the sum of $142.00 for the Institute Funds.

Weymouth plans to give comfort and cheer to the inmates of the Digby County Poor House.

Wentworth, a new Institute, has School Improvements as its first consideration.

Crop Outlook for 1920

By the time this issue of the Maritime Farmer reaches the readers, most farmers will be well along with their seeding in these Provinces, and plans will be about complete for all crops. There will still be opportunity, however, for some modifications, and, possibly slight increases in seeded areas, which in the aggregate, will make a considerable difference in next winter's feed supply.

In a recent interview, the Secretary for Agriculture gave a summary of the crop outlook, which is, to say the least, disappointing. The great need of the world today is a full grain crop. He stated, however, that our own West is reporting that the seeded area there will this year be at least 25 per cent. less than last year, owing largely to the unusually late season and the scarcity of labor.

Reports from Australia are to the effect that that country, instead of exporting wheat this year, is not likely to have sufficient for her own needs. In other parts of the wheat growing world, conditions are still uncertain. It is the general opinion among those best qualified to know, that, unless the season is extremely favourable, there will again be a world shortage in oats, wheat and other cereals.

An extra acre sown to grain, or to a silage crop, would seem to be a wise precaution for every farmer who sees his way clear to handle it. No one can tell what the Canadian harvest may be as yet, but with the granaries of the world still bare, the prospect is that mill feeds of all kinds will still remain scarce and high priced.

Short Course in Home Economics

Announcement is hereby made to the readers of the Maritime Farmer that a Short Course in Home Economics wiil be given at the Nova Scotia College of Agriculture, beginning early in July. The course will be open to Nova Scotia girls between the ages of 12 and 18. Classes will be held daily in the science building tuition being free. Special attention will be given to food values, canning and cookery.

The arrangements are that the girls will room in the neighborhood and will prepare and serve their own meals at the College, as a part of their practical instruction. In this way it is hoped that the cost per week will not exceed $6.00, the regular boarding rate in Truro at present being from $9 to $10. The girls will be under the care of competent instructors throughout their stay in Truro.

The first period will run from July 6th to 16th. If the first period is patronized well, a second will be arranged for, to run from July 20th to 30th. For full information write to Miss Helen Macdougall, (Superintendent of Women's Institutes for Nova Scotia), Agricultural College, Truro, N. S.

THE ROOSTER

Now, unless he is a show bird, off with his head! The poultry business will only reach its own when each detail is attended to. There is probably less room for sentiment in it than most lines. To the farmers the temptation is to regard it as a small matter, and let it drift. But the male bird should not run with the flock, especially in the warm season. Fertile eggs are not fit for summer marketing. So, off with his head!

CHEAPER BUG POISON

Among poisons for the control of biting insects, such as the potato bug Paris Green has been first both in point of time and in popularity. It is now an expensive article, and the farmers are reminded that they are paying the greater part of the price for the green colour, which is of no importance so far as the killing of bugs is concerned. The green tint is due to the large crystals of arsenic when combined with a copper base. The standard metallic bases are copper, lead, zinc and lime. Of these copper has advanced greatly in price during the war, and is now nearly in the class of precious metals. The cheapest of the lot is, of course, lime.

When arsenic is combined with lime one resulting compound is arsenate of lime. The appearance of this compound is that of a very fine white powder, and the price is about one third that of Paris Green. Its killing properties, per content of arsenic, exceed those of the latter, as it contains the same poison in a much finer condition so that it remains longer in suspension, thus reguiring less stirring, and for the same reason adhering much better to the foiliage.

Arsenate of lime is suitable for use alone, or compounded with Bordeaux mixture, on all vegetable crops including potatoes. For fruit trees 5 pounds of water slaked lime should be added to one pound of arsenate.

A tremendous business has sprung up within the past three years in this cheaper poison, partly owing to its effectiveness in controlling the boll weevil, the most serious foe to the cotton crop in the South. It is easily available, and should be on sale at all points. Ask for arsenate of lime and save more than half your outlay for poisons. Mention it to your dealer right away so that he may have an adequate supply on hand when needed.

Growing Potatoes for Larger Yields

Importance of Early Planting—Harrow After Potatoes are Planted

By W. T. Macoun, Dominion Horticulturist in Canadian Countryman

The yield per acre of potatoes for the province of Ontario for the year 1919 was 96 bushels, which is 18 bushels below the average for the past thirty-seven years, which is 114 bushels. In good years it is not unusual for individual Canadian farmers to grow 300, 400, and even 500 bushels per acre. The boys in the Carleton and Russell Counties Boys' Potato Competition have grown potatoes on one-tenth acre over 600 bushels per acre. In an irrigated district of Colorado, 847 bushels per acre were grown, and in the irrigated districts of Canada crops nearly as large have been grown. In the Woman's Potato Competition, conducted by the Rural New Yorker over thirty years ago, two women of New York State grew potatoes on a twenty-acre plot at the rate of 1,000 bushels per acre, one producing 1,061 bushels per acre.

What is possible in New York State could be accomplished in Canada. There is a wide range between 96 bushels per acre, the crop for Ontario last year, and 1,000 bushels per acre produced b ythe women of New York State, which shows the great possibilities in this important food crop. There are a number of important factors in the production of a crop of potatoes, some of the most important being: 1, seed; 2, planting; 3, moisture; 4, insects and diseases; and there are others.

The importance of good seed was first strongly impressed upon the writer in 1905, when on a visit to England, an experiment was seen where the results from seed potatoes from the South of England were compared with those from seed potatoes of the same variety from Scotland. At the time the plots were seen, in the middle of summer, the plants from the seed from Scotland were much more vigorous than those from the South of England, and the latter looked as if they would dry up before long. Since that time many experiments have been conducted at the Central Experimental Farm, Ottawa, the results of which have been published in the Annual Reports and elsewhere. These experiments showed that there was an extraordinary difference in yield between idfferent seed stocks, some seen producing almost nothing. It is still a matter of investigation as to how much of this lack of production is due to some obscure disease and how much due to climatic conditions, but the fact remains that there are these great differences in yield, hence, those who desire a good crop, as most do who plant potatoes, should be careful to use seed that is likely to produce a good crop if other conditions are favorable. In 1919, at the Experimental Farm, Ottawa, one lot of Irish Cobbler seed yielded at the rate of 378 bushels per acre, and another at the rate of 37 bushels per acre, a difference of 341 bushels. The best Green Mountain yielded at the rate of 330 bushels per acre, and one of the poorest 46 bushels per acre, a difference of 284 bushels per acre.

There are many potato fields in Ontario where the tops dry up during the month of August, and where the tubers lie in the hot soil until digging time in October. The potatoes from such fields do not make the best seed, and often seed from such fields gives very poor results indeed. On the other hand, there are many fields in certain parts of the province and in other provinces where the tops remain green until killed by frost. It is from such fields that the best seed potatoes come, providing they are free from disease, and usually such fields are the freest from disease.

In the cooler parts of the provinces of Ontario and Quebec, and in the Maritime Provinces, on the Prairies, and in certain parts of British Columbia, these relatively cool conditions prevail in most seasons, hence such places are likely to furnish the best seed one year with another.

The price of potatoes is very high this spring, and, no doubt, many small potatoes will be used for seed. If the small potatoes come from a good crop the previous year, they are likely to produce a good crop this year if the season is favorable, but if they come from a field where the tops dried up in the middle of summer the results are very doubtful and are liable to be poor.

Crops of potatoes can be grown from potato peelings, potato sprouts, and eyes which are gouged out of the potatoes with but a small amount of flesh attached, but the smaller the amount of flesh the smaller the crop is likely to be. If potato plants have not good tops they are not likely to have many tubers, and plants started from such sets as has been just mentioned are not likely to become very strong before hot weather sets in, although in years when the weather is cool and moist it is surprising what a fair crop can be grown from such poor sets. This year, when the potatoes are so very dear, it might pay those who grow but a small quantity to start plants from sprouts, eyes or peeling, planted shallow and close together, in a bed near the house, and after the plants have become well rooted to plant them out just like tomato plants. By starting them in this way one would be sure to have a good stand, as a certain proportion would not grow if they were planted in the ordinary way at first and the ground would be lost. While the use of such sets is not recommended, there are many people who cannot afford to pay the high price for seed and who might get some returns with very little expenditure. It has been found by care ful experiment that the most economical kind of a set in most places in Canada is one weighing from one one one-half to two ounces and having at least two eyes, and even in this year of high priced seed such sets are likely to prove the cheapest in the end.

It is important to plant potatoes soon after cutting them. Every day that they remain unplanted after cutting is liable to lessen the yield. Where large quantities are to be planted, and where it seems necessary to cut seed several days before planting, the sets should be coated with land plaster, gypsum or lime. This prevents the withering of the set to some extent, and greater yields have been obtained where this methods was followed.

Potatoes are planted much too late in some places in Canada, particularly in Ontario. One of the reasons for this is that one can usually get a fair crop of potatoes even when planted early in June, and farmers will plant their other crops before their potatoes. Experiments at Ottawa have shown that better yields are obatined of both early and late varieties by planting before May 15 than after May 15. In 1919 the spring was bery backward and cold, but a planting on May 17 gave higher yields than at any later date. In 1918 Irish Cobbler planted May 14 yielded at the rate of 431 bushels per acre; May 27, 363 bushels; June 10, 330 bushels, and June 24, 94 bushels. The Green Mountain planted on May 14 yielded at the rate of 473 bushels per acre; May 27, 402 bushels per acre; June 10, 321 bushels per acre; and June 24, 70 bushels per acre.

From the experience at Ottawa and the other experimental farms in different parts of Canada, the following advice in regar dto time of planting may be safely given. Where the spring is early and autumn frosts early, plant early. Where the spring and summers are dry, plant early. Where the spirng is late and autumn frosts are early, plant as soon as the soil is dry enough. Where the spring is late and autumn frosts do not come until late, early planting is not so important as potatoes have a long time to grow in the autumn, when a great development of tubers takes places in the cooler weather.

The varieties recommended for different parts of Canada are: for the Maritime Provinces, Irish Cobbler and Green Mountain, with the addition of

(Continued on page 646)

THE MARITIME FARMER

And Co-operative Dairyman
Registered Trade Mark
Fortnightly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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DATES OF ISSUE.

June	8—22
July	6—20
August	3—17—31
September	14—28
October	12—26
November	9—23
December	7—21

MAY 25, 1920

A QUARTER CENTURY OF SERVICE

Nearly twenty-five years have elapsed since the Maritime Farmer first made its appearance in the field of Agricultural journalism. The quarter century mark will be reached when, on September 28th of this year, volume 25, No. 26 goes forth from our presses to the farm homes of the Maritime Provinces and Newfoundland, to which for so long a time it has been a welcome visitor twice each month until the first of January of this year, when it visits became more frequent, owing to the fact that it is now published once in every two weeks, making twenty-six numbers instead of twenty-four numbers in the year.

The aim of the publishers of the Maritime Farmer has been and is to give its readers timely information and suggestions on agricultural topics applicable to Maritime Province conditions and of general interest to farmers in Maritime Canada.

The Maritime Farmer has never dictated to any man or group of men how he or they should exercise their franchise. The Maritime Farmer believes that each and every man and woman have a perfect right to exercise their franchise as seems best to them. Its manager and editors have their own personal views on the various questions that concern the public and have always lived up to the standard that principle comes before party.

Any statements that have appeared or may appear in the editorial columns of The Maritime Farmer are the opinions of the editors of this paper. Neither they nor the Maritime Farmer have ever been approached by any man or party with a view to in any way change its editorial policy. The Maritime Farmer's editorial policy is its own. This has been its guiding star in the past and by this same principle it will be guided in the future.

For twenty-five years The Maritime Farmer has assisted the live stock breeders of Maritime Canada to dispose of their surplus stock. The prize winnings at the various exhibitions have been faithfully reported and mention made of the various breeders on the merits of their stock, no matter whether they were advertisers in the columns of The Maritime Farmer or not. Thousands of dollars worth of live stock has been sold by some of the breeders who were advertisers in our columns from the publicity received through The Maritime Farmer's reports of their winnings. The more progressive breeders ,however, carried on an advertising campaign, and hundreds of letters commending the efficiency of The Maritime Farmer's advertising columns have been received at the office of publication. The Maritime Farmer has always been pleased to assist the farmers of the Maritime Provinces in any legitimate way, feeling that thus its mission was being accomplished.

The Maritime Farmer has never attempted to vilify the United Farmer movement. Long before the official organ of that organization came into existence the Maritime Farmer repeatedly advised farmers to organize and have more of a say in the governments of our country.

Following is an extract from our issue of September 9. 1919:

"At a recent convention of the United Farmers of New Brunswick resident in Carleton and Victoria Counties, T. W. Caldwell, of Florenceville, was selected to carry the Farmers banner at the next Federal election for the Carleton-Victoria riding.

"Mr. Caldwll is the President of the United Farmers of New Brunswick, a public spirited farmer of good repute, appearance and address—the type of man any body of men should be proud to support and the kind of man the Maritime Farmer would like to see elected in every farming constituency in the Maritime Provinces.

"The Maritime Farmer is not a political paper character but we would like to see a clean, intelligent farmer nominated and elected by each and every electoral district in Canada, where farming is the main and most prominent industry. Too long have constituencies of this kind been represented by devotees of some other calling.

"The farmers of Canada are coming into their own. They are fast learning to realize the magnitude and importance of their profession. Too long, it could be truthfully said 'farmers will not stick together.' We trust that when a farmer candidate is in the field in future elections no matter what his political creed may be that it will be said when the votes are counted and the results published, 'the farmers stuck together and elected their man.' "

The Maritime Farmer's opinion of Mr. Caldwell and the movement he has the honor to represent are just the same today as they were in September but it will oppose any evidences of detrimental inteference by western big interests in the affairs of the Maritime Provinces. This stand The Maritime Farmer has taken; it believes in the best interests of the Maritime Province farmers and this stand it will continue to maintain just as long as there is any necessity for such a stand. Let us say again that it is not the business of The Maritime Farmer how any man in the Maritime Provinces should vote, neither is it the business of any journal controlled in Winnipeg.

NO OUTSIDE INFLUENCE CAN DOMINATE THE MARITIME FARMER

The United Farmers' Guide seems to be very worried over the fact that the New Brunswick Department of Agriculture has seen fit, in response to the suggestions of numerous farmers and in concurrence with the unanimous sanction of the greater number of the Agricultural Societies of the province to make use of the columns of the Maritime Farmer.

The necessity for an organ like The Maritime Farmer to carry the activities of the Department and the suggestions of its men to the farmers of New Brunswick became very apparent in war times, when every Department of Agriculture in Canada was asked by the officials who had charge of the food supplies for our soldiers, to get in touch with the producers of food and encourage them in every possible way so that our cause might not fail for lack of supplies.

The various Departments of Agriculture did their utmost to get in touch with the producers and the producers were pleased to keep in close touch with the nation's requirements and provide therefor. In order to get and keep in touch with the producing public, the New Brunswick Minister of Agriculture asked for and received the co-operation of the Agricultural Societies in the Province.

Many of these Societies were not in the habit of holding monthly meetings, and consequently the nation's call to her second line of defence, on the farmers, did not so effectively reach the people until as an emergency measure the majority of them decided on the suggestion of th Department of Agriculture, to hold monthly meetings. So effective has the system of monthly meetings proved that the majority of the Societies have made monthly meetings a permanent feature of their organization.

As it is almost impossible for Secretaries of Agricultural Societies located in sparsely settled districts to keep in touch with the rank and file of the members between meetings, many requests reached the Department of Agriculture for a medium whereby the members of Agricultural Societies would be kept in closer touch with the workings of the Department. After receiving the sanction of the various Agricultural Societies, The Maritime Farmer was adopted as the most suitable medium. The Maritime Farmer is fulfilling its mission.

Its editorial policy is absolutely its own. It is not dictated to by any government or organization, and what is more, it will not brook dictation from any source that might attempt to warp its policy. Any attempt to warp the Maritime Farmer's stand for the east should it come from any government, manufacturer or organization will be just as fully resented and as quickly exposed as was the meddling of the Western big interests in the affiairs of the Maritime Provinces.

The Maritime Farmer believes the farmers of the Maritime Provinces are well advised to organize but in so doing they are perfectly capable of looking after their own interests. We were somewhat amused not long ago to hear two western men remark that in a couple of years the farmers of New Brunswick would be able to conduct their meetings without very much assistance from western talent. We heard these gentlemen speak at several meetings and from our point of view some of our New Brunswick men outdistanced them in every way as executive men and as platform speakers.

Let us say in closing to the United Farmers' Guide that the requests to make the Maritime Farmer the official organ of the New Brunswick Department of Agriculture reached the Department many months before the United Farmers' Guide was mooted.

The exposure in these columns of the hoax that western big interests are attempting to put across in the Maritime Provinces is not institu-

ted by any government, political party or clique. The Maritime Farmer is prepared to stand behind any assertions it has made.

The Grain Growers Guide tried to buy the Maritime Farmer but their offer was refused, as the Maritime Farmer was not for sale. The management of the Maritime Farmer is proud of the stand this organ has taken in what it believes is a stand for the best interests of the Maritime Provinces.

OBJECTS AND WORK OF THE DEMONSTRATION ORCHARDS IN NEW BRUNSWICK

(By G. A. Turney Provincial Horticulturist)

Demonstration orchard work in this Province was first undertaken in 1911, when the Department arranged for the operation for a three year period of parts of the orchards belonging to Joseph Hawkins, Douglas, York County, J. W. Clark, Maugerville, Sunbury County and H. L. Steeves, Lower Coverdale, Albert County. Other orchards taken for similar operation were those of C. R. McKenzie, Lingley, Kings County, in 1912, University of St. Joseph's College, Westmorland County in 1913, O. F. Corey, Havelock, Kings County, and J. R. Randall, Randall's Corner, Sunbury County, in 1914, and William Cobourn Keswick Ridge, York County, in 1916.

Descriptions of these orchards, records of the work done in them and the results obtained were published in my Annual Reports for the years of their operation and are available to interested parties. The operation of these demonstration orchards gave us some much needed data as to costs of production and yields and profits per acre and proved of distinct value in demonstrating the province's possibilities in commercial apple growing and in encouraging new plantings on a larger scale. Their object accomplished we have, for the time being, discontinued that type of demonstration orchard in favor of types of orchards planted by ourselves with the object of ascertaining the most economical methods of growin varieties of proved adaptability and commercial worth in this province.

The work of the old style or bearing demonstration orchards established clearly that our leading varieties of apples those on which the immediate or first extension of the industry would have to be based, are Wealthy, Alexander, Fameuse and the McIntosh (with McIntosh preferred to Fameuse), with a smaller place alloted to Duchess and Dudley and to some winter varieties that may be profitably grown in particular sections. Given, therefore, these four varieties of proved worth and adaptability, the obvious thing to do is to exploit their produnction in the very best sense of the word—to demonstrate as widely as possible their superiority over other varieties for our conditions, and to ascertain and demonstrate the best and most economical emthods of producing them.

In 1918 we established nine new test or demonstration orchards, each consisting of about an equal number of Fameuse, McIntosh and Alexander, planted thirty feet apart each way, the object being to ascertain more concerning the comparative behavior and worth of Fameuse and McIntosh in different sections and the Alexander being included for its pollenizing value. Three of these orchards were established in Queens County, two in Kings County and one each in the Counties of Carleton, Sunbury, York and Westmorland.

In the spring of 1919, seven more and larger orchards of these varieties including Wealthy, in various combinations and planting distances, were set out and are as follows:

Three orchards, each consisting of 50 Wealthy and 50 Dudley, planted fifteen feet apart with a thirty foot roadway separating the block of Dudley from the Wealthy. One orchard consisting of 68 Dudley and 80 Wealthy, planted 12½ feet apart with a thirty foot roadway separating the blocks. One orchard consisting of 75 Dudley and 75 Wealthy, planted 10 feet apart. Two orchards, each consisting of 108 trees per acre—standard trees planted forty feet apart square with one in the centre of each square, giving 39 standard McIntosh and 15 standard Alexander, with fillers twenty feet apart each way, 27 Wealthy and 27 McIntosh.

The object of the Dudley and Wealthy orcharde is to find out if the most economical way of growing these shorter lived and smaller tree varieties is not by closer planting in separate blocks rather than at wider distances among larger growing or standard trees such as McIntosh and Alexander, and, at the same time, to compare the Dudley with the Wealthy in this respect.

These new commercial demonstration orchards, as they will be known, have been placed with leading growers so that the conditions of care and culture are the best obtainable. Accurated and detailed records of the cost of growing, yields, etc., will be kept and published ,and these orchards will be pruned and their care supervised by the Horticultural Division.

INFLUENCE OF TRANSPORTATION ON AGRICULTURAL PRODUCTS

After condition of soil and of climate, freight and express rates and the cost of the care and management of agricultural products are the most important factors to be considered before deciding on the kind of crops to be grown.

In regard to the quest of transport the following principles may be laid down:

1. Products which are easily transported and which do not deteriorate too much by cartage, such for instance as cereals, may easily be profitably produced at a distance from the large centres of population.

2. Perishable products or those which are valuable only in large volume and consequently costly to transport, such as table vegetables, small fruits, potatoes, hay, etc., can be more profitably grown within easy distance of where they are to be consumed.

3. Each group should be disposed of in such manner as to produce the most profit or the least loss without regard to the cost of production.

The most common theory in regard to grain and hay is that these crops when they can be easily and cheaply produced, should always be consumed by animals on the farm. This is an error caused perhaps by the absurd practice by certain institutions of charging their food to the animals at its cost price instead of at the market price as it ought to be. For instance the cost of production of a ton of hay is $5.00 in giving it to cattle to eat. I can obtain it for $8.00 while the market price is $15.00. It is then evident that I should sell my hay rather than consume it on the farm.

These three principles being established, let us now apply them.

How does transport affect the production of pork?

It requires on the average from 5 to 6 pounds of grain to produce a pound of pork, so that 500 pounds of grain converted into pork costs but little more to transport than 100 pounds of natural grain. From this we conclude:

1. That at a distance from large centres of consumption where grain is easily and cheaply produced, it is often advantageous to convert it into pork for shipment. This is practically the chief reason why the maize region of the central States is at the same time the most important cattle raising centre of the world.

2. A region which does not produce all its own grain is, in theory, unable to compete successfully for the economical and paying production of pork with a region which has grain to export. So, in theory, the Province of Quebec is in an inferior position to the Provinces of the West for the cheap production of pork. What makes the raising of pork more or less lucrative in practice in this Province is that:

1. The demand exceed the supply because of the large export trade of several years past.

2. The dairy industry, so favorable to an economical production of pork, is practically non-existent in the Western Provinces, while in the Province of Quebec it is the basis of the hog industry.

The bacon hog, which requires less grain, but more vegetables and by-products of the dairy, should be more appropriate to our Province than the fat pork hog.—C. F.

HOW TO CALCULATE THE RATE OF THE DEPRECIATION OF CATTLE

1. OF CATTLE.

Two causes contribute to depreciate the value of a herd of milch cows; accidental mortality and the progressive diminution of productivity caused by age.

United States statistics have established that about 12 cows out of 1,000 die from illness caused by accidents. On the other many experiences have shown that about 7 years is the average term of productivity of milch cows. Taking these two causes together it is estimated that the annual rate of depreciation of a herd of adult cows is about 14% or 1/7 of the value of the herd. However, there is another thing to be considered; namely that a cow, outside of her value as a machine for the production of milk has her flesh and her skin, the value of which remains all the time, although it is diminished by age. It is easy to understand that this beef value has a more or less marked influence on the annual rate of depreciation. The nearer the price of the cow is to the value of the animal in meat, the less marked is the rate of depreciation.

It is an error then, from the financial point of view, to buy a milch cow of 7 or 8 years of age at the same price that one would pay if she was only 4 or 5 years old. The risks of accidental death are increased and, besides, her productivity is on the decline. One who is not a connoisseur runs generally less risk in buying a large cow, because in case of accident or if this cow is not a good milker, the net loss will be smaller.

2. OF HORSES.

The average duration of a horse is about 14 years. It reaches its maximum of value and of capacity about the age of 5 years; it maintains its vigor until the age of 8 or 10 years, after which it declines. Thus the rate of depreciation of horses after 5 years of age will be about 10%. The same conclusion can then be drawn as in the case of milch cattle.

3. OF SHEEP.

The sheep has a short life and this is why the rate of depreciation is so high. It is never less than 10% and this comes very high on expensive sheep. This rate of depreciation is alone due to a considerable extent to the fact that theer are more deaths and accidents among sheep than among other animals.

4. OF POULTRY.

A flock of common fowls which has been kept 3 years without being renewed may lose about 15% of its value every year. This loss is due to the following facts:

1. The very high death rate: 10 to 12%;

2. The flesh of an old fowl does not sell for as good a price as that of a pullet.

This rate of depreciation may be as high as 24 and even 30% in the case of fowls of pure breed, the incubation or the purchase of which has been costly.

CONCLUSION.—Generally speaking it is better to sell common fowls for their flesh atfer they have been utilized for one year and to replace them by pullets. The difference between the price of sale of the fowls and the price of purchase of the pullet will be amply compensated by the surplus of eggs which the last mentioned will produce in one year.

On the contrary, if one has pure bred fowls purchased at a high price when they were pullets, it is better to keep them 2 or 3 fears, because if they are sold for meat, after having been utilized for one year, to replace them by other pullets, also costing a high price, the difference between the price of purchase and that of sale, which may be very great in such a case, is to the detriment of the poultry raiser, and will not be compensated for by the surplus of eggs yiven by the flock.

LIVE STOCK NOTES

The Federal Department of Ariculture has arranged for the exhibtion in several sountries of Europe of the pure bred Shorthorn steer, "Roan Jasper," champion steer of the Guelph Winter Fair of 1919, and of the grade Angus steer, "Black Hector," champion steer at the Toronto Fat Stock Show of 1919. These animals are the property of H. P. Kennedy & Copany, Toronto, who purchased them at the Toronto sale. Mr. Kennedy is directly interested in the export trade in Canadian cattle and has co-operated with the Department of Agriculture in this special advertising scheme by donating these two high class animals and by landing them at Antwerp with a large shipment sent over by him during the present months.

"Roan Jasper" was bred and exhibited by J. M. Gardhouse, of Weston, and in addition to winning at the Guelph Winter Fair, he was the grand champion steer at the Canadian National Exhibition in September of last year. When shown in Guelph in December at 15 months of age, this steer weighed 1,110 pounds. "Black Hector" was bred by A. & G. Whitlaw at Guelph and when shown in December at the age of 20 months weighed, 1,290 pounds.

On arrival at Antwerp these steers will be taken in charge by a representative of the Federal Department of Agriculture, acting under the general direction of the Honorable Rudolf Roy, Commissioner for Canada in France, who is in charge of arrangements for exhibiting them at some of the larger centres in France, Belgium and possibly Switzerland. The tour will continue for several weeks and when it is concluded the cattle will be sold and the proceeds will be contributed to charitable purposes.

The purpose of this somewhat unique undertaking is to make known to those in the cattle trade in the countries visited, the ability of the Canadian Live Stock Industry to supply export finished cattle or bullocks of the desred type and quality for feeding purposes.

During the year ended December 31st, 1919, the cash sales of hogs marketed at six Canadian Stock Yards reached a total exceeding $26,000,000. This amount of money does not include the value of hogs shipped direct to packing plants and passing through the yards. It is estimated that the cash value of the hogs sold off the farm during 1919 exceeded $80,000,000.

The average weight of the hogs marketed at the Union Stock Yards, Toronto, during 1919 was 187 pounds.

Approximately 2,332,400 hogs were slaughtered at Inspected Establishments during 1919, compared with approximately 2,260,700 hogs during the previous year, an increas of about 72,000 head in 1919. Ontarib and Quebec supplied the surplus, the Western Provinces running short of the 1918 total.—Live Stock Commissioner.

HORTICULTURE.

METHOD OF ORCHARD CULTIVATION

(Experimental Farms Note)

The method or system of cultivation to be adopted may be varied to some extent to meet local conditions. In reality, however, all systems should be, and in most cases are, a slight modification of the "clean cultivation and cover crop system."

THE CLEAN CULTIVATION METHOD, calls for all the ground under and around the trees to be ploughed and frequently harrowed until around July first.

This system has much to recommend it, viz. (1) maximum conservation of soil moisture; (2) excellent conditions for liberation of plant food especially nitrogen; (3) sightliness and cleanliness of the orchard and (4) control of insect pests.

In connection with this, either fall or spring ploughing may be practised, the former however, only in those localities with a favourable enough winter to so permit. The great secret o fsuccess with any system of cultivatio ndesigned to conserve moisture and liberate plant food is to get on the land as early in spring as possible, otherwise, if the orchard is not ploughed until late, most of the advantages of cultivation are lost.

Modifications of the above consist of leaving a strip of sod about four feet in width next to the trees. In old orchards where it is difficult to get close to the trees this may be practised successfully, in which case the grass is cut once or twice during the season and allowed to remain as a mulch.

In both these instances, on the cultivated portion a mulch is maintained until about July first, when a cover crop of some sort should be sowed. If the seed is not too expensive, some leguminous crop like red clover or crimson clover at the rate of about 12 pounds per acre for the former and 10 pounds for the latter, or summer vetch at the rate of 50 pounds per acre is advisable, as these will add a considerable quantity of plant food to the soil.

If too costly, rape may be used as a cover crop, at the rate of 30 pounds per acre.

THE SOD MULCH SYSTEM, if properly handled may be advisable on moist soils where there is abundance of plant food. This system must not be confused with the SOD SYSTEM. which is not to be recommended. If the former, for the first few years grass or old straw is hauled on to the orchard and placed around the trees to form a mulch. This practice is continued until the cuttings from the sod beneath the trees is sufficient in themselves to form a heavy mulch.

M. B. DAVIS, Pomologist.

TIME FOR THE FIRST SPRAY

By G. E. Sanders

When the leaves are the size of a ten cent piece, the first spray should be applied.

In most orchards this spray should be 3-10-40 Bordeaux and 1 pound of arsenate of lime to 40 gallons. Where there are indications of an outbreak of aphids, 1 pint of Black leaf 40 should be added to 100 gallons of solution. Add the Black leaf 40 the last thing before the spray goes on the trees.

In making the Bordeaux begin by putting the powdered copper sulphate into the spray tank or into the strainer and start filling, running the agitator while filling. When the tank is two thirds full dump in the hydrated lime and then add the arsenate of lime. Be sure to use at least three times as much hydrated lime as bluestone in making Bordeaux for the apple.

Te first spray controls the Budmoth, Brown tail Moth, Tent Caterpillar, Canker Worm and Apple Scab. In order to do good work on the Budmoth with this spray, it should be applied as a drench and at high velocity.

In 1913 missing this spray meant no crop of apples in Nova Scotia. On two other occasions during the past ten years it has meant very dirty fruit. Last year we very narrowly missed a repetition of 1913. This year we have an early spring similar to 1913 and it may be that our first spray will be as important this year as then.

CERTIFIED SEED POTATOES

(Experimental Farms Note)

This term is applied to potatoes which have passed two inspections made by inspectors of the Division of Botany, Experimental Farms Branch, Department of Agriculture. These inspections are made (1) of the growing plants during the blossoming period, and (2) at the time the tubers are dug, or after they have been placed in storage.

While purity of variety is given due consideration in determining the claims of a crop to certification, the prime object of this work is the absence and, incidentally, the control of disease, particularly of constitutional diseases such as Leaf Roll and Mosaic, which have proven to be responsible for a serious reduction in yields in many parts of the country. As the only possibility of distinguishing the presence of these diseases lies in the inspection of the growing plants, it is obvious that in order to ascertain the presence of, or freedom from, Leaf Roll or Mosaic in any crop, inspection must of necessity commence in the growing season and preferably during the blossoming period, as it is at this time a matter of small difficulty to distinguish any impurity of variety. Thus the two-fold object is attained.

At the conclusion of the inspection of a field of potatoes, the inspector hands to the grower a record showing the exact condition of his crop. Should the field be found to measure up to the required standard, the grower is again visited at, or after harvest time and an inspection made of the tubers to ascertain to what extent, if any, diseases such as Common Scab, Rhizoctonia, etc., are present. Should this final inspection prove satisfactory, the potatoes are graded as either No. 1 or No. 2 Grade Seed Potatoes, and a sufficient number of tags to cover the number of bags or other containers necessary for the shipping of the amount of potatoes inspected, are issued by the inspector. These tags certify that the contents of the bags or other containers to which they are attached, have been grown by the person whose name apepars on the tags; that they have been inspected by an officer of the Dominion Department of Agriculture and found to be sufficiently vigorous and free from serious diseases, other pests and foreign varieties to warrant them being classed as No. 1 (or No. 2) Grade Seed Potatoes.

On the other hand, if a field fails in the field inspection to measure up to the required standard owing to the presence of a larger percentage of diseases or impure varieties than is allowed, it is given no further consideration; the grower being advised to change his seed and to procure for this change, seed potatoes from some grower whose stock has satisfactorily passed both field and tuber inspection.

This work is being carried on at present chiefly in Northern Ontario, in parts of New Brunswick, Quebec, Nova Scotia and Prince Edward Island. tI is proving of value to the grower in that it frequently reveals to him the loss which he is incurring by the use of diseased seed, and is also a means of putting him in touch with the grower from whom it would be advisable to obtain a supply of

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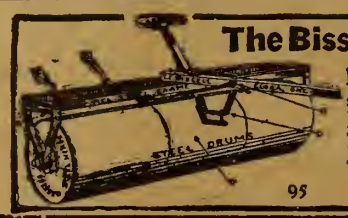

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"Certified Seed Potatoes" as outlined above.—Geo. Partridge, Assistant Plant Pathologist, Central Expeirmental Farm, Ottawa, Ont.

DISEASES OF BEES

(Experimental Farms Note)

Bee diseases are of two kinds:—Diseases of the adult bee, which, happily, in Canada, have so far been of a transient nature, because no effective treatment is known; and diseases of the brood, of which there are three, American foul-brood, European foul-brood, and Sacbrood.

Since each of these three diseases is treated differently, and since the first two cause great loss when neglected, it is important that every beekeeper should be able to recognize and distinguish them so as to treat the serious ones effectively and without delay.

The diseases affect the larva or worm stage of the bee.

On American foul-brood, the larva, just afte rcapping, becomes a coffee-colored mass whic his so tenacious or viscid that it will rope out sometimes to a length of several inches if a tooth-pick be inserted into the cell and withdrawn, and it has an unpleasant glue-like odor. The mass dries down to a scale that adheres tightly to the lower wall of the cell. The capping of the cell containing the affected larva is usually discoloured; it is often irregularly perforated, or it may be removed altogether.

In European foul-brood, most of the larvae are stricken before they are capped over. They lose their shape and collapse at the bottom of the cell, appearing as if they had been melted and turning to a light straw or gray colour. The decayed brood has a slightly sour smell to which is sometimes added a strong odor of putrefaction. The mass ropes out either not at all, or but little; and the dried scale is easily detached.

In Sacbrood, the full grown larvae lies stretched out on its back in the cell, discoloured but with skin and shape intact. The juices of the larva are watery and contain curd-like particles.

American foul-brood is treated by shaking the bees into a clean hive containing frames fitted with foundation without any of the honey, and taking away the combs of the brood and honey which contain the spores o fthe disease. The bees must not be allowe daccess to the honey unless it has been boiled for an hour, although it is fit for human use. The combs may be rendered into wax. The hive should be disinfected by scorching.

European foul-brood is treated by introducing young Italian queens and keeping the colonies strong and well supplied with stores. This disease will spread very rapidly during a honey dearth in late spring and early summer. In severe cases, the colonies should be left queenless for one or two weeks before the Italian queens are introduced.

Sacbrood usually disappears after a few weeks and calls for no treatment.—F. W. L. SLADEN, Apiarist, Central Experimental Farm, Ottawa, Ont.

CONTROL OF SWARMING

(Experimental Farms Note)

Swarming is the bees' natural method of increase, and the instinct to swarm is particularly strong under the extremely favourable conditions for bee activity of the Canadian spring and summer.

The uncertainty of swarming, the loss of honey following the division of the working force of the colony, the possibility of swarms escaping, and the difficulty in preventing swarming in many parts of Canada without considerable labour, all make the control of swarming quite the greatest problem in bee management.

To encourage work in the hive and to discourage the desire to swarm, plenty of room, both in the brood chamber and in the super, and large entarnces should be given to all colonies as soon as conditions are favourable, but these measures will not always be enough to prevent swarming in many places, especially in the north.

If the apiary can be watched all day, it is a good plan to clip the queen's wings at fruit bloom time. When the colony swarms, remove the hive to a new stand place, on the old stand an empty hive, to which the swarm will return, the queen having been meanwhile picked up and placed in a cage in the new hive. The field bees will join the swarm and the parent colony will be so much weakened by their loss that ti is not likely to swarm again.

Where the apiary cannot be watched, the plan of preventing swarming by examining every brood comb in every colony every week, and destroying all the queen cells is very laborious and not always effective. A simpler plan is to remove the queen at the beginning of the clover honey flow, and eight or nine days later, destroy all the queen cells except one, or destroy all and give a ripe cell of select parentage. In this way a young queen is obtained which will not swarm and, besides, will be more prolific in the fall and next year than the old queen, and will be less likely to swarm next year. The plan, however, causes a certain amount of loafing until the new queen starts laying. This loafing can be much reduced by introducing a ripe queen cell at the time the queen is removed, and if this is done early enough before any preparations for swarming have been started, the bees are unlikely to build further queen cells. Where, however, one prefers to use the surer method, only those colonies that are actually preparing to swarm should be treated, and some means for quickly ascertaining if a colony is building queen-cells in preparation for swarming should be employed. One of th ebest of these is to have the brood nest occupy two chambers, and then by prying up the upper chamber, one can see at a glance if the queen cells are being built along the lower edge of the combs in this chamber.

In many parts of southern Ontario, southern Quebec and similar regions the desire to swarm is strong only during the first two or three weeks of the honey flow from clover, and the separation of queen and brood by a queen excluder, the queen being put into a lower chamber containing only empty combs and foundation, may be enough to tide the colony over this period. Another good plan that may be enough to prevent swarming in this region is to use two brood chambers and confine the queen to the lower one early in the honey flow, at which time the combs in this chamber usually contain a large number of empty cells.

F. W. L. SLADEN,
Apiarist.

SHIFTING PLANTS IN SPRING MONTHS

The efficient shifting of plants depends upon the strict observance of a few general but exacting rules. First, the roots must be fully protected against drying while out of the ground which necessitates the exercise of oversight during this period. Protection from sun and air to the entire plant, when of a succulent nature, and to the roots of bush fruits and other nursery stock, is required. Then, too, under certain conditions of air when evaporation is exceptionally great, it is advisable to dip or sprinkle the plants with water as they are taken from the ground, to assist in maintaining the desired degree of succulency in plant tissue.

The second point to consider is that of pruning, the purpose of which is to conserve plant vitality by reducing the proportion ofsurface tissue, and to promote plant vigor by securing equality between root and branch. With plant bed seedlings this purpose is best attained by cutting away the top with shears or sharp knife; and the same is true of bush fruits and nursery stock in general. With strawberry plants the end is best attained by stripping a portion of the leaves. In all cases a certain amount of root pruning is also desirable.

Because of the respiratory processes going forward during active plant growth, assisted by the agencies of sun and air evaporation from the surface of this succulent growth is very rapid; and even though it be true that respiratory action may largely cease when plant or tsee is semoved fsom the soil, the influence of sun and air still obtains, hence the urgent need of providing immediate protection from these agencies, that succulency in plant tissue may be conserved as far as possible, till the roots are reestablished in new feeding grounds.

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The Lock that Holds

I can go over a cow that has been curried every day, and give her a good thorough combing and brushing, in two minutes. If you do it only once in a while it will be a different story, like the old woman who couldn't see how some women could comb their hair every day; she only did hers once a year, and then it almost killed her.

Grooming milk cows helps their circulation and keeps their skin in a better working condition. In winter they miss the showers—Nature's both—that occasionally wash them when on pasture, so we can supply the next best substitute by grooming them each day. It increases your pride in your herd, for one that is groomed every day will look fifty per cent. better than one that is not.

When engaged in grooming a cow you will find out many little things about her that you might not otherwise know. Any hidden sores or tender spots needing attention will be brought to light; their handling qualities and condition of hair and hide will show themselves. You can learn many of the good and bad points of a cow from the judge's standpoint by currying her. The extra handling makes her more tractable and she will like you all the better. Anyone who has done much of it knows how jealous some cows get when the one next to them is being curried. They like it without exception, if you do not handle them roughly or get in too much of a hurry.

Nor should your efforts be confined solely to the cows you milk. Calves of all ages are fond of at least a brushing, and will become so much more tame and docile that it is time well spent for that reason alone. Your herd sire will thank you as much for his daily grooming as any animal, and if you have to spend five or ten minutes a day upon him, remember you are getting off cheap at that, when you can go over half your herd in that length of time.

I think it is a mistake to believe that grooming is only warranted where purebreds are kept, for I believe that a profitable cow will do enough better at the pail to pay for your work grooming, even though she be what is technically known as a scrub. Perhaps you keep too many cows and could let half a dozen of the poorest ones go to where they won't need to be groomed. Then you will have that much more time to put on your better ones. Give them as square a deal as you do your horses. They get curried before every day's work, but because a milk cow is so quiet and unobtrusive about her work and doesn't get in a sweat over it like a horse, she must often look on in vain longing while some horse that works eight hours a day, less than two hundred days a year, gets what she is more deserving of.—L. W. C.

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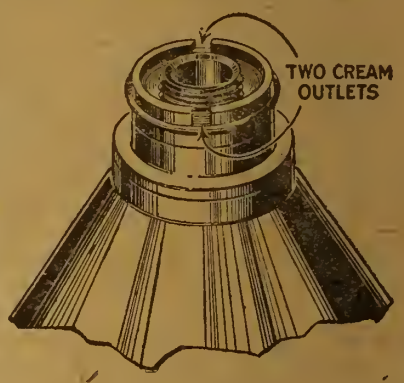

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DAIRYING.

GROOMING THE DAIRY COW

One of the biggest problems in housing milk cows is to keep them clean. No matter how much bedding is used for cows in stanchions, unless there is an alignment device and a wide and deep gutter behind them, their tails and hindquarters are sure to get dirty. A rearrangement of their bedding twice a day helps, as does also keeping those parts clipped. But the thing that will improve their appearance the most is a good treatment with a curry-comb and brush six times a week.

We have found the best all around curry-comb for cows to be one consisting of four concentric circle strips of thin metal both edges being cut into teeth all the way around. A cylindrical wooden handle is attached to this in such a way that both sides of the comb may be used. After using it awhile, it is preferable to use one side for the bulk of the work, keeping the teeth on the little-used side sharp for obstinate places that need greater penetration. The teeth are almost too sharp on a new comb, and they can be dulled a little with a file. A good, strong oval brush, with fairly long stiff bristles is preferable. I always use the comb in my leading hand, and the brush in the following one, using the latter almost entirely around to the legs and tender places.

PERFECTING THE MILKING MACHINE

Of the many modern farm labor saving appliances that the high cost and scarcity of farm help has occasioned none have created greater interest to the dairy farmer than the milking machine. Milking is the one chore at a dairy farm that is badly hit by the scarcity of manual labor that hitherto was the only medium, and perfecting of the milking machine has now overcome this seriou shandicap to the industry.

The modern milking machine is a practical and safe labor saving device. This has been proven under rigid test at the Experimenta Farms and is also borne out by the experience of practical dairy farmers. Representatives of this paper have been able to make personal observations of them in use on a large number of farms and have found the farmers generally well pleased. It is safe to say that a dairy man who installs any standard make of milking machine in his barn is now as much on trial himself as the machine.

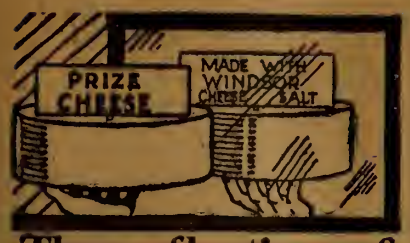
Failures in machine milking several years ago were rather numerous; due to a variety of causes, chief among them being that the owner did not fully understand the mechanics of the machines or fully appreciate the necessity of taking proper care in operating them and keeping them scrupulously clean, or in promptly and carefully stripping the cows after the machine milking. Failures due to similar causes have accompanied the introduction of practically every machine into the farming field.

Of late years, however, machine milking failures have been few owing both to the simplification of the machines by their manufacturers and the more intelligent operation of them by the owners. The best remedy for failures in the use of the milking machine is to become thoroughly familiar with the machine selected, its adaption to each cow, and what is required to keep it in order and sonitary condition.

Nearly all cows take readily to machine milking, and other conditions being similar, they will yield as much mil when milked by machine as by hand, if they are always promptly and carefully stripped by hand after the milking with the machine has been completed. The machines properly operated do not injure the teats or udders of the cows, or cause garget or other udder diseases. Prompt and careful hand stripping is the most important factor in successful machine milking, even though the machine used leaves only small amounts to be stripped out.

A cow with a good production record will sell more readily for a better price than one whose capacity for production is unknown or whose reputation in this line depends entirely on your "say-so." If therefore, you are unable to have your cows officially tested it will pay you to keep their individual records yourself (as well as costs of keeping) to show to prospective purchasers and to enable you to price the animals equitably.

Be it remembered, however, that good dairy herds are not built in one generation. The price of success in developing dairy herds is continuous, persistent, intelligent efforts. Those who make it their business to breed livestock find that even a lifetime is too short for acomplishing the coveted results.



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RETENTION OF AFTERBIRTH

Retention of the afterbirth is a very common trouble in dairies and occurs more frequently with cows than with any other animals. The trouble is not serious in itself to the health of the cow, unless through some complication, set up by the absorption of the fetid matter, and the effect of this upon the milk. The cause of this defect is supposed to be the earliness of the calving and the immaturity of the preparatory conditions of the uterus. There is just the possibility that it is one of the phases of abortion and it will be safe to treat it as such, and keep the animals so affected isolated by themselves, and the barns well cleaned and disinfected. There is no medicine that would prove of any benefit to give the cow before freshening. You must always remember that the cow has her young calf to feed and any strong medicine might act detrimental to the young one's healthy growth. There could be an improvement in your feed. You are giving your cows too much dry matter without any green or succulent food like roots or ensilage. There is quite a waste of energy in the cow that is fed dry corn stalks that could be conserved by the use of a silo, and a great quantity of the succulence escapes in the stooking and dry storage in the barn. A whole winter, up to March, on corn stalks and oat straw, with only a little bran as a laxative or succulent feed is not very good treatment for pregnant cows. There are quite a number of farmers who entertain the idea that a dry cow, that is pregnant, has nothing to do but wait around till freshening, consequently she is fed on a very low milk producing or calf-growing ration. Irregularities at birth often follow such a winter treatment. Pregnant cows should get lots of succulent feed, and their bowels should be in loose condition when approaching freshening time. The treatment under the special circumstances varies with the nature of the case.

If there are no complications and the cow performs her functions satisfactorily, the atferbirth may be left for a week or so, until it parts naturally; but if fever or other disturbances of the system occur and the animal is suffering, the following dose should be prepared: one ounce of Savin leaves, and half an ounce of carbonate of potassa in one pint of water. The decoction is strained and given luke warm, and the dose is repeated every six hours.

Do not attempt to take it away by force unless you employ a skilled veterinary. The reason for this precaution is owing to the foetal membranes being still attached to the surface of the uterus, and to take them away without the aid of veterinary skill would cause serious injury to the cow and probably prove fatal.

BLOODY MILK

Bloody milk is not at all unusual in heifers with first calf, and usually it will disappear after a time. It if occurs in older cows, it is usually caused by injury, such as bruising by being stepped upon. The presence of curdles would indicate that there was garget, and I would suggest bathing the udder once a day with hot water, and after drying off, rub in well a little camphorated oil, massaging udder well. Give in feed twice a day for a week at a time a tablespoonful of saltpetre.

According to recent investigations made by the Director of Milk Supplies in England, it is costing to produce milk in the British Isles, 68c per gallon, or $6.80 per 100 pounds. In arriving at the above figures, feeds were valued at the cost of production rather than the selling price, and wages figured at the minimum scale allowed for the County of Derbyshire. Hay was valued at $33.60 per ton; straw, $12 per ton; roots, $6.48 per ton; oil cake, $120 per ton, less the manurial value. Allowance was also made for depreciation of the cows, buildings, etc., rent, repairs, depreciation on machinery, etc., replenishing the herds and cost of maintaining dry cows.

Udder troubles are few in the herd of the careful owner. Guard against injury to the cow and provide ample bedding to cover the cold concrete floors in winter.

While we realize that countries where heavy dews are prevalent and succulent feed abundant, sheep may get along with less water, yet it is sometimes wondered if all our farmer sheep raisers will ever realize that after all good drinking water is the cheapest of all good sheep feeds.

WANTED
100,000
MUSKRATS

We pay the highest market price—A trial shipment will convince you—Send all your raw furs to

EDWARD POLLOCK CO., Ltd.
280 ST. PAUL ST. WEST - MONTREAL

The house that guarantees satisfaction and prompt returns.

Ask for our price list and shipping tags.

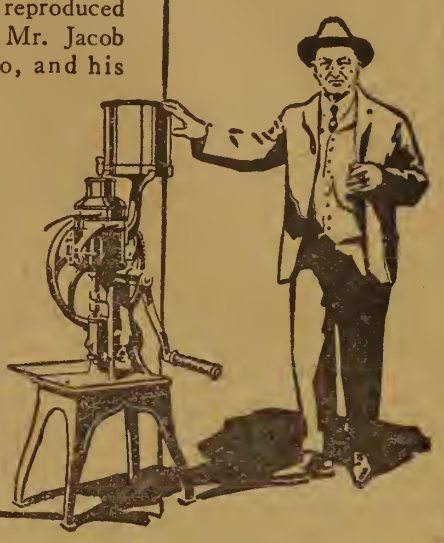
—FORD—
STREAMLINE HOOD
Puts Your Car in $1,000 Class
Covers Brass Radiator
Only $17 Complete with Cap
WHY BUY A NEW CAR?
Fits Cars previous to 1917
Ask your Garage or write for Circular
The Burrowes Manufacturing Co.,
611 King St. West, TORONTO

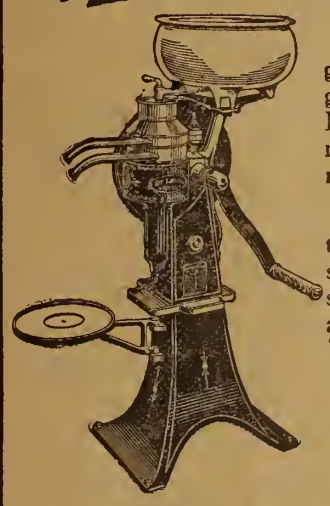
DURABILITY OF THE
DE LAVAL

This illustration is reproduced from a photograph of Mr. Jacob Rimelspach, in Ohio, and his DeLaval Separator, which has been in use for over 25 years.

The machine was brought in on a local De Laval Service Day to be looked over by the service man.

There was nothing the matter with the separator, and after it was cleaned up and oiled Mr. Rimelspach took it home with the comment that it ought to be good for another 25 years.





The De Laval Separator gives the greatest value for the money, because it gives better and longer service. Mr. Rimelspach's experience is equaled by the records of a large number of De Laval machines.

Considering its greater durability alone, the De Laval is the most economical separator to buy; and with its cleaner skimming, easier running, greater capacity and unequaled service, the price of a "cheaper" machine is high in comparison.

If you don't know the De Laval agent in your community, write to the nearest De Laval office

THE DE LAVAL COMPANY, Ltd.
MONTREAL PETERBORO WINNIPEG EDMONTON VANCOUVER

Blatchford's Calf Meal
(The Original Calf Meal)
Established Leicester England 120 Years ago
Trade Mark registered

EASY TO FEED CALVES RELISH IT.

THOROUGHLY STEAM COOKED
Blatchford's Calf Meal is the most widely used Milk-Substitute.
More Calves are RAISED on it each year than all other Calf Meals combined.
INSIST ON BLATCHFORD'S
THE NEXT BEST THING TO WHOLE MILK
Blatchford Calf Meal Company of Canada Limited
Dept. C26 61-77 Pelham Ave., Toronto
If your local dealer cannot supply you write us. 2-4-20
A. A. ARCHIBALD & SON, - - - - - TRURO, N. S.
or W. H. HATHEWAY and CO. LIMITED - ST. JOHN, N. B.

Butter Parchment at Farmer Office

PALMER'S Summer Packs

THE shoes for aching feet—light in weight, durable, roomy and comfortable. Made from selected waterproof Skowhegan leather with waterproofed leather sole and solid leather insoles. The ideal shoe for farmers or others working on the land.

Also specially suitable for woodsmen, trackmen, millmen, sportsmen, laborers—all who require strong easy-fitting footwear.

JOHN PALMER CO. Ltd TRADE MARK MOOSE HEAD BRAND REGISTERED FREDERICTON N.B.

Get a pair of Palmer's "Moose Head Brand" footwear from your dealer. They will give you foot comfort and great wear.

John Palmer Co. Ltd.
Fredericton, N.B., Canada

42

LIVE STOCK.

LIVE STOCK NOTES

The following quotations are from a recent report upon the Exhibit of the Two Champion Canadian Steers in France, by Mr. P. W. T. Ross, who was secured by the Department to take care of the Exhibit:

"The price of our cattle, lean steers 400 kg. (or 880 lbs. Canadian) is apparently 2,000 francs laid down French port; this is figuring on following basis: price in Canada $85.00 at 11 frcs to the dollar 934 frcs
Transportation $100 at 11 frcs to the dollar.....1100 frcs

2035 frcs

"The price of lean cattle about 400 kg. (or 880 lbs. aCnadian) is quoted in Normandie variously between 1200 francs and 1800 francs, but the mean price can be said to be 1600 francs, depending on condition of animal, the market price being safe to calculate at 4 francs per kilo (2.2 lbs. Canadian.)

"The time for lean cattle to come into the market for herbagers (cattle raisers who buy cattle for grazing and fattening) is from February to April, and this can include January and even May; consequently large demand may be looked for in 1921 and 1922. A certain number can also be sold in June—if you put them on markets contiguous to herbagers. Lean cattle are imported generally from departments of La Manche, Mayenne, Vienne et Maine & Loire, where breeding is practised.

"System practised in Normandie is that beasts bought are put to grass between 15th of February and 15th of March; between 15th and 31st May those having thrived best are put on the market, the rest being sold at the second series of sales of fat cattle between the 15th and 30th of November.

"The farmer or herbager is not going to buy unless he knows what he is buying and can see it. In Normandie they want us to put some lean cattle on their uocal markets.

"It is suggested that Canadian exporters send a trial shipment of neat cattle to France immediately for May delivery in grazing districts; that they hire their pasture land in Normandie and advertise the cattle as plenty of herbagers would come from all parts of Normandie whether the cattle be in Calvados or Seine Inferieure; that Mr. Sam Cooper, who knows this country now and could easily handle the care of the beasts, say 200 or so, be put in charge, taking them to various local markets or fairs for sale; that if price achievable showed a loss, cattle unsold be kept on pasture to be sold fat on any market.

"There is a tremendous prejudice against frigorific meat in France. You can not change them. The French are the best "cuisiniers" in the world and they cook a rump steak or tastic like a porter-house. Nevertheless frigorific meat is of course sold in France to some extent. I might add also that France is in principle an exporter of cattle; we have a chance here ,it might be estimated, for at least 5 years. But we have all Europe after that and besides, should be able to work from France.

"Exchange is uncertain, is a fetish anyway and often made an excuse for inactivity; something must be done and now by Canadian commercial men, exporters and raisers for the cattle are needed and they have to be on the ground at first anyway to show these 'men from Missouri.' "—Live Stock Commissioner.

CANADIAN CO-OPERATIVE WOOL-GROWERS, LIMITED

Toronto, Ont., May 8.

Dear Sir:—

We should like to advise you that we have secured the services of Prof. W. H. J. Tisdale for this organization and expect to have him at Toronto on or about the middle of the present month. Prof. Tisdale was formerly connected with the Animal Husbandry Department of the University of Saskatchewan Saskatoon, and has proven his ability in sheep husbandry. We therefore feel in having Mr. Tisdale connected with the Canadian Co-operative he will thoroughly understand the probelms of sheep industry in Canada and will be most invaluable in the future development of sheep and wool work in this country. It will be our endeavor before the year is out to have Prof. Tisdale call on the various Sheep Breeders' and Wool Growers' Associations so that we may know the difficulties under which they are working and likewis that they may know some of our difficult problems.

Mr. W. W. Thompson formerly Director of the Co-operative organization work in the Saskatchewan Department of Agriculture, Regina, has joined the staff of this organization and is already busily engaged in the work in the Provinces of Manitoba and Saskatchewan. Mr. Thomas is very highly thought of by the De-

Cord or Fabric.

Chance never drew a neat picture nor built a fair house.

In the making of Partridge Tires nothing is left to chance—detail perfection is secured by craftmanship scientifically directed, and rigid inspection insures outstanding quality.

Partridge Tires are all that good Tires can possibly be.

PARTRIDGE TIRES

Came as Their Name

118A

Shinn-Flat Protects Property

That very fact, that Shinn-Flat Protects Property, means profitable business for dealers. This year property owners—and particularly farmers—can't afford to take chances on lightning. Lumber, labor, grain, stock and implements are all too valuable to carelessly risk a lightning stroke. It's a splendid time to sell Shinn-Flat Protection.

Shinn-Flat

LIGHTNING RODS

Do prevent Lightning losses, as demonstrated on thousands of Shinn-protected buildings throughout the Dominion and the United States. Send us a card for Prof. Day's book and our proposition to Retail Agents.

SHINN MFG. CO. OF CANADA, LIMITED
Prof. W. H. Day, Secretary and General Manager.
Manufacturers of Shinn-Flat Lightning Rods
120 Woolwich St., Guelph, Ont.

"The Kind That Are Guaranteed."

Lightning Can't Strike if Shinn Gets There First

We Invite Farmers' Accounts

Our service to farmers is as complete as 87 years of growth and knowledge of Canada's agricultural condition can make it.

We collect or discount sale notes, cash produce cheques—by mail when desired—and make advances to responsible farmers.

We extend courteous, friendly service to our farmer customers at all times.

Paid-up Capital $ 9,700,000
Reserve Fund - 18,000,000
Resources- - - 220,000,000

THE BANK OF NOVA SCOTIA

We invite your account. Special facilities for banking by mail. Thirty-three branches in New Brunswick. Head Office, Halifax, N.S.

36A

partment authorities at Regina and had very marked success in his work with that Department. We therefore feel confident that the interest of the wool growers will be well looked after in these two Provinces by Mr. Thomson.

In the Province of Quebec where there exists a number of Wool Growers' Associations we have endeavored to have the various Associations cut down to a central grading point and for this purpose there is under construction and will be completed this month, a warehouse at Lennoxville, Que., with a capacity of some ten thousand square feet. In charge of this work at Lennoxville we have Mr. L. V. Parent, formerly District Representative at Richmond, Que., of the Quebec Department of Agriculture.

The construction of the third floor for grading at the West on Warehouse is well under way so that when the season opens we are very hopeful that the Western wools will be centralized at Weston for grading, sent in from the various Wool Growers' Associations in the West; Ontario wool will be centralized at Guelph and Quebec wool at Lennoxville. In the Maritime Provinces, New Brunswick has one grading station at Fredericton; Prince Edward Island one at Charlottetown, and in Nova Scotia there are two or three grading stations this year but we hope another season the Associations will determine upon one grading station only.

The organization is now equipped to handle a very fair volume of business from every standpoint. The lower grades of wool are as you already know, a very difficult problem under the present market conditions. However there is this, they are not more difficult for us than for any other wool house and we feel confident and trust that we have the support of the Associations and their Secretaries that the wool will be given more attention through this organization than if handled in any other way.

Yours very truy,
CANADIAN CO-OPERATIVE WOOL GROWERS, LIMITED

SWINE BREEDERS INCREASE FEES

At a special meeting of the Canadian Swine Breeders' Association held March 16, 1920, the following schedule of fees was adopted and will become effective May 1, 1920:

Annual memberbship	$2.00
Registration of animals under one year of age, to members..	1.00
Registration of animals over one year and under two years of age, to members	2.00
Registration of animals over two years of age to members..	3.00
Transfer of ownership, for the first, if made at the time of registration of the animal, free, all other transfers, to members	.50
Transfers which may be necessitated by a change in a firm where no consideration passes, free.	
Duplicate certificates, to members	.50

To non-members, double the above fees will be charged.

THE EASY FEEDING THRIFTY HOG

The two points most indicative of a quiet dispositioned easy feeding early maturing hog are head and flank. The rump should be almost level with long coupling and tail well set up in line of the back. A short coupling is nearly always accompanied by a round rib high flank and not enough body depth. The ham should be even with the rib and side line and let down well to the flank but not out of line or proportion with the rest of the body.

A big bulgy ham is very seldom seen on a well proportioned hog, whose top and side lines are even and where the flank is properly let down. A very wide ham goes with a high flank and round rib which generally means not enough depth and width below. A baggy ham at the bottom often, termed by breeders a "meal sack" ham, is undesirable to the packer, all the lower flabby meat being waste.

THE RELIABLE REMEDY

FOR **CAKED UDDERS**

DOUGLAS' **EGYPTIAN LINIMENT**

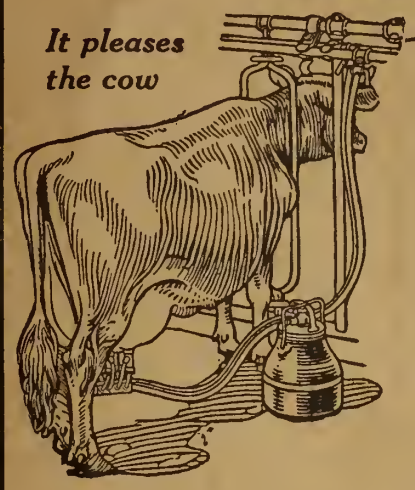
"I have now used Douglas' Egyptian Liniment for 2 years, and find it gives the best satisfaction for man and beast. I tried the liniment on 4 cows during the winter for lump in bag, and a sample bottle cured each case in 36 hours. I also found it good for muscular rheumatism and lumbago." (Signed)
Allan Schiedal,
New Hamburg, Ont

This Liniment will also stop bleeding at once and prevent blood poisoning

35c A BOTTLE
SOLD BY ALL DEALERS
DOUGLAS & CO., Manufacturers, NAPANEE

The De Laval Milker

It pleases the cow



Letter from a large U. S. Dairy.

Having now used a six unit De Laval Milker for nearly four years on more than one hundred cows, we wish to say that we are very well satisfied with the working of this machine in every detail.

The cows all take kindly to the De Laval Milker. With labor conditions the way they have been for the last three or four years, we would have to dispense with part of our cows had it not been for the De Laval Milker.

And we must say that the service you render De Laval users is prompt and effective.

Henry Becker & Son, Inc.,
Roseland, N. J.

THE De Laval Milker is a tried and tested De Laval product. It is a distinctly different type of machine, positive and uniform in action.

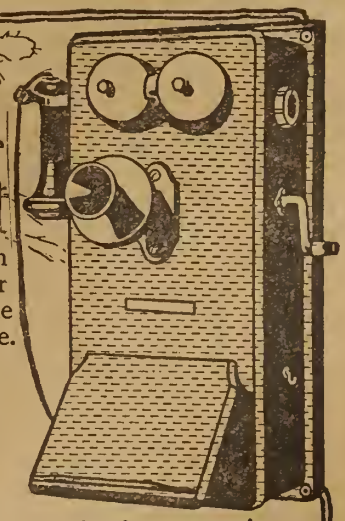
The De Laval is faster, more reliable, more sanitary than any other method of milking. Its action is gentle and soothing from the start—old cows that are hard to milk, heifers and high-strung purebreds are all milked successfully.

The De Laval Milker is made and sold by the same Company which for over forty years has earned an enviable reputation for service to users. When a man buys a De Laval product, the Company considers that its obligation to him has just started.

Write to nearest De Laval office for Milker Catalog, mentioning number of cows milked

THE DE LAVAL COMPANY, Ltd.
MONTREAL PETERBORO WINNIPEG VANCOUVER

NO NEED TO SHOUT



The high efficiency of the transmitters and receivers on these instruments make conversation easy and enjoyable. Powerful 5 bar generators ring all the call bells on the line with a loud, clear signal every time.

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have every desirable improvement, the result of our experience of more than a quarter century.

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Shows you how to install and take care of your telephones—tells how to organize a party line among your neighbors and explains just how to get started. Gives valuable information about all Stromberg Telephones and shows how our experience gained in building over 2,500,000 telephones is of great importance to you.

Send for this free book and put your telephone problems up to our engineers—we will plan your system and furnish estimates without cost.

Stocks carried at Toronto, Regina and Seattle

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10 Front St., East, TORONTO, CANADA

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CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$ 1.75** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Toronto, Ont.

THE HORSE

SHOULDERS AND PASTERNS DRAFT HORSE SHOULD HAVE

The distinctive characteristic between horsese bred for heavy draft work and those bred for light work or speed are very readily detected in the shaping of the shoulder and the formation of the forelegs. Perhaps no draft breed of horses shows a better combination of the two qualities of power and speed than the Clydesdale, and the shoulders are, perhaps, the most distinctive. There are breeders of draft horses that do not place very great merit on a sloped shoulder; they maintain that a horse with a straight or more upright shoulder is the better adapted to pull heavy loads than the more sloped conformation. Each draft breed has its advocates and are chosen to meet some special adaptability to popular demand or fancy, and are considered by the breeder better fitted for his particular ideals or work.

Shoulders for Speed and Pulling Power

In order to better understand the difference in draft and speed conformation, the shoulder and fore leg formation of each of these types have to be considered. A similar difference is also found in the formation of the hind legs of both types of horses. Leaving out of consideration the great difference in thickness of the draft horse in comparing him with the light or trotting horse, they differ in some respects in two important things, the slope of the shoulder blade and the length of the forearm.

In the trotting horse the knee comes very low down, and the distance from this joint up is very great. While in most breeds of the draft horse the shoulder is inclined to be more perpendicular with a thick short forearm. This difference gives the one an advantage in speed and the other in pulling. The shoulder of the horse that has a little less slope than that of the trotting horse bears the pressure of the whole length of the collar. His conformation is less liable to have collar sores on his shoulders. The class of horse that is most subject to collar sores is the one that is built on extreme light breeding lines, and is put to pull heavy loads, and at the same time keep up considerable speed.

The position of the shoulder in its relation to the use of the collar is especially important with the draft horse. It must not only have a desirable slant, but also a sufficient front surface along the base of the neck, to furnish a smooth and well inclined surface on which the collar may rest. Horses of light bred type have not this part well developed, and hence their unfitness for heavy pulling and their liability to sore shoulders. Any roughness of shoulder or lack of muscle covering will furnish conditions favorable to sore shoulders.

The Horse on Springs

Horses that have sloping shoulders generally have sloping pasterns and a springy movement. All horses at work either trotting or pulling, strike the roadway or street with considerable force at each footstep; the sloping formation enables the animal to withstand the great shock and concussion. In the early history of draft horse breeding it was not considered necessary to develop this formation, as the movement of the horse was slow and the land under the hoof was soft and free from the hard shocks of concussion. But what is required in a modern draft horse is an animal with speed and power combined, one with conformation to pull a ton or two on a city street, and at the same time be able to withstand the shock from the hard surface over which they have to pull the loads. This combination has been zealously watched in the development of the Clydesdale in which the springy pastern, the muscular short forearm and sloped shoulder make up a speed and power formation not found so well developed in any other breed.

This combination has made the Clydesdale the greatest gelding getter of modern times. The progeny of a typical Clydesdale stallion from common mares have all the stamp of speed and power, and are well fitted to furnish the cities or farms with that class of animal that can pull considerable loads on city streets with ease at a trotting speed. It is this combination that makes the Clydesdale breed essentially the one for grading up common stock, as well as producing the heavy gelding from the heavy class of grade mares.

The Desirable Type of Drafter

The shoulder of the draft horse should slope well into the back and should form that happy medium in position somewhat akin to that of the thoroughbred. The perpendicular shoulder and fetlock does not conform to the typical leading in the best type of draft horse. The straight shouldered animal has no conformation for endurance on hard streets, where the best draft horses are required. The straight pastern forms no cushion for the shock at each foot fall.

Though the thoroughbred horse is in striking contrast to the broad compact and massive form significant of power in the draft horse, there are several characteristic distinctive of the thoroughbred type that are found in a good type of heavy class, and these are sloping shoulders, well knit withers, muscular quarters, and clean, hard, flat bone.

It has been very well demonstrated that the Clydesdale comes nearest to this desirable type of drafter and exhibits most of the original thoroughbred breeding that is the chief foundation for nearly all varieties of horses in domestication today. He has the thoroughbred spirit and speed with all the power that has been generated in any breed of drafters.

ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

will reduce inflamed, swollen Joints, Sprains, Bruises, Soft Bunches; Heals Boils, Poll Evil, Quittor, Fistula and infected sores quickly as it is a positive antiseptic and germicide. Pleasant to use; does not blister or remove the hair, and you can work the horse, $2.50 per bottle, delivered. Book 7 R free.

ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful, Swollen Veins, Wens, Strains, Bruises; stops pain and inflammation. Price $1.25 per bottle at dealers or delivered. Will tell you more if you write. Liberal Trial Bottle for 10c in stamps.

W. F. YOUNG Inc., 124 Lymans Bldg., Montreal, Can.

Absorbine and Absorbine Jr. are made in Canada

Unless they are protected with good paint

"Save the Surface and you Save All."

Economy

Ready Mixed House Paint

Gives protection against the destructive forces of atmosphere and weather.
It is foolish to leave expensive building material unprotected. Paint is for protection first.
Economy Ready Mixed House Paint, scientifically compounded of pure materials, gives durable protection, and a smart appearance as well.
Use it for your farm dwelling, inside and outside.

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Gives similar protection and attractive appearance to your roof. Absolutely waterproof and non-fading.

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Best for barns, bridges, fences, farm machinery, etc. Sturdy protection for both wood and metal surfaces.

If your dealer hasn't got these paints and stains, send us the attached coupon with your name and address, and we will mail FREE our color card and price list.

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Branch Offices in 35 cities
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Please send me FREE of charge your Color Card and Price List for Economy Ready Mixed House Paint, Sterling Shingle Stain, and Longwear Barn Paint.

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IMPERIAL HARNESS

IMPERIAL BRAND HARNESS is guaranteed free from all defects in workmanship and materials. You are certain of satisfaction when you buy a set of harness made by Trees & Company.

No. 640, Team Harness, is especially designed for farm work such as ploughing, seeding and general hauling. Exceptionally good value at a very low price. Blind Bridles with side check; lines one inch; high top hames; traces, steel chain, leather covered; pads with hook and terrets; backstrap with trace carriers riveted on top. White metal or japanned mounts, less collars. Price **$57.00**

Sold by the Harness Trade throughout the Dominion. If your dealer will not get Imperial Harness for you, write direct to us for Catalogue and prices.

SAMUEL TREES & CO., LIMITED. Established 1866.
Manufacturers of Harness and Dealers in Automobile Accessories.
42 WELLINGTON ST. EAST, TORONTO

The Tonic for Farm Animals

=OMAZON=

CANADIAN MEDICINAL FOOD

Strengthens and tonifies. Causes the prompt disappearance of Indigestion, Constipation, Worms, Colic, Diarrhœa, etc.
(It has saved hundreds of valuable animals)

On Sale Everywhere. DR. ED. MORIN & CO., Limited, Quebec, Canada.

The Arab of the desert is credited with spending his life on horseback. There is indication in this record of good springy action in the animal on which he spends most of his time. There are horses that one does not want to ride on any longer than they can help. It is a good test of the sloping shoulder and pastern and hence a freedom from jars, and accordingly an animal with lasting power. The amount of jar caused by the different formations of shoulder and pasterns, can be verified by anyone who cares to try it, by riding alternately on animales of different conformations. It can easily be noted that the straight, upright conformation gives a stilted jarring movement, while the sloping arrangement puts the rider on springs.

PHRENOLOGY IN HORSE SELECTION

A horse with a "muley" head is a muley brute all over. According to general descriptions, as gleaned from show-ring, sale-ring or farm-field observation by current literature on horses, there is very little written about this part of their anatomy. Irrespective of this overlook there is a whole lot of character and quality indicated in the head, and many other points that are not listed in the score card, or in the estimation of those who wish to buy a horse or choose one for the breeding stud.

Many people believe that they are adepts at summing up the "quality" of their fellow man at the first chance meeting. The expression, to them, they claim, is visibly exposed in the general outline of the individual, long before that individual shows it in word or act. This "Phrenology" or bump reading is not a myth either, and can only be acquired by close observation. When applied to the scrutiny of a horse, a truer deduction can be drawn; the man may be on guard and fake his appearance, but the horse is more honest, or rather is incapable of appearing what he is not.

No animal in domestication is more closely associated with man than the horse, but it is a remarkable fact that there are only comparatively few people that take any special regard to horses' individual characteristics as judged by indications taken from their general appearance. There are indicators in the physical construction of all animals that largely reveal the constitutional make-up of the whole organism, and a study of this phase of animal life is not without its value in judging or choosing a horse. The term quality is often very loosely applied, and is generally confined, in the survey of the horse, to some detailed points that very often have no close relationship to those qualities that perhaps exert as much predominating influence in the animal as a breeder, as any of the other points that are more exclusively recognized.

Head Conformation and Personality of the Horse

With some judges the head and the personality of the horse is the first to catch the eye. With others, it is recognized that if the feet are not right it is not necessary to look any further up the body. There is more danger of the breed losing character by the man who never looks at the head, than by the man who has the keen sense of a horse's bearing or "intelligence," as indicated by the conformation and general outline of the head. Not only is it the one part from which it is possible to penetrate the secret of a horse's disposition and character, but it also gives indication of the future possibilities in regard to the animal's fitness to improve the species in the breeding operation.

To breed with an animal that has a large, fleshy head is certain to find the progeny with a tendency to coarseness of fibre and a looseness in conformation. The faults of head conformation are peculiarly prepotent in horses, an are thus a factor in setting up type that is not without its significance. Neither too large or too small; it is the medium, well balanced head that carries favor. A large head if not covered with a thick skin and is not fleshy, is better than a small head. The small head is generally more popular than the large, but it is equally as faulty, if not more so than the very large one. A small-headed horse is more liable to digestive troubles than a large one. The masticating powers of the animal are less in a small narrow head than in a larger one, and digestion begins in the mouth.

The air passages are also small in a small head and the breathing organs are thus affected. But again, on the other hand if the comparatively small head is wide, the jawbone will be wide and strong, giving more power to the grinding of the food, and more room for the windpipe. A wide head is also accompanied with large and open nostrils, that give free action to the lungs. Narrow jaws show that there is a weak digestive system throughout, so also the small high set nostrils indicate weak respiratory organs.

The Ears and Eyes Tell Their Story

The ears are also great character indicators and like the head should be medium sized. As a rule a colt with small ears finishes up at an early age, and generally lacks substance. Large lop ears show a sluggish inclination, lack of spirit, and thus a short period of years of active usefulness. The ears should be active, refined, neither large nor small, carried close and erect, and turning slightly in at the tips. When the ears have an alternate backward and foreward movement, as if the eye also were following their guiding, the animal shows suspicion and lack of confidence in its surroundings.

One of the signs of bad temper is the prominent forehead between the eyes. Two bold eyes, one on each side of a wide flat forehead are signs of intelligence and good disposition, but eyes that are too prominent are objectionable features, and are found in horses that are hard to control when under nervous strain. Eyes sunken and lustreless, accompany horses with a sour disposition, and general vigor. It is the opinion of many horsemen, that when the white of the eye is too conspicuous a bad disposition is indicated. The white shows most when the horse gives a rearward glance, and kickers especially exhibit white when just about to kick.

The horse with health and vigor has an eye that is large, clear, full and bright, and more oval than round. These eye characteristics also indicate a kind disposition.

The outline of the front of the face

(Continued on page 646)

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POULTRY.

RAISING THE CHICKS

Raising good chickens does not depend only upon the care of the chickens after they hatch, but it begins much farther back, with the mating an selection of the parent stock. Parent stock with poor vitality, immature, closely inbred, or kept in ill-ventilated, damp houses and improperly fed, will affect the strength of the chicks which come from their eggs. Improper incubation of the eggs will also affect the health of the chicks and their later development.

After the chicks are taken from the incubator comes the matter of proper housing, care and feeding. Chickens are delicate little beings and many of them suffer from lack of proper attention at the proper time. Leave the chicks in the incubator until they are at least 48 hours old.

The brooder house or coops should be of ample size and well ventilated, without drafts. If a brooder is used, the coal-burning type is by far the most satisfactory. The temperature under the hover should be 98 to 100 degrees during the first two or three days and then gradually lowered. An inch or two of sand spread over the floor, covered with a couple of inches of chaff or fine straw, makes an excellent litter. This will induce the chicks to scratch and will prevent leg weakness. Let the chicks out as soon as the weather permits.

Proper feeding has much to do with keeping the chicks healthy. No feed should be given them until they are at least 48 hours old. About the 19th day of incubation the yolk is taken into the body of the chick and serves as nourishment until the chick is at least three days old. After to days feed a good chick scratch grain, or rolled oats about 7 A. M. About 10 A. M. feed for 10 minutes a good, prepared chick mash, or a mash composed as follows: 20 pounds each of bran, corn meal and rolled oats; 10 pounds of fine meat scrap and five pounds of linseed meal.

At one o'clock feed prepared scratch feed in the litter. About five o'clock feed all the dry mash they will clean up in 20 to 30 minutes. Feed chick grit with the first feed, and keep them well supplied at all times with grit, shell, charcoal and green food. Keep clean water and sour milk before them at all times. Feed as outlined for the first month.

When the chicks are one month old, change the feed as follows: At 7 A. M., noon, and at 5 P. M., feed equal parts cracked corn, wheat and oats, or a good, prepared scratch feed. Omit the oats until the chicks are large enough to eat them. Keep the following dry mash before the chicks in open hoppers at all times; 200 pounds of bran, 300 pounds of corn meal, 100 pounds of middlings, 100 pounds of meat scrap or fish scrap and 50 pounds of linseed meal. Continue this feeding until the pullets are put into the houses in the fall. Chickens should be given as much range as possible. Keep them well supplied with sour milk, green feed, shell, grit, and charcoal. Keep them growing. A stunted chick is worthless.—O. M. Wilbur.

RATIONS FOR THE EGG PRODUCERS

Making up economical and efficient rations for the egg-producing flock is a problem that receives but little attention on the average farm. Experiments at some of the leaidng stations show that a saving of more than one-third can be made by feeding the kinds of feed that are adapted to the hen's requirements. Any system by which one can substitute accuracy for guesswork and reduce the cost of feeding more than one-third is well worth the careful study and attention of every farmer who keeps a flock of hens.

A mixture of the proper kinds of grain feed is one which carries enough protein to meet the requirements of the hen's system when she is producing a maximum number of eggs. Science has determined that animals cannot utilize carbohydrates in the making of protein products. On the other hand it is possible to some extent for animals to utilize protein in place of carbohydrates. Protein is needed to make bone, blood and muscle as well as the albumen of the egg. Carbohydrates, in connection with the fat, furnish energy to keep up the activities of the body. For this purpose pure fat has a value more than two and one-half times as great as the carbohydrates. For the smaller birds of the strictly egg-producing breeds a ration with a nutritive ratio of one to five, that is, one pound of protein to five pounds of carbohydrates and fat, gives the best results. In the case of the larger American breeds, where the percentage of carbohydrates and fat needed to maintain the activities of the body is greater, a little wider ration will produce equally as satisfactory results.

Digestibility and Palatability

The digestibility of standard grains and mill feeds has been pretty accurately determined so far as feeding ruminating animals is concerned, but recent experiments show that the hen can not digest her food quite so closely as the ruminants. This means that for the best returns in producing eggs the crude fiber must be reduced to as low an amount as possible with economy.

Palatability is the basis of success in making up economical and efficient rations for the laying hens. Success

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The Hit of the Season

For the Farmer's Boy

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You want him big and strong,
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He's the best boy in the land,
And he'll always be bright and smiling,
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149

in getting eggs out of season depends largely on one's ability to coax the hens to eat the largest possible amount of properly mixed foods at the same time maintain a good vigorous appetite. Variety contributes toward appetite and increases the chances of success, but sufficient variety is usually present when several kinds of feed are being used to make up the ration. The sources from which the various materials supplied should come must be determined by palatability(digestibility and the cost.

Sme kind of animal protein is needed for winter feeding to take the place of worms and insects which are available during the summer. For this purpose, skimmilk and dried meat scraps give the most satisfactory results. Recent experiments indicate that the proteins of skimmilk and meat scraps assist in the digestion of the proteins of cereal grains. They also indicate that the proteins of corn, wheat and other grains are more readily and completely digested when fed in combination than when fed alone.

The Rations to Use

In putting the above principles into practice, the first aim in feeding laying hens is to feed them home-grown feeds to as large an extent as possible. Oats, buckwheat and cracked corn make an easy procurable grain mixture, well suited to the needs of the hens. Corn is very digestible, buckwheat considerably less digestible and oats somewhat less digestible than buckwheat.

Studying the composition and cost of the various protein feeds we find that by making up a mixture of 100 pounds of bran, 300 pounds of middlings, 100 pounds of oilmeal, 100 pounds of gluten and 100 pounds of dried beef scraps, and feeding it in the form of a mash that the hens will eat about equal parts of the mash and the whole grain, we can approximate the required one to five nutritive ratio, make profitable use of our home-grown feeds and at the same time furnish our laying hens with an ideal ration for egg production.

The mash ration is fed in hoppers, and the whole grain is fed in the straw litter; the amount being regulate by the amount of dry mash eaten from the hoppers. When feeding a wet mash in the morning the hens are inclined to overeat and refuse to scratch in the litter for the whole grain, so they do not get the warmth and exercise during the fore part of the day, and produce fewer eggs than when they have access to the dry mash in the hoppers.

To derive maximum returns from any ration it is important that the hens have pure water and an abundant supply of grit, shells and some kind of succulent food. Cabbages, mangels, carrots and small potatoes may safely be fed in limited amounts, but too heavy feeding may cause an undesirable laxative condition of the bowels and do more harm than good. Special foods, condiments and stimulants are not neeedd by healthy, well-fed hens. Such dopes simply result in adding to the cost of the ration without doing any permanent good. Studying the principles of economical feeding and adopting methods suited to one's own conditions will give the best returns at a minimum cost for feedstuffs and labor.—W. M. K. in an American exchange.

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POULTRY SUCCESS

It pays to band the hens that are to be held over for breeders so that the next year they can be distinguished from the pullets. Otherwise good pullets may be marketed for old hens and some of the old hens may be retained for a year longer than it is profitable to keep them on the farm.

If you are raising pure-bred poultry and have a surplus to sell in the fall, do not market them hastily with the local butcher, but find out if the neighbors need good foundation stock of your particular breed. Very frequently many of the year-old hens can be sold as breeders near home at a price twice as high as they will bring on the market. A sign by the side of the road will be profitable. If there is a large flock to sell, advertising in local papers and farm journals will be profitable. When developing a poultry business it pays to study the local demands and supply them whenever it is possible.

A price of $10 is not too much to pay for a cockerel of a fine exhibition or bred-to-lay strain. The farmer who makes such a purchase is not only buying one bird but all the skill that the breeder has used in producing it, and also all of the improvement which can be made in the home flock during the next two or three years.

Farmers buying fine cockerels for breeding purposes should strive to save the best of the year-old hens to use in the next spring's matings. Too much emphasis cannot be placed on the value of a good male but at the same time it is the hens that lay the eggs and they should be vigorous birds of excellent producing ability. It hardly pays to buy a good cockerel and use it with hens lacking in vigor. It is so much better to give the male the best possible chance to produce good results and thus it is necessary to use care in selecting the hens.

The feeding of poultry has a good deal to do with their general health and with the production of the number of eggs a hen may lay in a season, but it has no great control over the size of the eggs. Sometimes the first egg of the clutch or the last one is a diminutive or deformed egg, but all the eggs being small is very likely due to the variety of hens you have in your flock. There are strains and varieties of hens that lay smaller eggs than others. Minorcas lay very large eggs, while the Hamburgs and some strains of Wyandottes lay small eggs. It is along the line of breeding that you will have to look before improvement in the size of the eggs is accomplished.

CHICKS MUST HAVE CERTAIN INGREDIENTS
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Pratts Buttermilk BABY CHICK FOOD
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The "Long Blue New Perfection" chimney turns every drop of fuel into useful heat. The New Perfection Brass Burner is as long lasting as it is efficient. Every part of the New Perfection Oil Cook Stove is well-made and well finished.

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Sold by good dealers everywhere. Ask for a demonstration of the "Long Blue Chimney" or write for free New Perfection booklet.

The "Long Blue Chimney" with the solid brass burner, that gives the steady intense white-tipped flame.

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FOR HOME AND COUNTRY.

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Shbjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N. B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

THE PARTNERSHIP

"IT'S all rot" angrily thought Phil Melvin, "the sentimental drivel talked about a fellow making himself count in the world in spite of physical handicap!"

In an endeavor to ease his cramped leg as he sat in the auto impatiently waiting for the interurban electric he stamped his foot against one of his crutches and although he paid for it by a twinge of pain twisting up his spine he had the satisfaction of giving the crutch a vigorous kick.

Of course he did not regret going into the war. He would have gladly laid down his life for his country. It would have been a darned sight easier thans this! "Not even to be able to run your own machine," he muttered to himself, glaring at his chauffer's broad, straight back. "To be hauled to the station every morning like a baby in a go-cart! To be stared at on the train—pitied! To have the fellows at the office so infernally nice to you that it was all you could do to keep from punching their heads and——"

"Morning paper, sir?" a shrill, small voice cut brightly into his morose brooding.

Melvin looked up scowling, but instead of the grim shake of the head purposed, he stretched out a hand. "Yes," he said with intentional gruffness, for the newsboy was a hunchback—and a cripple at that, since he propelled himself in a kind of tricycle—and Melvin was not going to insult him by any coddling tone. In fact he went so far as to resist the impulse to tell him to keep the change.

At that moment the interurban appeared and everything else was forgotten in the difficulty and embarrassment of getting out of the machine and into the train.

This can't go on indefinitely," he determined as he dropped exhausted into a seat. "I know how fond of the place mater is, and now poor old Judy and her kiddies have come home to live, I suppose the whole family will be up in arms at the idea of selling and moving to the city. But I've got to be considered, and I'll not stand for it—either commuting or making a spectacle of myself at a boarding house or in a hotel's public dining room."

That evening when he broached the subject—in a rather imperious way, it must be confessed—instead of the family being up in arms he met with ready acquiesence.

"Of course, Phil, anything you want," said Mrs. Melvin, with tremulous eagerness. "Judy and I had already wondered if it would not be better for us to live in the city, but better for us to live in the city, but hesitated about porposing it, not knowing how you'd feel about making the change."

"I thought Judy would be against it on the kiddies' account," he said rather surlily.

"There is no place like the country for little folks, especially in the case of a child not quite strong like Toots, but your comfort must be considered first, dear boy."

So he won his point and a new grievance to brood darkly over the next morning while waiting for his train.

To think of a whole family being made miserable for a worthless piece of junk like him! The mater and Judy put up a good bluff, but they didn't fool him one little bit. Hadn't he heard his mother say she loved every rosebush on the place, every leaf on the trees? Didn't Judy tell him with tears in her eyes what a sweet comfort it was to in the old home with all its happy girlhood associations after the distress and disaster of her married life?

"A morning paper, sir?" interrupted a familiar voice.

"I don't know whether I want it or not," said Melvin indifferently as he took a magazine thrust at him, and turned over a page or two. "Is it a good number?"

"Sure, a swell one," and the urchin ingratiatingly ran over a string of contributors' names.

The man in the machine put his hand in his pocket for the required coin, and his train being late, he began to question the boy. The clear-cut answers of the youngster in the tricycle, his original remarks, his fund of general information, was a distinct surprise, and all the way to town things the little hunchback had said kept recurring to Philip Melvin's mind.

Of course the newsboy appeared the next morning, and the next, and the next.

And, partly for his own amusement, partly to test the youngster's business ability to "put it over," Melvin always began with a stubborn resistance to all arguments until the last moment of the train coming into sight.

"I believe you sit up nights, kid, scheming how to buffalo me into buyink what I don't want?" he remarked laughingly one morning when the little fellow had really persuaded him to take a magazine he was prejudiced aginst.

And a smile of amusement lingered on Melvin's face after he had boarded his train. If anyone had told him he could smile while going through that ordeal he would not have believed them.

So their daily talk and their daily sparring became an established habit, and when ten days later a heavy rain began to fall just as Melvin was leaving the house the thought that he would miss seeing his young friend was a distinct disappointment. In fact, as he rode to the station he was in one of his darkest moods. It was trying enough getting down the porch steps into the machine when the sun shone, but to manage his crutches in the slippery wet was a nerve racking undertaking. And when Judy had proposed holding an umbrelal over him he had given her such a black look she had not dared to insist and the pelting drops had trickled down his neck. He'd not stand for it any longer. Even if they couldn't sell or rent the place they would have to pull up stakes anwhow and move into town by the first of the month.

"Morning paper!" shrilled a small voice across the wet pavement. "Latest number of——'

"For the love of Mike!" exclaimed Melvin in astonishment as he spied a small, huddled figure enveloped in slickers, a waterproof covered bundle under his arm. "I never expected to see you on deck a morning like this."

'What do you take me fore?" indignantly retorted the little hunchback, for the first time an angry flash in his eyes. "A mollycoddle!"

And all the way into town the contemptuous word, "mollycoddle," kept slapping Melvin's thoughts in the ace. From the nervous tension in the air on his return that evening he knew that something had happened during the day.

"Well, dear, you can begin to pack your suitcase," said his mother with forced gayety, as they sat down to dinner. "At last we have an offer for the house."

It was considerably less than what she had asked, she went on to explain but she and Judy had talked it over, and under the circumstances they thought the terms offered would better be accepted. "For now bad weather has started in," she concluded, "you simply can't commute."

"Great Scott, mater!" exploded Melvin. "A man doesn't mind a little rain! Don't you budge from your original price."

The spirit of mortal may be contemptuous of weather, but the flesh is none the less suceptible to exposure, and the day after the drenching rain, instead of the shrill small voice piping its wares, a hoarse little croak greeted Melvin's auto as it drew up at the curb.

"It ain't nothing," the little hunchback scornfully tossed aside Melvin's solicitude. "I only sound bad 'cause it's settled in my pipes. Gee," he grinned, "you ought to have heard the graveyard cough I had last winter!"

And all the way into town that morning Phil Melvin sat lost in thought—planning scheming.

"Say Bud," he accosted the newsboy the following Saturday, "if I come home on an early train today do you think you could manage to get off to take a little ride with me? I've something I want to talk over."

"Oh, I don't know but I could!" said the youngster, trying to keep the excitement from his voice.

"Very well, look out for me then. I'll be on the 3.10."

So through the flame and gold beauty of the autumn world they rode side by side the big cripple and the little cripple, handicapped brothers fighting the same fight with the same odds against them.

"I've a proposition to make," Melvin was saying. "How would you like me to set you up in a regular newsstand? I'd see to getting the necessary permit you know, foot the bills and all the rest of it."

There followed a silence of deep thought—on the little cripple's face the outward and visible sign of a conflict within.

"Well?" said Melvin, a little impatiently.

"I'd like it fine," beamed the boy, "under one condition.'

"What's that, Bud?"

"That the whole thing is done on a business basis," he answered soberly. "That you and me go into partnership, I meant. I'm an A No. 1 salesman, all right," he continued in an eager rush of words, "and if I had capital—if you'd put up the tin, and take your share of the profits, so there wouldn't be any 'object of charity' about it—say, together we could make things hum!"

This time the silence was on Melvin's part. Then he put out his hand. "It's a go, Bud. Shake."

A week later the party wishing to buy their place came up to his mother's price.

"Do you and Judy really want to live in the ctiy, mater?" scowled Melvin.

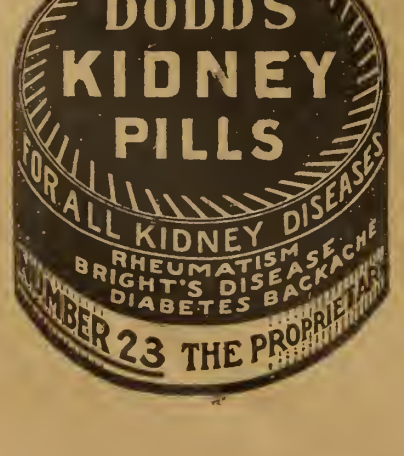
"I told you in the beginning, dear, how willing we were."

"Being willing and wanting to are very different states of mind, mater, and unless you prefer the city I'd much rather go on as we are."

"But, Phil, I thought——"

"Oh, I know I fussed a lot about going and coming on the train, but now I've got the hang of my crutches I can manage well enough. Besides," he added with a long lost twinkle returned to his smile, "I've business interests here that I must keep an eye on."

The next morning on the way to his train, as the auto approached a certain active corner, he gave a



Do Not Neglect The Bad Cold OF TO-DAY

IT MAY BE SERIOUS TO-MORROW

May Develop into Bronchitis, Pneumonia and perhaps Consumption.

Miss Mary Prouse, R.R. No. 1, Cedardale, Ont., writes:—"I had the Influenza in November last, and it left me with a terrible cough. I did not attend to it until it got so severe people warned me it was time to see about it. I went to the doctor and got some medicine. He told me it was a bad attack of bronchitis. I could not sleep, and would have to sit up nearly all night, it was so difficult for me to get my breath. The doctor's medicine did not seem to be helping me the least bit.

One of our neighbors came in one day, and told me about Dr. Wood's Norway Pine Syrup. I tried it and took two bottles. No person could believe how it helped me. I have recommended it to different people since, for I believe I have reasons for doing so.

Dr. Wood's Norway Pine Syrup has been on the market for the past 30 years, and stands out by itself as a remedy for all coughs and colds.

Be sure and get the real "Dr. Wood's" when you ask for it. Put up in a yellow wrapper; 3 pine trees the trade mark; price 25c. and 50c.

Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

playful tap on the broad, straight back of his chauffer. "Stop a minute, Brent; I want to look at something," he said.

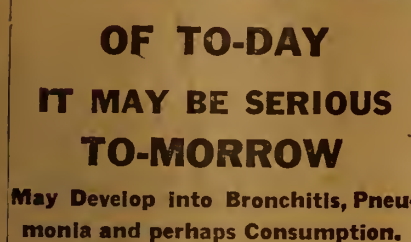
Leaning out of the auto, Phil Melvin critically inspected the fresh paint on a most imposing newsstand in the form of a snugly roofed-in six sided little booth, with heavy paned windows to shut against wind and rain.

Suddenly he threw back his head and laughed his old boyish laugh, for his glance had lighted upon the following carefully printed sign conspicuously fastened on the front of the news stand:

o o o o o o o o

o CLOSED FOR PAINTING o
o WILL OPEN WHEN PAINTE o
o DRYS o

o o o o o o o o



The Tonic that Builds You Up

Don't think of OLIVEINE EMULSION solely as a medicine for Heavy Colds, and Deep-seated Coughs. It is more than this. It is the best tonic you can take to purify the blood, give you an appetite, improve the digestion, make flesh, and renew your vigor and vitality.

OLIVEINE EMULSION

The Great Health Restorer

is the ideal spring tonic for the whole family: for pale, thin children as well as for men and women who are tired, worn-out and all run-down.

Get a bottle of this splendid medicine and see how quickly you begin to pick up. Sold by Druggists and General Stores.

Prepared by
Frasier, Thornton & Co. Limited
Cookshire, Que.

9

RESTORING OLD FURNITURE

A little knowledge of staining painting and varnishing is of great value to the housewife who loves a pretty home and wants to make the most of what she already possesses. The woman who once possesses this knack need no longer put up with shabby furniture for it is easily within her own power to make it look almost as fresh as the day in which it came from the factory, or, in the case of a very old piece, remove dents and scratches and give it a finish that will will make it admired of all beholders.

Suppose for example, there is an old sofa in the living room to comfortable to discard, but which is year by year growing shabbier. It was once covered with dark repp, but this is now so faded and streaked that it is hard to tell pust what was the original shade, and the woodwork is so dull and scratcher that one has to guess what sort af tree it came from. To have such a piece "done over" by a professional upholsterer is inconvenient for people living in the country, for they are usually many miles from any shop of the kind and besides this the expense of the work is very considerable. But there is no reason why any clever housewife should not do it herself, for it is no more difficult and perhaps not so much so, as many things she does every day as a matter of course. If one knows just how to go about it, the difficulties decrease surprisingly.

RemovingOld Covering

The first thing to do to an old piece of furniture is to remove the cover which is in too poor condition to save. In looking at it closely you will see that the repp is tacked in place with fine upholstery nails with small inconscpicuous heads. Remove these with a small tack drawer or a sharp chisel being careful not to mark the wood any more than is necessary. in taking off the old cover do not tear it into strips for you will need to use it as a pattern for the new one you are going to put on. Under the first cover there is usually another coarse, unbleached cotton cloth to protect the stuffing of the springs. If these things are in good condition the under cover can be left alone and simply brushed off with a stiff brush and then wiped with a damp cloth dipped in ammonia and water to gather all the loose dust. But if, as is usually the case, the stuffing is matted into lumps and some of the springs are broken, this cover also should be removed, for while you are about it the repairs should be thorough. This can in most cases be taken off in such large pieces that it can be washed and then put back again, when the repairs to the interior are completed.

If the curled hair with which the sofa is stuffed is filled with dust and matted together, take it out of the sofa and pick it over on a big sheet, tossing the hair about and working it apart with the hands until it is clean and nearly twice the former bulk. If any of the springs are broken, have them replaced for a broken spring will cut through the cover and spoil all your repairs. You can get springs at any furniture store or where upholstery is done or your nearest storekeeper can send to the city and get them for you. You may have to buy an entire new set as the springs in the sofa are perhaps so archaic that they are no longer made. But even if this is the case, the cost will not be very great. Before removing even the broken springs examine carefully the manner in which they are put in, especially the way they are held in place by the broad strips of webbing that are usually used for this purpose. If this is frayed and worn, get new webbing at the same place you buy the springs. As a precaution do not take the old webbing out or remove more than one o the springs before you have the new ones at hand and are ready to begin repairs. In this way you cannot forget the prover method of putting them in again. When the webbing is renewed, the springs back in their places, the hair returned to its original hiding place, put on the cotton cover again, or if one was not user, make a new one. This will cost very little, is easily put on as it is entirely concealed, and protects the stuffing and springs from dust and will make the cover wear twice as long.

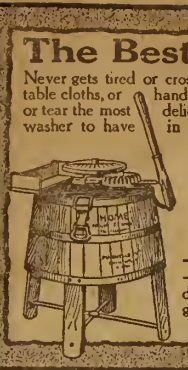
Painting and Varnishing

Now is the time to give a little attention to the dull old woodwork. The first thing to do is to remove the dust of ages and the ancient coats of varnish. This can be sandpapered off but as this is quite a laborious process, it is much easier and quicker to use one of the excellent varnish removers now on the market. You can get this at any paint shop in your nearest town or at most urniture stores. Apply to the wood with an ordinary paint brush and leave until the varnish becomes soft. Then remove with a putty knife or a fiat bladed kitchen knife. Wipe over the surface with an old cloth dipped in benzine. Should this not make a perfectly clean surface rub with a rag dipped in the remover and wipe off again with benzine. Mouldings, beadings and all ornamental work apply in exactly the sam wey, but in order to clean the crevices thoroughly use a stiff brush dipped in benzine for last cleaning. Sometimes in a very old piece of furniture the varnish is so hard and thick that it is necessary after the first coat of remover has been put on and the loose material scraped off with a knife to apply a second coat and let this remain on until all the old varnish has been softened.

With the removal of the varnish all the scratches have disappeared

The Best Washer You Ever Met!

Never gets tired or cross! Never "skimps." Handles light or heavy goods—blankets or tear the most delicate fabrics, and only takes half the time! Isn't that the kind of a washer to have in your home? Then go to your dealer's to-day and meet the—



Maxwell

"Home" Washer

—a ball-bearing washer—light, noiseless, easy-running—of handsomely-finished cypress. Specially-designed dasher makes it best for washing everything. Enclosed gears mean safety. Write us for booklet—FREE.

MAXWELLS LIMITED, Dept. X St. Marys, Ont. 36

End Your Suffering!

Each year thousands of people throughout Canada put an end to their sufferings by the prompt use of Gin Pills. It is estimated that in the Dominion alone one out of every fifteen people annually use and derive the greatest benefit from these wonderful pills.

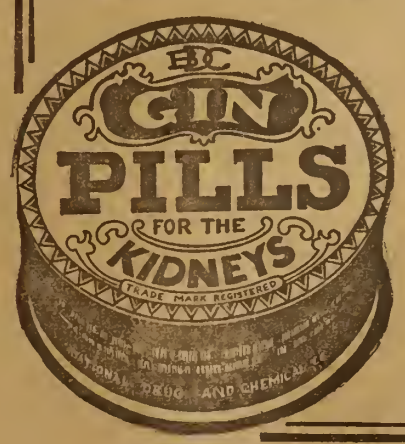
Prepared with the greatest care and thought from a formula that was only achieved after profound study and patient experimenting.

Gin Pills FOR THE KIDNEYS

have done more to relieve pain and prevent serious Kidney and Bladder Troubles than perhaps any other preparation that can be obtained.

Mr. Frank Ide, a pullman conductor, suffered intensely from pains in the groins, sore back and very severely from gravel and sediment. After taking Gin Pills Mr. Ide wrote us. "The pain left me entirely. I have no trouble whatever in urinating and I feel as well as I ever did in my life. I recommend Gin Pills to everybody in any way troubled with kidneys or bladder."

Mrs. Percy, Halifax, N.S., after trying a sample sent for six boxes. She wrote:—"Before I finished the third box I found myself for the first time in years free from pain—the pains did not return. I wish everyone who suffers from backache and kidney trouble would use Gin Pills. They are great,"



If you suffer with pains in the groins or back, Rheumatism, swollen ankles, stiff joints, gravel, constant headache and lassitude, constipation and dizziness, take Gin Pills and nip the trouble in the bud.

Send for free sample or get a box from your druggist or dealer, 50c with money-back guarantee.

THE NATIONAL DRUG AND CHEMICAL CO. OF CANADA, LIMITED, TORONTO

U.S. Address: Na-Dru-Co., Inc., 202 Main Street, Buffalo, N.Y.

284

Hot Flushes, Fainting Spells.

So Weak and Nervous Could Not Sleep.

Mrs. Philip H. Ryan, Sand Point, N.S., writes:—"I have been a great sufferer from nerve trouble. I was so weak and nervous I could not sleep at night, and my appetite was very poor. I could not walk across the floor without trembling all over. I had hot flushes and fainting spells. When I was on my second box of Milburn's Heart and Nerve Pills I began to feel better and kept on until I had used six boxes when I felt like a different person. I am never without them in the house and recommend them to all who suffer with their nerves."

Milburn's Heart and Nerve Pills are 50c. per box at all druggists or dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

but there may be some dents in the wood still in evidence. These can be made much less noticeable by steaming. The easiest way to do this is to take a small piece of old flannel, wet it thoroughly, put it over the dent, and then hold a hot iron on it until it is dry. Wet the cloth again and agan applying the iron until the wood has swelled enough to make the dent disappear. After the wood has dried out thoroughly rub it over with stndpaper to make a smooth surface. Have ready a can of good furniture varnish and with a small brush apply a coat putting it on smoothly but not thickly. Let this stand for a day and a night and then rub lightly over with sandpaper and put on your last coat of varnish. Your wood work should now look in first class condition.

Cutting New Covers

The next operation is to carefully cut out your new furniture cover the exact size of the old one, but remember to allow for half to a quarter of an inch all round for turning under at the edges unless the material chosen is very stout and thick when it can be put on with raw edges. This should be tacked in place with new upholstery tacks or small upholstery nails. Pull it rather tightly in putting it on but if there is a pattern of stripe be careful to get it on straight. Then tack all around the edges an upholstery gimp to match or harmonize with the covering. This makes a very neat and attractive finish. Your old sofa should be literally as good as new and equal to ten or twenty years more wear. For covering large pieces of this sort, tapestry, corduroy or cretonne with a dark ground are used.

In the case of old furniture where the covers are not torn or very much worn but only rather dingy looking, or perhaps a little faded, they can be greatly improved by brushing off carefully with a whisk broom, and then wringing a cloth out of warm water and twisting nearly dry, laying this over the cover and beating it with a rattan furniture beater. When one side is dusty, turn it on the other. Often it is necessary to use several cloths on one piece of furniture. Continue beating until the cloth comes away without showing any soil. If the furniture coverings are not in a light color ammonia can be put in the water in which the cloths are wrung out. This will still further brighten the cvering. Do not let the cloths be very wet or you will streak the upholstering. They should be damp only. Sometimes a last wiping with a cloth dipped in alcohol aids greatly in the cleaning.

Best Medicine He Has Ever Taken

FATHER TELLS OF SON'S HELP FROM DODD'S MEDICINES

He Recommends Everybody Who Has Shaking or Pain in the Heart to Use Dodd's Dyspepsia Tablets and Dodd's Kidney Pills.

Birmingham, Sask., May 25th. (Special)—"Dodd's Kidney Pills and Dodd's Dyspepsia Tablets are the best medicines my son has ever taken."

This is the statement of Mr. Johannes Reinson, a well-known resident there. "When he started to take them," Mr. Reinson continues, 'there was not much hope for him. Soon after starting to take the Dodd's Medicines he began to improve in health and now he is well."

He advises everybody who has shaking or pain in the heart to use Dodd's Kidney Pills and Dodd's Dyspepsia Tablets.

The Dodd's medicines act on the two essentials to good health. The Tablets help to digest the food and produce good blood. The Pills act on the kidneys, healing and strengthening them, thus ensuring that the blood is kept free from impurities. For the work of healthy kidneys is to strain all impurities out of the blood.

Ask your neighbors if Dodd's Kidney Pills do not heal and strengthen the kidneys.

CARE OF CHILDREN'S TEETH

Busy mother, have you taught your children to use their tooth brush and to care for their teeth by brushing them regularly? The teeth should be properly cared for from babyhood. Mothers are very careful to wash the infant's mouth with a boric-acid solution; we do this to prevent sour mouth, etc. To cleanse the mouth means less ills for the infant. If this is necessary to preserve health of the infant, why not continue the washing and cleansing after the teeth come and the child begins to eat solid food?

The soundness and symmetry of the second teeth depends in a measure upon the care given to the first set. If we are careless and allow the first set to become decayed, we cannot expect the second or permanent ones to remain sound for very long. The permanent teeth are forming behind the roots of the first ones and decay in the first cannot but cause decay in the second.

Have the first teeth well taken care of while they stay. It is necessary that they be filled at the first signs of decay. No child can properly masticate food if the teeth are badly decayed or the gums irritated. If the food is not properly masticated, the juices of the stomach cannot carry on the work of digestion properly. The child may eat plenty of nourishing food and yet not derive the benefit from it.

Some dentists recommend leaving first teeth in place until the new ones coming cause the first ones to loosen when they can easily be removed. Others say, remove the first ones early so that the second ones may not be crowded. A visit to a reliable dentist every six months or so after the child has passed his third year will determine the position of the first teeth in regard to the second and upon his advice the first ones can be removed in time to allow the second ones to develop properly.

Cavities in the teeth are ideal breeding places for many kinds of germs. It is said that an ulcerated tooth will cause rheumatism through the blood. The pus from it, getting into the stomach, may cause many other serious diseases. Decayed teeth may harbor the dreaded tuberculosis germs and these may find their way to the glands of the neck and cause tubercular glands. Many of the sanitariums for the treatment of tuberculosis will not admit a patient who has decayed teeth. He must first visit a dentist and have his teeth put in good condition before the attending physician will admit him for treatment.

The schools have taken up the question of decayed teeth and children are now receiving the instruction and care their mothers failed to give them. It is estimated that from fifty to ninety per cent. of the children in the public schools have decayed teeth. Decayed teeth interfere with their health and therefore with the brain. No child can do his work well if he has a toothache, or a rough tooth which jags his cheek or tongue.

Teach the child the use of the tooth brush arly in life, also tell him the injurious effect of bad teeth upon his whole system. The child of two years can, with a little patience, be taught to use the tooth brush and it will soon become a fixed habit with him. It takes but a few minutes' time after each meal and often saves a world of trouble later on. Get him a brush in which the bristles are solid but not too stiff. A cheap brush is expensive at any price, it will not cleanse the teeth properly and the bristles are continually coming out, often lodging between the teeth, or under the gums, causing irritation and annoyance. See that he uses the rotary motion, so that the bristles of the brush may remove all particles of food lodged between the teeth.

The quality of the teeth greatly depends upon the food eaten. Soft foods that do not require much mastication will produce soft, crumbly teeth. The little teeth need exercise as well as the proper nourishment, so let us provide "zwieback" or twice baked bread, graham crackers or the educator cracker. These require thorough mastication, thus providing exercise which increases the blood supply to the teeth. Nourishing foods, such as well-cooked cereals, eggs, milk, bread and butter, fruit and vegetables and boiled meat should be given. Corn meal, used in "Johnny cake," gems or "mush" is beneficial. Spinach is especially good on account of the iron it contains.

See to it that your children clean their teeth regularly. Coax them if you can; force them if you must. Sound teeth can only be retained through eternal vigilance. Dentists tell us that a greater number of people neglect their teeth in rural districts than in towns or cities. Are we so careless of our health and personal appearance that we neglect anything so vital as the care of our teeth or is it that the dentist is so far away that we ruralists have earned this reputation? Dentists are not so hard to reach that we excuse our neglect in this way. Personally, I think we can excuse ourselves through that little word "busy" but that does not repair our decayed teeth or our injuured health. Let us visit the dentist regularly, and see that the children's teeth are taken care of regardless of how busy we may be.

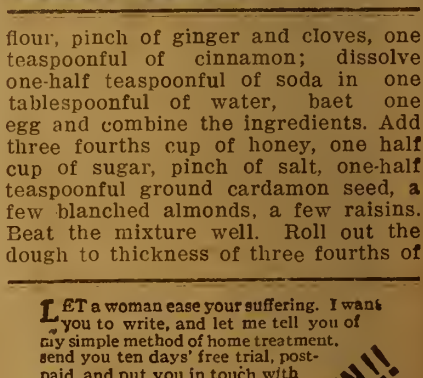
HONEY—THE FARM SUGAR

Honey Biscuits—Put ½lb. flour in a bowl, add two ounces of sugar, ¾ ounce of chopped almonds, one egg, one and one half tablespoonfuls of honey, and one half ounce of candied lemon peel chopped. Beat well and add a pinch of carbonate of soda. Turn onto a board that has been sprinkled with flour, roll thin, and cut in rounds. Bake in a moderate oven. About three fourths pound of biscuits.

Hard Honey Cake—Sift 2½ cups of flour, pinch of ginger and cloves, one teaspoonful of cinnamon; dissolve one-half teaspoonful of soda in one tablespoonful of water, baet one egg and combine the ingredients. Add three fourths cup of honey, one half cup of sugar, pinch of salt, one-half teaspoonful ground cardamon seed, a few blanched almonds, a few raisins. Beat the mixture well. Roll out the dough to thickness of three fourths of

Spring is Here
So is "Spring Fever" —that heavy, sluggish, upset feeling, which indicates a disordered system and impure blood.
Dr. Wilson's HERBINE BITTERS
is an excellent regulator and blood purifier, and an ideal spring tonic.
At your store— 35c. and $1.00.
52
The Brayley Drug Company, Limited
ST. JOHN, N. B.

MINARD'S
"KING OF PAIN"
LINIMENT
The old reliable remedy for rheumatism, neuralgia, sore throat and sprains.
Best Liniment Made
MR. A. E. LAUNDRY, EDMONTON, writes:—"I fell from a building and received what the doctor called a very bad sprained ankle, and told me I must not walk on it for three weeks. I got MINARD'S LINIMENT and in six days I was out to work again. I think it the best Liniment made."
Minard's Liniment always gives satisfaction. For any ache or pain. It gives instant relief.
Minard's Liniment Co., Limited
Yarmouth, - - N.S.


A MESSAGE TO WOMEN!!
LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid, and put you in touch with women in Canada who will gladly tell what my method has done for them.
If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.
Mrs. M. Summers, Box 309 Windsor, Ont.

an inch, bake in a hot oven. Very delicious.

Bran Honey Muffins—One-half cup ful of honey, one cupful of flour, one-half teaspoonful of soda, one-ourth teaspoonful of salt, two cupfuls bran one tablespoonful melted fat, one and one-half cupsful milk, three-fourths cupful of finely chopped English walnuts, one teaspoonfuul baking powder and soda. Mix them with bran. Add other ingredients. Bake 30 minutes in hot oven in gem tins.

Honey Pudding—Place four ounces of honey in a bowl with four ounces stale cake or bread crumbs, stir with a wooden spoon three minutes, then add two ounces of rice flour, grated rind of a lemon, half teaspoonful of ground ginger, one gill milk, one ounce of buutter, the yolks of three eggs, and mix for five minutes. Beat up the whites of three eggs to a stiff froth, add to mixture and mix with the skimmer for a minute. Pour the preparation into a lightly buttered pudding dish, set in oven and bake 15 minutes; remove, unmold on a dish, and serve with a sauce.

Honey Rolls—Dissolve a yeast cake in a cupful of warm scalded milk, add a quarter of a pound of butter, a tablespoonful of sugar, and half of a teaspoonful of salt, and let them dissolve in the warm milk. Stir in a well beaten egg, and three cupfuls flour. The milk must not be too warm when the yeast cake is dissolved in it. Let the batter rise, knead and roll it out into thickness of about half an inch, spread with a mixture made of half pound walnuts chopped fine, quarter pound of raisins, chopped fine, and a cupful of honey. Form them into rolls let rise and bake in a moderate oven.

Honey Filling for Layer Cake—Blend together one-half cupful each of honey and of sugar, with two tablespoonfdls of water. Heat over the fire until it forms a thread; remove and beat in the stiffly whipped white of an egg. Beat constantly until the mixture cools and is soft and thick, like cream. Spread between layers of cake and frost the top.

Honey Ice Cream—One quart milk three-fourths cupful strained honey, two eggs and one egg yolk saved from frosting. Scald the milk. Beat eggs slightly, add the honey and pour the scalded milk slowly over mixture. Cook in a double boiler over boiling water until the custard thickens and coats the spoon. It should be stirred constantly while cooking. Cool and freeze.

NOTHING BETTER THAN BUTTER

Good for Growing Child

Thousands of years ago when the world was very new and people lived mostly out of doors and slept in trees caves and rudely constructed shelters, butter, milk and cheese were the principal foods.

The lives that these people led were hard and rough and in everything that they did, they were guided almost entirely by instinct. So, even had they been told of the wonderful nourishment contained in these simple dairy products, they would not have understood what it was all about. But instinct told them when and what to eat, and they knew when they ate butter, milk and cheese that their hunger was soon satisfied, and that their tired bodies were quickly refreshed. So, in this manner, they became healthy and vigorous men and women and lived to be very old.

For centuries, butter, milk and cheese have been closely allied with the mental and physical development of the human race, and at the present time. in all countries where they are used generously in feeding the young, we find the finest, strongest, most intelligent and useful people.

There is nothing healthier and better as a food for the growing child than plenty of good bread and butter

When, after hours of study and on the playground, you run home to mother for something to eat, ask her for a slice of bread with rich, golden butter spread thick all over it. Then, very soon you will feel as good as new, and that is because butter replaces the energy that has been consumed in work and play.

Mother knows just how much good those slices of bread and sweet, rich butter means to her little boys and girls and gives them gladly all that they want, because, above everything else she wishes them to have healthy minds and bodies, so that they may perform their full duty as good citizens in years to come.

To eat plenty of good butter is the surest means of keeping your supply of energy at its best, and energy is of utmost importance to both body and mind.

Additional energy also is gained from the soups, meats, vegetables, bread, pies, cakes and puddings that you eat when butter is used in preparing them. Butter makes them more palatable, too, and more digestible.

Nearly everything contained in butter is good for your body, 80 percent. of it produces warmth and energy, 1 percent. is protein that renews the wasted tissues, and 3 percent. is mineral matter that repairs and strengthens the bones. Butter also is good for you because it contains a vital substance known as vitamines, that is necessary to the development of your body, and which other vegetables and animal fats do not possess Butter is valuable as a food because it is easy to digest and is quickly at work, helping to make you bigger and stronger.

Your body needs a great deal of good foods like butter and milk because, if healthy, the body of a child develops rapidly and is very active, so that every day there is a large amount of new tissue and energy to be supplied.

Every time that you recite your lessons, romp around the playground or help with the work at home, a certain amount of muscle and energy is used up and must be restored. Even every heart beat or breath taken destroys some part of our bodies so that they are in need of constant repair.

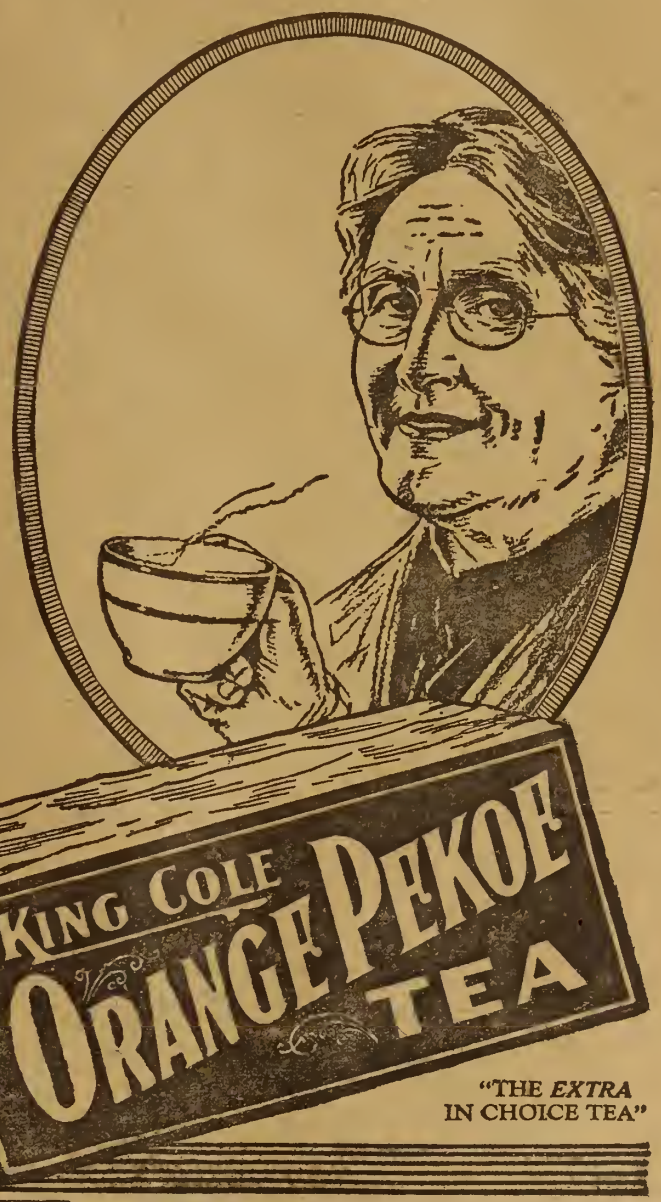
When a man builds a chimney, he uses brick and mortar or cement, so that it may be strong and durable and safe, he would not think of making it with boards. And it is the same with you. Your own body needs certain materials to make it grow and to maintain the proper amount of energy and strength.

Butter is one of the most perfect foods that can be used for this purpose and in bringing out the very best there is in you in mental and bodily strength.

A New Character

When, four years ago, KING COLE ORANGE PEKOE TEA first appeared, something more than a *new tea* had been produced—a *new character* in tea had been created. Only after most searching experiments in flavor-blending were we at last able to develop that *peculiarly mellow richness of flavor* so delightful to the taste, which has won for KING COLE ORANGE PEKOE the high place it holds. The total annual sale of KING COLE ORANGE PEKOE has *doubled twice* in the last two years.

We are confident that you will say that it is *different* to any tea you ever tasted.



"THE *EXTRA* IN CHOICE TEA"

Spanking Doesn't Cure!

Don't think children can be cured of bed-wetting by spanking them. The trouble is constitutional, the child cannot help it. I will send **FREE** to any mother my successful home treatment, with full instructions. If your children trouble you in this way, send no money, but write me to-day. My treatment is highly recommended to adults troubled with urine difficulties by day or night. Write for free trial treatment.

Mrs. M. Summers

BOX 309 WINDSOR, Ontario

Minard's Liniment Co. Limited

Dear Sirs,—Your MINARD'S LINIMENT is our remedy for sore throat, colds and all ordinary ailments.

It never fails to relieve and cure promptly.

CHAS. WHOOTEN,

Port Mulgrave.

CENTRAL PRINCIPLES OF WEED CONTROL

(Continued from page 625)

hold in hay land or pastures that are left unbroken for a long time. The best method of eradication is to break up the field, put in a cultivated crop if possible and seed down in grain the following year. Where this weed is bad land should not be left in grass longer than two years. The same applies to land infested with ox eye daisy or Bulls eye.

Couch Grass.—This is a perennial weed that is quite difficult to control because of its creeping roots. By careful work it can frequently be smothered out with a crop such as buckwheat. Where a field is badly infested it would be advisable to plough in early fall and work ground with a cultivator and remove roots. Plough shallow again in Spring and work the land frequently until time for sowing buckwheat cultivating as much as possible during hot dry weather ,remove all roots and sow buckwheat when there is sufficient moisture in soil so that it will come up quickly and cover the ground. Couch grass has frequently been killed in one occasion by the above treatment. To insure success with this treatment, it is very necessary to cultivate land, beginning early in spring and cultivating often during early summer before buckwheat is sown. The object being to keep the wood from getting above ground. The roots are thus weakened and are smothered out by the buckwheat crop.

ST. JOHN EXHIBITION SEPTEMBER 4 TO 11

The St. John Exhibition Association is again going to hold a show and has fixed its dates at September 4th to 11th inclusive. This will be the first Exhibition to be held in St. John since 1914 as the Exhibition plant has, for the last five years been employed for Military purposes. The Militia Department have just handed back the plant, and have also paid over a substantial amount to offset the damage done by their occupation, so that the Association is in a position to expend more money than is usually the case, and therefore expects to make this year's show a distinct success in every way. In addition to some splendid free acts in front of the Grand Stand, contracts have been entered into that will make the Midway a more elaborate affair than ever. These contracts include some seven riding devices and about fifteen big tent shows; in fact, the Midway will, this year, resemble a first class Summer Carnival rather than the fakir's row of former years.

MANGEL GROWING

The growing of mangels has received a great impetus in many districts owing to the serious loss among turnips, caused by club-roots. The mangel is attacked by very few insects or diseases and when successfully grown produces immense yields of succulent food so necessary for live stock during the winter and spring months.

Sound, fresh, plump seed should be secured and large quantities of the very best home grown seed is now on the market. The mangel requires plenty of moisture and should be planted in good well tilled land early in the season. It works in very well with the following five year rotation: Barley or Mixed grain, Mangels, Grain seeded out to clover and grasses, Hay, Pasture. About one half of the manure (12½ tons) is applied to the barley stubble and plowed under in the autumn; the balance (12½ tons) is worked into the land as soon as it is fit to work in the spring. When the land has been worked so that it is mellow and friable it is thrown up into low drills 30 inches apart and the tops of these dragged off with a pole or fence rail. The seed is then sown about 1½ inches deep, at from 4 to 6 lbs. per acre, according to the quality of the seed. The "Planet Jr." cultivator and seeder is a very satisfactory implement for this work. This is followed by a heavy roller firming the earth about the seed, so that it may get sufficient moisture for germination. During the dry period it is well to seed in the evening so that the earth may remain damp about the seed for a longer time. The most important point in getting a good catch is to have the seed deep enough so that it will not dry out, and to have the soil pressed firmly about the seed. It pays to take extra time and trouble to put the seed in right, even if it is necessary to make a trench with a hoe for the seed and to cover and pack the earth down with the feet.

As soon as the plants are up in rows they should be edged with a hoe or hand cultivator. The latter will straddle the row and do both sides at once. The horse cultivator should then be run through the rows every week or after every heavy rain until the tops cover the ground. Thorough persistent cultivation will add greatly to the drop by conserving moisture and by destroying weeds. The plants should be thinned to about ten inches apart in the rows, by the time they get four leaves and hoed a second time before the roots swell.

Mangels should be harvested before severe frosts occur. They should not be topped so close that they will bleed, asd should be handled carefully if they are to be stored for a long period. They should receive plenty of ventilation when in storage, because like all other roots they are alive and require air. The "Yellow Intermediate" is easily harvested. It is one of the best yielders and contains a large percentage of dry matter.

Dominion Experimental Farm,
Charlottetown.
J. A. CLARK, Superintendent

MANURE A PERISHABLE PRODUCT

Manure is a perishable product. It begins to give up its fertility elements almost as soon as it is voided. Between this time and that uncertain moment when the fertility elements which it contains are assimilated by the tiny root hairs of growing plants, very many factors enter into the problem of conserving these elements for soil enrichment. It has required long years of patient study and an untold amount of experimentation to reveal the workings of Nature as these take place with a heap of unsightly stable waste. And because these changes, so far as one's vision is concerned, do not result in a very marked transformation of the wastes in question, it has been hard for many persons to believe that much of what has been preached to them concerning the conservation of manurial waste, has been anything mre than the fanciful dreaming of high-browed professors or the mental gymnastics of farmers of the text book variety.

Agricultural economy, however, must keep a check on every stage in the handling of the manure crop if the fertility elements which thus are made available for use are to be utilized to the best possible ends. Because manure is a perishable product this oversight must begin in the stable and must not cease until the wastes are underground, where they can best give an account of the fertility which they contain. Roughly speaking, it is possible to divide these losses into three classes: First, those due to improper oversight or care; second, those due to chemical and bacterial actions occurring in the waste as it awaits distribution and incorporation in the soil; third, those due to poor administration in the matter of final disposition. As one scans the different divisions and sub-divisions it is possible to visualize the whole matter of fertility conservation at a glance. Furthermore, it can be easily understood why the handling of this perishable product is accompanied, even under reasonably good care, by a loss that must ordinarily approximate 20 per cent. No Man can expect to make the manurial wastes which he hanlles score 100 per cent. in the enrichment of his soil. But he must, indeed, be lacking in real thrift if his care and handling of these by-products reduce his score to 50 per cent. or below. There is no feature of the conservation of fertility elements in manure which is beyond the power of anyone to handle intelligently and wisely. But where this is not the case the fault is likely to be a matter of personal indifference rather than otherwise.

Many farmers pile the manure in the barnyard and clean it out thoroughly once a year, believing that they are doing an excellent work. Well, in one way they are, but the loss sustained by allowing the manure to pile up there is tremendous. In fact it has been estimated at as high as 41 per cent. on the average. The soil underneath the pile acts like a sponge and absorbs the fertility very rapidly. That waste could be prevented if a little care and thrift in the way of prompt removal of the manure to the fields were practised. Plant food is too expensive today to allow such a wholesale waste to continue.

The losses due to chemical and bacterial action, in most cases, are the re-

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Farmers with Sales Notes will be well advised to turn them over to this Bank for collection.

The Bank will relieve you of all trouble in making presentation, and payments will be credited to your account promptly.

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THE Massey-Harris Combined Side Rake and Tedder is the most valuable machine the farmer can possess at haying time. It saves the cost of one machine, the extra storage space required, the time hitching and unhitching when changing from Tedding to Raking and it does better work.

It can be changed in an instant from Tedding to Raking or *vice-versa*, by simply pulling one lever, and satisfies the most exacting in either capacity,

The motion of the Teeth is easy but positive, their action being very similar to the work of hand rakes, handling the hay gently without beating or threshing.

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AGENCIES EVERYWHERE

sult, also, of negligence. Rotting manure depreciates in value very rapidly. Three months' time will see manure lose approximately 25 or 30 per cent. of its total fertility. The best place for manure to rot is in the soil, for here as fast as disintegration takes place and the soil elemests go into watery solution they are taken up by the growing plant and utilized to the full extent. Where the rotting takes place in a heap of waste above ground, nitrogen gets away in the air while other products are leached out and lost by absorption through the earth or by drainage. The pile of unprotected waste, as it dries out and air takes the place of liquids, is subject to heating due to the action of bacteria which need the oxfgen in the air to enable them to thrive. Thus, whether the heap be wet or dry, the loss goes on unchecked. If the heap is protected from leaching by a shed or other covering, and if it is kept sufficiently moist to exclude the air, it will not lose much of anything in fertility while held in temporary storage. Surely there is nothing in such a simple precaution that is beyond the power of any really thrifty individual to achieve.

As for the losses enumerated in the third class, it might be better to say that they can be overcome by good farming practices. Good sense will dictate, as a rule, when and where it is best to spread manure. It also will recognize the superiority of machine sperading as against the old and wasteful method of hand spreading. Above all, good farming sense will recognize that the benefits to be derived from the most careful handling of manure up to the time it reaches the field may be quite overshadowed by poor administration in the final disposition of the wastes in question.

The conservation of fertility elements in barnyard manure is possible on every farm. Eliminate the exposed manure pile, distribute the waste promptly and understandingly to the waiting fields, and it will be found that though it is not possible to restore to the soil 100 per cent. of the fertility held in manure of this type, it yet remains possible to put 80 per cent. of it back into the crops of next year and the years to follow. And the man who puts back 80 per cent. of such manurial fertility into his soil can call himself a good farmer without fear of being a egotistical.

O. CROOKER.

MAKE SCALES TELL TRUE LOSS OR GAIN

Have you ever seen a groceryman or storekeeper dealing out supplies in loose form without weighing or measuring them in some form or other? Certainly not. If he were to do so he would not be in business very long before failure would overtake him. If you doubt that statement, just ask your local groceryman how he would like to get along without a weigh scale in his store. He will give you his opinion in very few words.

It is the same with the farmer, yet there are a great many farms where a weighscale is not a part of the equipment. That should not be, as it is next to impossible to sell farm produce intelligently without knowing the actual weight. Take for instance, the selling of a number of hogs or some beef animals; no man is such an expert judge of weight that he can tell exactly what they will weigh without a possibility of error. He may guess and come within a few pounds of their actual weight; but even at that what does the loss of anywhere from ten to fifty pounds on a number of hogs amount to? It may not seem much and must be considered very fair guessing on a pen of hogs, yet a shortage of that amount may mean a loss of anywhere up to $8.50, figuring at present prices. That in itself is worth considering, and it would go a long way towards defraying the expenses of a farm scale. It is the same with calves, sheep and even beef animals, to say nothing about the hay, grain, potatoes, grass seed, etc., that is sold off every farm annually.

Take another example, suppose you are selling one hundred bushels of oats at $1 per bushel and you sell it by measure. What happens? If the oats weigh 40 pounds to the bushel which is a very common occurrence, the loss in weight on one hundred bushels at $1 per bushel amounts to $11.75; surely that is worth considering.

A good farmer weigh scale is not overly expensive and when it is considered that it will last for years it cannot prove otherwise than a good investment. A few dollars saved each year will soon pay for it, and then there is the satisfaction of knowing that one is always getting what is coming to him which in itself is worth considerable. The purchase of a weigh scale for the farm is sound business, and it is hard to see how any farmer can afford to be without one.

BINDING CONCRETE

When necessary to discontinue concreting before forms are filled, as at the close of the day for instance, the top of the concrete last placed in the form should be roughened by scratching it with a stick to prepare for a good bond with fresh concrete that is to be placed the next day or when concreting is resumed. Immediately before resuming concreting, however, the surface of the old concrete should be well washed off and painted with a mixture of cement and water, mixed to the consistency of thick cream and applied just in advance of placing the fresh concrete.

Precious Hours and Dear Labor Saved With

LOUDEN

HAY TOOLS

HAYING is one of the heaviest jobs on the farm. Are you going to have the necessary labor to harvest the crop? Added to the labor scarcity is the uncertainty of the weather.

Hay which is cured and ready to haul into the barn loses much of its feeding value if it becomes wet.

Works Like A Giant

With a Louden Haying Outfit to work like a giant for you, you are not only enabled to reduce the labor of harvesting your crop, but you are relieved of much of the anxiety of being caught by catchy haying weather. It will enable you to get through your haying in one-half the usual time—with one-half the help—and with fewer horses.

Five to Seven Minutes

A Louden Sling Carrier Outfit will handle your biggest loads in from five to seven minutes. Lifting the load straight up from the wagon it is deposited well-spread and cross-wise of the mow, which makes mowing back easy. It does not matter how high your barn is, it can be filled to the peak with a Louden Outfit.

A Louden Outfit not only means less work for you, but may mean the saving of enough more good well-cured hay to pay for the whole outfit in one year.

Bound Grain Also Handled

Hay, Bound Grain, Straw or any other forage can be handled quickly and equally well. An all-year-round equipment is what you get when you use a Louden Sling Carrier Equipment.

If your barn is unsuited for a sling carrier equipment the next best thing is the Louden Senior Fork Carrier and Giant Grapple Fork. We are the Pioneers in the manufacture of Haying Tools and years of specialization well fits us to take care of your needs.

A man on the load—one in the mow or on the stack—and a boy at the hoist. That's all the help you need to run a Louden Sling or Hay Fork, a Louden Hay Carrier and a Louden Hoist.

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PHRENOLOGY IN HORSE SELECTION

(Continued from page 637)

varies considerably in horses. The profile of some are straight, others are concave or hollow, while some are Roman in character or convex. For giving free passage to the nasal arrangement the straight profile is preferable, the contour being more pleasing than the very Roman profile, which some horsemen say it is a sign of a sour disposition.

Good quality is shown in thin lips. A narrow, small pinched mouth is characteristic of a poor feeder. A smooth, neat attachment of head to neck is also highly essential, a fullness at the throat and about the windpipe being undesirable.

The head shows the mental character of the horse and it is of much importance in the animal's usefulness to man. A good will or good disposition is the first quality required to obtain useful service, and a study of the head will generally reveal the tendency in the horse.

EGGS AND POULTRY MARKETS REPORT FOR CURRENT WEEK MAY 18

EGGS:

Prevailing Prices Country Points Market	Specials	Extras
Western Ontario	48-50	43-47
Central Ontario	48-50	43-47
Eastern Ontario	48-50	43-47
Quebec	45-49	42-44
Prince Edward Island		44-46
Manitoba		42-43
Saskatchewan		40-42
N. S. and N. B.		40-45
Alberta	47	42-45
British Columbia	52	50-51
Wholesale Prices to Retailers or Jobbers		
Toronto	57-60	52-54
Montreal	57-58	54
Vancouver	56-57	53
Calgary		50
Edmonton		52
Winnipeg		46-47
Regina, Saskatoon and M. Jaw		43-45
Ottawa		48-50
Moncton		48
New York		44-46½
Chicago		40½-41½
Retail Prices to Consumers		
Toronto	60-65	58
Montreal	60-65	55-58
Winnipeg	58	53
Calgary	60	55
Edmonton	60	55
Regina, Saskatoon, M. Jaw		50
Ottawa	55-60	50-55
Charlottetown		48
Vancouver	60	57

EXTRACTS FROM REPORTS

Toronto—Eggs—This market gradually weakened during the past week and closed with jobbing prices down 2 to 3c. Yesterday (Monday), the situation was steady with specials jobbing at 57-58c. candled current receipts 53-54c and twos 48c. A heavy increase in receipts is reported at country points, and trading during the papst week has been conducted on the basis of 46-48c paid to country stores and sales by country shippers at 48-50½ f.o.b. track. Some cars are reported on the way from the prairie provinces. The market has been influenced by Chicago prices and at their present level of 41c States eggs can be laid down Toronto at 50c. Storing is now general.

Poultry—Poultry receipts continue light and the market firm at unchanged prices.

Montreal—Eggs—Receipts for the week ending May 15th were 24,246 cases as compared with 21,770 cases for the previous week and 42,596 cases for the same week last year. This market was considerably easier last week and it is reported at Ontario country points that the trade are not very keen buyers at the present time. It is reported that the trade generally was surprised to find storage stocks on May 1st almost equal to those held a year ago. Yesterday (Monday) candled current receipts were jobbing at 54c and specials 57-58c. One sale of 1,000 cases was made yesterday at 54c.

Poultry—Some export business was reported last week, 825 cases of States eggs being shipped to Liverpool and 420 cases of Canadian to Glasgow. Poultry—Market firm under light receipts. One sale of 500 lbs. of turkeys reported at 55c.

Winnipeg.—Eggs—Dealers are now paying 43-44c delivered cases returned and jobbing current receipts at 46c. On the farmers' market Saturday specials were retailing at 58c. cuurrent receipts 53c. Carlot shipments continue but there is now a surplus which allows for some storing being done.

Poultry.—No change.

Regina, Saskatoon and Moose Jaw—Eggs.—Receipts are reported much heavier and quite a number are now going into storage. Dealers are paying country shippers 40-44c and current receipts are jobbing at 45c. Several cars have moved from Saskatchewan points east and west during the past week, the last car reported being one of firsts rolling to Vancouver costing 52½c f.o.b. Regina Poultry.—No business passing.

Edmonton—Eggs—The weather is reported warmer ans more spring-like but receipts continue light. The trade is offering 42c straight delivered, cases returnable, prices on a graded basis being: extras 57c, ones 44c, twos 38c. The jobbing business in small lots is reported small, most of the good eggs going into storage. Some business is passing in carlots of firsts at 52c. Poultry.—No business reported.

Calgary—Eggs—With better weather conditions receipts of eggs have materially improved and some surplus is now accumulating though considerably less than at this time last year. Packers are paying 44-45c and jobbing specials at $15.00 per case and firsts $13.50 per case. Poultry—No live poultry is arriving. The demand for the frozen stock continues steady.

Vancouver—Eggs—This market remains firm with 50-51c being paid for local fresh at country points, these jobbing at 56-57c. Arrivals from the prairie provinces are going into storage. A considerable quantity of States eggs are arriving by boat and express, these totalling last week, 1,570 cases. Poultry—Poultry receipts are increasing and prices are slightly easier, heavy live hens being quoted at 38-40c and dressed chicken 48-50c. A few live ducks are being sold at 75c per lb. live weight chiefly to the Chinese trade.

Maritime Provinces—Eggs—New Brunswicn country prices range from 40-45c with current receipts jobbing at 48c and retailing at 55c. Some were selling on the farmers' market Moncton, Saturday last at 50c. On Prince Edward Island prices have been slightly firmer during the past week and as high as 48c has been paid by country stores. Receipts show a slight increase over last week. The market will in all probability be slightly lower towards the end of the week.

Review of the Situation

Eggs.—Increased receipts and lower prices at Chicago have influenced the market in Eastern Canada during the past week and as a result prices are down two or three cents. Ontario country track shippers last week paid to stores 46-48c and report making sales f.o.b. track at 48-50½. Yesterday (Monday) 46-47c was being paid to country stores and the best offer reported was 48c f.o.b. track. Producers are receiving from 43-46c with Egg Circles obtaining a premium up to five cents above these prices. The market has also been somewhat influenced by the reports published of storage stocks on hand May first, particularly, in the case of Montreal when it was seen that the stocks this year almost equalled those of last year. As a result buying competition has not been so keen. Storing is now general and sales of storage packed extras were reported last week at 55-56 f.o.b. shipping point. The Chicago market is now down to 40½-41c and at these prices States eggs can be laid down Toronto at 50c.

The British Columbia market remains firm at unchanged prices. Several cars of Prairie Province Eggs have been received but these are for the most part going into storage. Imports of States eggs have been fairly heavy during the past week but this has not affected the price of local fresh which are costing 50-51c at country points.

Prairie Province markets are easier and prices to country dealers are now ranging from 42-46c. Receipts are now sufficiently heavy to allow for a surplus over carlot interprovincial shipments and some storing is being done at practically all western points. Carlots of firsts have been shipped to Montreal, Toronto and Vancouver from Winnipeg, Brandon Saskatoon, Moose Jaw and Regina, the prices for these ranging from 52-53c f.o.b. shipping point.

As previously noted the States markets have been easier during the past week and yesterday (Monday), Chicago prices were current firsts 40½-41½, storage packed extras 44½, storage packed firsts 43¾; New York current firsts 44-46½, storage packed extra firsts 48½, storage packed firsts 46½-48.

Poultry—The Poultry market is practically unchanged, receipts of live and fresh dressed continue very light and the trade for the most part is confined to frozen stock. The same applies to the United States poultry markets.

Export

Eggs—The export season opened May 8th with shipments of 825 cases of States eggs to Liverpool and 420 cases of Canadian eggs to Glasgow. Cable advices point to a slightly improved market in Great Britain and if this continues and lower prices ruling on this side it is altogether likely that further business will be done.

Poultry.—On account of the favorable prices being paid for poultry in Great Britain inquiries have been made with regard to the possibility of obtaining refrigerator space for export and information has been received from the Canadian Pacific Ocean Services, Limited, stating that any application for refrigerator space for June sailings should be made immediately. The ocean rate for refrigeration at a temperature of 25 degrees or lower is now $2.50 per 100 pounds.

The Export Market

Owing to rigid Government inspection at point of shipment, Canadian

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On The Farm

means the same attractive styles—the same easy comfort—the same sound economy—that Fleet Foot means in the city.

Have two or three pairs of Fleet Foot—brown ones for work about the farm—white ones when work is over and pleasure begins.

You can have several pairs of Fleet Foot for the price of one pair of leather shoes.

There are styles and sizes for men, women and children—for week-day and Sunday—for work and holiday time.

DOMINION RUBBER SYSTEM

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The Best Shoe Stores sell Fleet Foot

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eggs last year sold on the British market at a premium as high as 24 cents per dozen, or about one million dollars in the year. Canadian exporters are now receiving inquiries from the British trade, and business is anticipated at an early date. According to recent cables, on account of their reputation established last year, Canadian eggs are in good favor on the British market.

Figures for the fiscal year ending March 31st show that animals and animal products to the value of over three hundred million dollars were exported from Canada, an increase of sixty nine milions over 1918. Included in the above were over four hundred cars of eggs, approximately six million dozens. Of these sixty-eight cars were Fresh Extras, and ninety cars Fresh Firsts, while 27 cars were Storage Extras, and two hundred and five cars were Storage Firsts. Nearly all went to Great Britain. This was an increase of over five million dozens over 1918.

Chinese Egg Case Before Washington Court

Partial disclosure of the attitude to be taken by both parties to the Chinese egg case in Washington was given at Olympia, Wash., last week when the Poultrymen's Association filed its brief and the attorneys for Parrott & Co. gave a partial idea as to their attitude. The poultrymen's brief is all from the health standpoint and has as its main source of information, Dr. Murphy, a Catholic priest, who was in China many years as a missionary and is now engaged in newspaper work in Seattle. Dr. Murpry claims that the Chinese eggs are very old by the time they are gathered from the farms, that it takes weeks longer to bring them to this country and they are produced under insanitary conditions. He holds that Chinese eggs come from a part of the country where the temperature is 100 to 115 degrees and that eggs start to incubate at 103 degrees, and that this process starts within 48 hours after laying. Therefore he says any storage only delays this deterioration and that the break-down starts again as soon as withdrawn for use in the United States.

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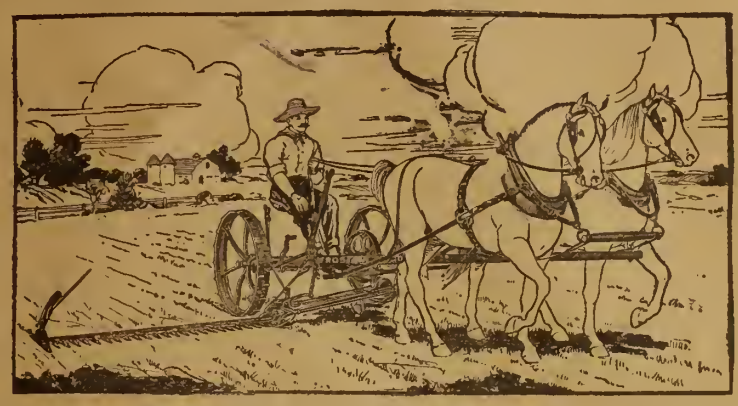
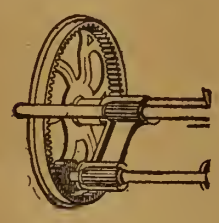


Frost & Wood Mower

The longer you own one, the heavier the crop you put it at and the rougher and more hilly your land, the more enthusiastic you will become over the many splendid merits of the Frost and Wood Mower. Its high quality roller bearings ensure light draft. Its cutter bar strength and superior cutting mechanism guarantee long service, good service and service when you want it. All levers easy of control and handy to reach. Thousands of farmers have good reason to swear by the F. & W. Mower.



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We don't want you to judge the Frost and Wood Mower by this meagre description. Write us today for special Mower Pamphlet. See the Mower, and the rest of our big, complete line at our nearest Agents.

THE FROST & WOOD CO. LIMITED

TRURO ST. JOHN CHARLOTTETOWN

DAIRY PRODUCE MARKET REPORT FOR WEEK ENDING MAY 15th

Prices for Montreal, Toronto & New York are for Butter & Cheese delivered there.

Montreal:—The butter market was firm at the beginning of the week, No. 1 creamery realizing ¼c per lb. over the previous Friday's price. At the auction sale of the Co-op. Society on Monday, 683 pkgs. were sold as follows:—105 pkgs. pasteurized at 56⅛c; 445 No. 1 at 55⅜c; 133 No. 2 at 54¼c. On Tuesday at Gould's storage 300 pkgs. No. 1 creamery sold at 54¼c. On Friday the offerings of the Co-op. Society met a weaker market, the decline amounting to ⅞c on No. 1 grade and ¾c on No. 2. 803 pkgs. were sold as follows:—115 pkgs. pasteurized at 55½c; 540 pkgs. No. 1 at 54½c; 148 No. 2 at 53½c. There was no sale at Gould's on Friday. On Saturday at St. Hyacinthe 100 pkgs. sold at 53c f. o. b. shipping points. Receipts from May 1st to 15th amounted to 12,778 pkgs. compared with 20,371 pkgs. for the same period last year, a decrease of 7,593 pkgs.

The cheese market was steady last week. At Gould's Cold tSorage on Tuesday 750 boxes Quebec cheese were sold at 31c. On Friday the usual sale at this market did not take place. Sales at country boards during the week were as follows:—Thursday—Brockville offered 2,358 boxes with no sales on the board. The best bid was 30¼c and it is understood all the cheese were afterwards sold on the curb at this price. Campbellford, 365 at 31c; *405*Kings-boarded, 90 sold at 30⅝c; Stirling, 603 at 30¼c. Friday—Napanee, 760 ton boarded, 125 sold at 30 15/16c; Iroquois, 608 boarded, 215 sold at 30½c; Picton, 600 sold at 30 11/16c. Saturday—Belleville, 719 at 30 9/16c; Cornwall, 967 at 30⅝c; St. Hyacinthe, 200 at 30c. Receipts from May 1st to 15th amounted to 25,424 boxes compared with 27,245 boxes for the same period last year, a decrease of 1,821 boxes.

Toronto:—Last week the butter market ocntinued on a higher basis than the Montreal market. On Monday no sales were reported and the market was said to be easier than the previous Friday when 62c was the price paid for No. 1 creamery. On Friday, the 14th, No. 1 Ontario creamery was worth 60c delivered Toronto.

The cheese market was firm throughout the week at from 31c to 31½c for large cheese, and twins ¼c higher.

New York:—The butter market was irregular last week, but with no net change in price. On Monday creamery extras, 92 score, made 62½c, an increase of ½c over Saturday. On Tuesday the market was weak and the price nropped to 59½c. On Thursday the market was steadier at 60c and closed firm on Saturday at 62½c. The season is backward and in some sections the cattle are reported in poor condition.

The cheese market was quiet but steady. On the 14th instant Wisconsin twins sold at 26½c f. o. b. shipping points and were quoted to jobbers and wholesale grocers in New York at 30c and 30½c. Some purchases in this market of whole milk cheese for export were reported at 27¼c.

General Notes:—On the 15th inst. we received the following cable from Mr. A. E. Griffith, Cargo Inspector for this Department at London:—

"Rationing of Government butter will cease May thirtieth owing to largely increased British and Irish shpplies. Private importing still prohibited as outlook not such as to justify complete decontrol. Maximum retail price to be maintained at three shillings per pound."

We understand the above cable to mean that the ration of 1½ ozs. per head will be abolished at the end of this month and the only restriction on the retail sale of imported butter will be the maximum price of 3 shillings per pound. It should be noted that private importation will still be prohibited.

Postscript

Montreal, May 17, 1920: Today's auction—125 pkgs. pasteurized creamery at 55⅛c; 531 pkgs. No. 1 at 54⅜c; 146 pkgs. No. 2 at 53¼c. No. 1 cheese 31c to 41¼c.

Toronto, May 17, 1920—To-day's sales—No. 1 pasteurized -Ontario creamery at 55c; No. 2 at 53c. No. 1 cheese at 31c, twins 31¼c.—J. A. Ruddick, Dairy Commissioner.
Ottawa, May 17, 1920.

Management of the details often bridges the difference between profit and loss. Watch for the leaks in your business.

TO KNOW SEX OF EGGS AND CHICKS

It is impossible to tell by the egg whether a male or female bird is to be brought forth. The germ up to several days of incubation is exactly the same for both sexes. Something, causes or conditions yet unknown, determines which sex the little chick shall be, and who knows but the one gaining supremacy has to crowd the other sex out of its chance of trying life here? As a rule, we get around the same number of male as female chicks, when hatches are normal. When they are poor, more males are the result.

The only kind of which the sex can be determined while young is the Barred Rock. In these the male chicks will be found to have a pure yellow beak and legs, while the female will have dark color on the beak and legs. This holds good in nearly every case, and it will prove correct in fully 90 per cent. of cases.

Dampness in a poultry house at any season is nearly always caused by a lack of ventilation. In open-front houses we find the air is fresh and clean at all seasons and there will be no moisture dropping from the ceiling to the litter. The open-front house is free from odors and the birds do not seem to freeze their combs as quickly as in a closed house.

VALUE OF MANGELS OFTEN OVERLOOKED

In planning the farm areas for the coming season's crop every farmer should set apart a few acres on which to grow mangels. The size of the mangel crop on farms that are not yet provided with a silo is imperative. Without a silo there is no other way of providing the same quality of succulent feed that live stock must have in the long winters of Canada, in order to promote healthy growth of young animals and the general welfare of mature animals. Even on those farms that are equipped with a silo, a small area of mangels will prove of great advantage; the experienced feeder knows full well that a variety of succulent feed is relished by farm stock. However nutritious and succulent ensilage may be, an occasiontl change to mangels is a good tonic.

The mangel has never been given the prominence among the farm crops of the small dairyman or stock raiser that it should receive. The fact that it more nearly resembles silage in the amount of succulent feed it contains, should in itself recommend it to more general use on the average farm.

In growing this crop a comparively rich soil should be selected and well fertilized with well-rotted manure. The ground should be worked into a fairly mellow condition as the young plants are of very slow growth at first and on rough cloddy ground, it might be very hard to control the weeds until the mangels get a good start. The time of planting is about the same as that of corn, when the ground is good and warm.

Where pigs and poultry are kept a few mangels should be grown for them. If this were done on every farm where this class of stock are kept there would be less inquiry made in regard to trouble and disease in the pig and poultry pens. It is true that in growing mangels there is a good deal of labor entailed, but a smaller area well handled will grow a larger area that is often parthan a larger area that is often partially neglected.

UNITED STATES EGG EXPORT TRADE WITH GREAT BRITAIN

Extracts from a recent copy of the New York Produce Reviow:—

"In January, New York Produce Review wrote to an English egg merchant who had lately returned home from the States, asking for his views as to the prospective needs of Great Britain for American eggs during the coming season, and for any remarks that he might consider of interest in connection with the trade."

"The writer declares that the American United States egg trade with England during the past season has been disastrous to every firm who has indulged in it to any great extent. Some of those who dealt with Canadians, he says, have been more successful because of the closer candling and higher quality of the goods shipped from Canada. Particularly bad results, this correspondent declares, were experienced in a majority of the eggs shipped from New York."

Commenting on this the New York Produce Review says:—

"It is doubtless true that the Canadian eggs gave better satisfaction as a rule than the goods sent from the United States. The climatic conditions that are more favorable and we shall not attempt to deny that the Canadians' export trade is more carefully handled—a fact that is not gratifying to a United-Statesan who would like to be proud of his country's commerce. The difference in value in English markets between Canadian and United States eggs as reflected in current market reports was not generally, however, such as our correspondent's tirade would lead one to expect, though it was considerable as a rule, and enough to make one wonder why it was so much."

BULLS AND MEN

In Waukesha County, Wisconsin, there are ten Holstein bulls the average cost of which was $19,455. One of them is owned by five men. Two or three others are owned by groups of men, the others are owned by individuals.

In this same county there are also more than 500 grade bulls of indiscriminate breeding.

The men who own the high priced animals are engaged with other progressive men in waging a war on the grade bull. They are determined to eliminate him. The 500 grade bulls are presumably owned by 500 individual farmers. (It is not believed that men would organize into groups for the purpose of owning a grade.)

The campaign is being waged in earnest and with splendid results. The big factor that brings the results is the offer of the progressive men to exchange "even up" a purebred for a grade.

It is easy to determine the difference in bulls and to appreciate their value or their worthlessness but it is a problem to understand the wide difference there is in men.

Th men who use purebred bulls, in 99 cases out of 100 read farm papers and breed journals. They attend the State Fairs and National shows and conventions. They watch the breeders' sales and take part. They organize and met often. These things all have an influence. They extend their vision ,they broaden their viewpoint, they extend information and they inspire greater activity.

The men who own the grade bulls lack vision because they are hemmed in by narrow prejudices and limited experience. They do not read. They do not mingle with other men, and hence their opinions do not change.

No one can deny the oft repeated statement that the character of man is reflected in the cattle they breed. —The Dairy Farmer.

Percherons & Belgians
30 Head
Stallions & Mares
FOR SALE

Come to Grenville and buy the kind with the big, round feet, clean, hardy, dry bone and joints, sloping pasterns and straight, flashy action. Buy the kind with the sloping shoulders, short back and long, level croup. Buy the modern Percheron or Belgian.

Our prices are very reasonable, and we will give up to three years time, to responsible parties.

All stallions government inspected.

J. E. ARNOLD & SONS
GRENVILLE, - - - - - - - QUE.

WHY HENS HIDE THEIR NESTS

On nearly every farm where the hens have a wide range a good many dozens of eggs are lost during the spring and summer months because some of the hens like to steal their nests out in the grass and weeds or about the outbuildings. When a nestful of such eggs are found they are, as a rule, unfit for any use and represent a definite loss from the profits which the flock is capable of returning its owner.

Stolen nests cannot be prevented entirely on the farm, for instinct undoubtedly prompts some of the hens to stray away from the regular nests when they have the opportunity to do so; but the habit can be combated quite successfully by the simple expedient of providing plenty of clean, inviting nests in the henhouse or in the yard near the building. For whenever hens in large numbers decide to stray there is usually something seriously wrong with the present methods of housing and nesting. Filthy nests or insufficcnt nests will cause nearly any hen to seek other laying quarters. Of all the causes for stolen nests, insufficient nests is perhaps the greatest, for if any of the hens find the available nests always occupied, they are surc to seek other places.

During the height of the laying season there should be provided a nest for every four or five hens in a flock; and all the nests should frequently be cleaned out and sprayed, and new nesting material put in, in order that the nests will always prove attractive for the layers. Then if added precau tions are taken to close up as many as possible of the undesirable nesting places, such as underneath the floors of buildings, and to pen up the broody hens as soon as noticed so that they will not be occupying the available nests unsecessarily, little trouble will be experienced with stolen nests.

The Henhouse Nest

Obviously, the arrangement of nests will vary, according to the requirements or personal preferences of individual poultrymen. Experienced poultrymen, pretty generally agree, however, that all nests should be easy of access and at a convenient height, for at the seasons when hens become broody it is necessary to go over all the nests every night and remove those showing any inclination to sit. Broodiness must be promptly broken up, or there will be a serious falling off in the egg yield; and unless the nests are readily accessible, this detail in the daily routine will consume considerable time and is likely to become decidedly vexatious. All nests should be made movable, of course, in order that they may occasionally be readily removed from the building to be cleaned.

A good arrangement for nests is to locate them on shelves along the rear and side walls of the henhouse. The shelves or platforms should be about two feet wide, and may constitute the floor of the nests. For the collection of eggs there may be a single door for each nest, or a door extending the entire length of the battery of nests. Another good arrangement especially during hot weather, is to place the nests outside the building, on the coolest side of the henhouse, allowing the wall of the house to form the back of the nests. The hens may gain access to these through openings cut in the wall of the house or from the outside, the front of the nests being left cpen. A battery of such nests should be protected by a top board which slants like a half-pitch roof, and which is nailed up close to the side of the building. Such an arrangement of nests not only adds to the comfort of the layers in hot weather, but the nests occupy no house room and the caretaker can gather the eggs and inspect the nests at any time without estering the building.

No Fighting, No Crowding

It has been proved that hens lay equally well in open or in dark nests. The one advantage of nests of the latter type is that they tend to prevent development of the egg-eating vice. Some poultrymen now employ nest boxes eight or ten feet in length without any divisions and with openings only at the ends. The top board is hinged and may be raised to remove the egg or broody hens and to put in fresh nesting material. There is no fighting and no crowding in a nest box of this kind. The hens make their own nests in the straw or hay and do not bother each other, with the result that there are fewer broken eggs.

When all the nests in a henhouse are along one wall it is a good plan to have them closed off from the rest of the house by wire netting, which prevents the fowls from roosting on them and thus soiling them unnecessarily. The hens can gain entrance to the nest platforms through a little door, which may be shut toward the close of the day at feeding time.

The use of nest eggs, which used to be supposed would attract hens to nests even though the nests might be uninviting, is almost obsolete. Some poultry raisers still use nest eggs more because of force of habit than because it is really believed that they possess any value. The fact is now pretty generally recognized that the layers are either attracted or repelled by the condition of the nests and that the use of nest eggs has very little to do with the hens straying away. The poultry raiser who still believes that nest eggs are necessary should use the heavy glass ones, for they at least can do no harm if they do no good, while the disinfectan nest egg, supposed to serve the twofold purpose of decoy egg and lice killer, may give the eggs laid in the nest with it a disagreeable flavor. In no case should a real egg be left in a nest as a decoy, for in time it becomes rotten and then breaks or explodes over the nest and fresh eggs. W. P.

COMFORT
The Closed Car is growing in favor among men who have used cars for several years.
Always comfortable in all extremes of climate, the Coupe is the ideal car where a limited passenger carrying capacity is needed.
For business and professional needs or for social or patriotic duties the McLaughlin Master Six Coupe is the choice of the "Motor Wise."
McLAUGHLIN MOTOR CAR CO. LIMITED
OSHAWA, ONT.
BRANCHES IN LEADING CITIES.
DEALERS EVERYWHERE.
See the McLaughlin Models at the nearest McLaughlin snow rooms.
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M45
The McLAUGHLIN MASTER SIX

INSECTS ON FERNS

Little white flies are in the earth about the roots of my potted ferns. The ferns do not seem thrifty. What can I do? G. G.

For increasing the vitality and life of a fern, washing with a weak soap soltuion is quite often recommended. Some success may be had by putting a tablespoonful or a little less of ammonia water in the water which is used for the fern. Fumigation with tobacco smoke has also been found efficacious by some fern lovers.

SELECTING THE BREEDING EWE

A good ewe is an asset to the farm; a poor ewe is likely to be a liability So one of the most important factors in starting the farm flock is to start by selecting the proper kind of breeding ewes. Like the dairy cow the ewe must have a good udder to be a good money maker. The soft, pliable udder free from hard knots is the kind to look for. More important than the udder, however is the ewe's mouth. Without a good solid mouth, the ewe is handicapped in both wool and lamb production. Ewes with part of their teeth gone or the "nippers" loose or badly worn require special attention and additional care which makes their selection undesirable. It's the ewe in good health and thrift that makes the good investment. The extremely thin, emaciated ewe should be avoided and the other extreme, the fat ewe, as well, Fat ewes are too frequently not regular breeders, and carry their flesh because they did not raise lambs the previous year. A fleece of good length and strength which densely covers the body, is an important mark of a good ewe. The good-sized ewe with a blocky conformation helps to make up a profitable lamb-wool-mutton combination.

GROWING POTATOES FOR LARGER YIELDS

(Continued from page 627)

McIntyre for Prince Edward Island and Burbank for Nova Scotia. The Irish Cobbler and Green Mountain are two of the best for the province of Quebec, and for Ontario, except that in south-western Ontario, the Dooley of the Rural group of potatoes, has done exceptionally well, and seems more suited to stand the hot weather than most sorts. In Manitoba, the varieties most thought of are: for early, the Early Ohio, Bovee and Irish Cobbler, and for main crop those of the Green Mountain group, which includes Gold Coin, Wee MacGregor, Uncle Sam and Delaware. These varieties cannot be distinguished from Green Mountain. They are grown in Eastern Canada also.

The soil for potatoes should be well worked before planting time. While some crops need the soil comparatively firm for best ersults at time of seeding, the soil for potatoes should be loose. In such soil the tubers will be shapelier than in firm soils. The ploughing under of manure and clover will help to loosen the soil and at the same time add plant food which is readily available. The nearer the land can be got into a thoroughly pulverized condition t oa depth of six inches or more ebfore planting time the better the crop is likely to be. Moderately heavy application of commercial fertilizers have been found profitable, slightly better results having been obtained by sowing the fertilizer over the sets after they have been covered by a few inches of soil, and then covering the fertilizer by harrowing than by sowing the fertilizer in the drill before the sets are planted. From 800 pounds to 1,200 or more poounds of a complete fertilizer are used by some growers.

The most economical distance to plant has been found to be in rows two and one-half to three feet apart with the sets from twelve to fourteen inches apart in the rows. The sets should be about four inches deep after the ground is levelled after planting. Planting machines will be found very satisfactory where large areas have to be planted.

Potatoes are sometimes ploughed in if one has to plant on land which has been in sod until planting time, and fairly good results are sometimes obtained if the land is worked well afterwards. One of the best methods of planting in green sod is to have some one planting when the ploughing is being done, the sets being dropped every third farrow and covered by the plough when the next farrow is made. After the potatoes have been planted the ground is disc harrowed, and if it is light soil it may be rolled after that to help close up any openings twhere grass could grow through and to compact the soil a little and hasten the rotting of the sod. This would not be desirable where the ground was heavy as it would make it too firm.

In order to save hand labour later on and to ensure quicker growth of the plants it is desirable to harrow the land a few days after the potatoes are planted but not before the weed seeds are germinated. Even if the potato plants are beginning to appear above ground little harm will be done to them if the sets were planted four or five inches deep.

Cultivation should begin as soon as the plants are up sufficiently to mark the rows and continued at intervals of about a week or after rain until the plants meet across the rows. While the early cultivation may be deep, the later ones should be very shallow so as to avoid injury to the roots or young tubers. Where the seasons are very dry, better crops are likely to be obtained by leaving the soil level, while in moister climates and heavier soils ridging or hilling up will give better results.

Needless to say the "bugs" must be prevented from injuring the tops for if the foliage is eaten the yield will be seriously reduced. Where late blight is troublesome the tops should be kept sprayed with Bordeau mixture from early in July until the tops are dead. Sometimes one spraying with Bordeaux mixture will save the crop from much injury from blight and rot if it is put on at just the critical time, but as one cannot very well tell when this is the plants must be kept covered with mixture from the time when injury is likely to first occur.

AVOID THE SCRUB PUREBRED RAM

The sheep breeding season is rapidly approaching and it is desirable insofar as possible to select the head of the herd early. Let the ram selected be a purebred, good representative of the breed chosen. Such an animal when used on common-bred ewes will show striking results. There are too mmfwyp etaoin shrdlu etaoin taoinee many breeders that think any purebred ram will be a suitable sire, but such is not the case. Avoid the scrub purebred, the stunted animal of pure quality.

Rams of the medium or long wooled breeds are sufficiently developed and fit for service at the age of one and one-half years. Where only four or five breeding ewes are kept, an early developed ram lamb may be used, but the continued use of young, immature sires will result in decreasing the size and vigor of the flock. A ram that has not been used too freely may be used up to six years of age. It is a good practice for two breeders to exchange sires at the end of a couple of years. A tried sire of known worth is better than a young sire.

Let the ram possess vigor and vitality as indicated by short, broad head, large nostrils, bold eyes, width between the ears, a short neck, a wide chest and broad, level shoulders. His fore legs should be straight and short and set well apart. He should be broad and deep in heart girth which insures a strong constitution. A broad, straight back with well sprung ribs is essential. A smooth, wide and thick loin adds greatly to the value of the sire. He should have a long, level and wide rump with a full, deep twist. His hind legs, like his fore legs, should be short, straight and wide apart. The flanks should be thick and low forming a straight side line as well as straight underline. He should appear of medium size, low set, compact, very masculine and with alert, quick movements. A luggih, overgrown, and loosely made ram is seldom prepotent. With the present prices of wool when a good fleece will pay for a year's feed, the quantity and quality of wool is important. A skin which is bright and pink in color, indicates good feeding quality. A strong vigorous ram will care for forty to fifty ewes.

USING BOTH RIGHT AND LEFT HANDS

Why do not farmers in their ordinary work, such as pitching bundles, scooping grain, and so on, learn to do the work with both right and left hands? It is really surprising to one who has never tried it, to find how much it rests one n pitching bundles to a separator or at any similar job if he changes occasionally from right to left hand.

I first noticed this fact when a boy on the farm. I was naturally right handed, using all single tools in my right hand and with my right nearest the work to be done when both hands were used. In some cases, such as scoopng corn from a wagon or grain from a box or in pitching bundles, the fact that my father and both brothers were left handed and I had to work in the same position they did, caused me to use these implements left handed.

Induced through a desire to make the work easier for me, I began trying the idea of changing occasionally from right to left handed in doing certain work, as I saw no reason why I should not with practice, do practically everything with either hand next to the work. At the first the work seemed rather awkward, but I soon found that the change brought into play almost an entirely new set of muscles, and rested me almost as much as an entire stop.

As I became older and gained more practice, it soon became almost as natuurel and easy for me to do much of my work with either hand; and now I never think of pitching bundles to the load or to the separator, pitching hay, scooping grain, shovelling dirt, using a rake or hoe, and so on, without changing hands every fifteen or twenty minutes. I have found by experience that I can do more work and with less fatigue than with the old way. Of course, there are some kinds of work where skill rather than strength is required, such as driving nails, where I have never made any effort to use my left hand, nor have I ever become expert chopping left handed but if the necessity arose I could easily acquire the necessary skill.

This is a matter of much greater importance than is apparent at first thought. Because you have always done certain work right handed is no reason why you should not try the easier and better way of changing occasionally, because it may happen that you may lose the strength or use of that hand and may have to depend on your left one. The later in life such work is started the harder it will be to pick up, and I wish to urge, especially on the boys, that they make the start and find out how very much it will rest them.

THE ROYAL BANK OF CANADA

Protect Your Victory Bonds by Renting a Safety Deposit Vault

Deposit the coupons every six months in a Savings Account and earn interest upon the bond interest at 3% per annum, compounded half-yearly.

If this is done regularly with (say) a 15 year bond, you will accumulate more interest than principal.

CAPITAL AND RESERVES $35,000,000 TOTAL RESOURCES OVER $500,000,000
640 BRANCHES.

DISEASE RESISTERS IN POULTRY FLOCK

Every poultry keeper who is observant probably has noticed that there are always some birds in his flock of chickens which are "immune;" that is, they escape all diseases, while the other members quickly contract any disease which appears in the flock, or even in a neighboring flock, and many often succumb within a day or two. Fef fowls are entirely free from contagious diseases if conditions are favorable for a disease to spread from its first victim, but there are some families among all breeds that are hardier than others. Roup and other contagious diseases have been known to prevail in yards in which certain fowls quickly succumbed, while other birds that roosted, ate and drank with the sick fowls showed no signs of disease. A bird may have the roup sometimes, spread the disease with fatal results to its mates, but recover itself and live to an old age. While such a bird may appear to be healthy and vigorous, not infrequently it is for years the source of infection for the entire flock, causing the death of many fowls that are more easily affected by the disease.

Such cases as cited surely emphasize the importance of disposing of all birds which are known or suspected to have had a contagious disease like roup, even in a light form. All such birds should be killed, and their places filled with others that are known to be healthy. Especially when an entire flock is attacked must prompt action be taken and the affected fowls destroyed. The labor involved in handling a large number of sick birds of ordinary value is too costly on the farm. It is generally less expensive and more satisfactory in every way to get rid of a disease-stricken flock outright and make a fresh start, than to spend time and labor for several months in doctoring the sick birds.

Equipment that saves time and labor and affords a cleaner product from your dairy is economical.

The best cow is always more nervous that the poorest one. Be kind and gentle to her and she will repay you.

EMPIRE-BALTIC

The Separator with the MILLION DOLLAR BOWL

HERE'S an announcement of great importance to YOU—to every farmer owning cows; for it brings to Canadian Dairymen the latest development in Cream Separator Construction—the EMPIRE-BALTIC Cream Separator, with the MILLION DOLLAR BOWL.

Seems like a lot of money for a manufacturer to spend on a Separator Bowl, doesn't it? But when you consider what it means to cow-owners, a million dollars is only "a drop in the bucket" to what the EMPIRE Million Dollar Bowl will save each year for the Farmers of Canada and the United States.

For this wonderful bowl, the product of years of study and experiment by a score of the foremost separator engineers, sets a new standard of separator performance:

It is self-centering and self-balancing; practically no vibration; and so does not agitate the milk; it skims clean all the time; it is easy to turn, frictionless; once adjusted it is adjusted for life; its discs are interchangeable—a great convenience in cleaning and assembling. It is the last word in Bowl construction—Simple, efficient, convenient and practically everlasting.

Compare the Empire-Baltic with any other separator! And remember, in making the comparison, that your butter profits are made or lost in the bowl.

Investigate the Bowl

You'll find other Separators as good looking as the Empire-Baltic—no manufacturer has a corner on good looks. You'll find other Separators made, like the Empire-Baltic, out of the best materials obtainable—anyone can buy the best grades of materials. But you'll find only one Separator with the MILLION DOLLAR BOWL — an exclusive EMPIRE-BALTIC feature—fully covered by basic patents.

Space prohibits our telling you here all of the superior Empire-Baltic Features, but the Million Dollar Bowl alone is important enough to impel you to see the nearest Empire Dealer at once—learn all about the Empire Baltic. Or send at once for catalog No. 20

This trade-mark is found on the **Supreme Separator.** It is displayed by the **Best Separator Dealers** throughout the country. It is the sign of **Highest Quality** in materials, workmanship and service. It is the "Family Coat of Arms" of the leading line of Dairy Machinery —EMPIRE.

The Empire Cream Separator Co., of Canada, Ltd.

Manufacturers of Empire Milkers and Gasoline Engines

TORONTO and MONTREAL

DISEASES OF BEES AND TREATMENT

Bee diseases are of two kinds:—Diseases of the adult bee, which happily in Canada, have so far been of a transient nature because no effective treatment is known; and diseases of the brood, of which there the three, American foul-brood, European foulbrood and Sacbrood.

Since each of these three diseases is treated differently, and since the first two cause great loss when neglected, it is importont that every beekeeper should be able to recognize andtinguish them so as to treat the serious ones effectively and without delay.

The diseases affect the larva, or worm stage of the bee.

In American foul-brood, the larva, just before capping, becomes a coffee-colored mass which is so tenacious or viscid that it will rope out sometimes to a length of several inches if a toothpick be inserted into the cell and withdrawn, and it has an unpleasant glue-like odor. The mass dries down to a scale that adheres tightly to the lower cell. The capping of the cell containing the affected larva is usually discolored; it is often irregularly perforated, or it may be removed altogether.

In European foul-brood, most of the larva are saricken before they are capped over. They lose their shape and collapse at the bottom of the cell, apeparing as if they had been melted and turning to a light straw or gray color. The decayed brood has a slightly sour smell to which is sometimes added a strong odor of putrefaction. The mass ropes out either not at all, or but little, and the dried scale is easily detached.

In Scarbrood, the full-grown larva lies stretched out on its back in the cell, discolored but with skin and shape intact. The juices of the larva are watery and contain curd-like particles.

American foul-brood is treated by shaking the bees into a clean hive containing frames fitted with foundation without any of the honey, and taking away the combs of brood and honey which contain the spores of the disease. The bees must not be allowed access to the honey unless it has been boiled for an hour, although it is fit for human use. The combs may be rendered int owax. The hive should be disinfected by scorching.

European foul-brood is treated by introducing young Italian queens and keeping the colonies strong and well supplied with stores. This disease will spread very rapidly during a honey dearth in late spring and early summer. In severe cases, the colonies should be left queenless for one or two weeks before the Italian queens are introduced.

Scarbrood usually disappears after a few weeks and calls for no treatment.—F. W. L. Sladen.

HOW MILK PAILS SHOULD BE WASHED

Tomorrow morning when you finish milking, rinse the pails out with cold water, then with some hot water and soap powder scrub them thoroughly with a good brush. Be sure that all the corners and seams are well cleaned. After that, rinse out the pails with warm or hot water. Then scald them with boiling water or steam them if there is some way of getting steam. When you feel that they are absolutely clean, turn them upside down on a rack to dry, over a heater or out in the sunlight.

When you are ready to milk in the evening, you will find the pails clean, dry and sweet. The bacteria have had a very hard day of it. Handle the pails as carefully after the evening milking. When the fresh milk enters the pails, it will find a clean berth. In its journey to the factory it should travel in cans as clean as the pails, for they should be as carefully cared for. You are thus producing a better and safer milk, one more valuable as food and as a source of income.

WEEDS ARE ROBBERS

Weeds are robbers because they steal plant food and soil moisture away from the crops and thus reduce crop yields. Good crops and weeds cannot grow together. To keep the farm free from weeds, few methods give such good results as a systematic rotation of crops with regular seeding down to grass and clover with ever three or four years.

The best time to destroy weeds is when they start growth. Harrowing or cultivating at this period is fatal to young weeds. Later they must be cut off with the cultivator or hoe or pulled by hand. Not even a few weeds should be allowed to develop seed, for each mature weed will bear anywhere from a few hundred to several thousands seeds, each of which may produce a new weed next year. It is well to encourage the germination of any weed seed that may remain in the soil. The only way to clear foul lands of weeds is to sprout the seed and then kill the young weeds. Early plowing and frequent cultivation will accomplish this result.

CULTURAL METHODS FOR QUACK GRASS

Quack grass is a perennial, propagated by seeds and creeping root stalks, persistent in all deep plowed lands and in all crops, having great power in spreading and choking out other plants.

The permanent means of bringing this weed under control is to adopt for the area infested a sort rotation of crops or cropping plan which includes a hoed crop, once in three or four years. A short rotation of three years' duration is preferable since there is a hoed crop and only one crop of hay in a three year period, conditions which tend to give the pest the least chance of flourishing. Another suitable rotation is one of four years' duration of one year each in hoed, grain, clover and timothy hay crop. For timothy hay or pasture areas the procedure is as follows:

Allow the plant to exhaust its substance in the production of a hay crop, which should be cut and removed as soon as the head is formed and before it is in bloom. Plow shallow, roll, disc once or twice to break up the sod and then cultivate with a stiff-tooth cultivator until the rootstalks have been pulled to the surface of the soil. When the accumulation of roots is so great as to interfere with the efficient working of the cultivator remove or burn them and continue cultivating in order to complete the work. In the autumn, ridge or deep plow the field. Ridging exposes a greater surface of soil and couch roots to the action of frost than ordinary plowing. Frost is an agent in the control of quack grass that should be made use of on every possible occasion.

Grain areas that contain quack are not in fit condition to be seeded down to grasses and clovers nor are they in shape for the growing of profitable crops in the future until after control measures have been introduced. Immediately after harvest stubble land should be shallow plowed, disced once or twice to break down and consolidate the furrow slices after which the stiff-tooth cultivator can be employed to advantage to obtain the necessary depth to facilitate the drawing of the root stalks or underground stems of quack to the surface. Cultivation should be thorough and the fall treatment as outlined for meadow or pasture land will apply on stubble.

The stiff-tooth cultivator is an essential implement in any cultural plan for the control of quack grass. The disc harrow used as the combatant implement acts as a force

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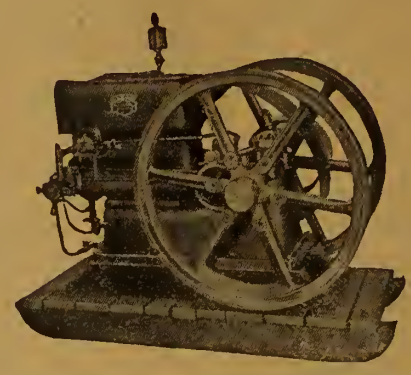

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against the success of otherwise thorough treatment. The use of the disc harrow in this connection should be limited to work of disintegration and pulverizing sod and surface soil. The object is to draw the entire rootstalk to the surface rather than break each root into several parts. Each small piece, like the potato set is capable of establishing a new plant.

The following spring the area treated as described, should be planted to hoed crop for which manure may be applied, before the last plowing or ridging in the fall or during the winter or spring. This brings us to the first year of the rotation from which period the procedure in cropping would be outlined in the rotations recommended.

Where no regular hoed crop is grown, which is poor farm practice, rape or buckwheat sown on an infected area after it has been thoroughly cultivated and the rootstalks removed, prove excellent smothering crops. For late sowing and as "first aid" in the control of the weed on an excetpionally dirty field where other crops would be choked out and before attempting a hoed crop the two mentioned crops are very useful. Smothering crops, however, are recommended only a temporary means of control. It is only by thorough persistent cultural methods and the proper utilization of crops that any satisfactory degree of success will be attained.—W. L. Graham, Assistant Field Husbandman, Experimental Farms System.

"CLEAN UP AND KEEP CLEAN"

Ramshackle. That is the word. Was just thinking of a farm that we visited a short time ago. It was not different from many others except in degree—a gate broken down, a wire fence partly destroyed, a couple of old wagon wheeds leaning against the fence; here a broken box, there an old washing machine. Ramshackle. I do not know whether it is of Greek derivation, perhaps from Rameses or some Egyptian god, but it fits. Does it fit your place?

Clean up. Destroy and burn as fuel all wooden parts, collect and sell to the junk man all castings. What you cannot burn or destroy, bury. You have not time? You have time. You cannot afford the time? If you have cows to sell, the impression given to prospective purchasers is a valuable asset in making a sale. Who wants to buy live stock from a man who has not the time to clean up the litter about his feet? If he is careless there he is careless possibly in keeping breeding records.

First impressions are lasting. That is why so much stress in the creamery to have the tubs clean, the paper neatly folded, the tub tins evenly distributed and well nailed. That is why the cheese salesman likes to have his cheese free from mould, from careless finger marks. First impressions are valuable. When one enters a home where things are well kept up and neat we mentally say that man knows his business and we are willing to pay for his knowledge.

Ramshackle. It sounds poverty-stricken. It puts one in the class of the "down and outer." Clean up and keep clean. This will require constant attention, but it is worth it. It has a psychological effect on the buyer. It will have a similar beneficial effect on you. Get the habit. It, the habit of orderliness, is a good habit to get and the time to get it is now.

THE HOME-MIXING OF FERTILIZERS

The same raw materials used by the manufacturers are available to the farmer in compounding his mixtures. The inert "filler" or "make-weight," frequently added by the manufacturer serves osly to reduce the percentage of plant food, thus enabling the product to be marketed at a lower price per ton, though, in some cases, it may be used as a "conditioner" to keep the mixture in a friable condition, where a long period is likely to elapse between its manufacture and application.

The practice of home-mixing generally results in a saving of from 25 to 35 per cent in cost of the materials and possesses the additional advantage of enabling the farmer to prepare his mixtures in such quantities and proportions as the occasion demands. Moerover, in the employment of the separate materials he knows the source and availability of each plant-food constituent.

The operation of home-mixing may be simply and efficiently performed on the barn floor or other firm level floor by means of a shovel, a screen and a mallet or wooden post to break the lumps.

Having assembled the sacks of materials from which the batch is to be prepared, empty the contents of each sack separately on the mixing floor. If the material has set in a hard firm mass, use the tamper or mallet to reduce the lumps before passing it through the screen which should have about 10 wires to the linear inch.

The lumps which are too coarse to put through the screen may be separately crushed an, when reduced to a suffifficient degree of fineness added to the heap.

Each component of the batch having unudergone this preparation, its incorporation with the others may proceed.

The componen—usually the phosphatic fertilizer—entering most largely into the mixture ought to be first spread on the floor, the others being superimposed in successive layers. The batch is then turned by shovelling first to one side, then to the other for, say, four or five times. After turning once, the whole batch should be passed through the screen to insure the absence of lumps and to facilitate mixing.

One ton is usually a sufficient quantity to mix in one batch.

It is, as a rule, desirablo to apply the fertilizers to the land at once, or within 24 hours after mixing, in order that hardening or cementing of the materials may be avoided.

If it is known that the mixed fertilizers cannot be immediately used, it might be desirable to add a certain proportion of bone meal—itself an excellent fertilizer—for the purpose of checking this tendency to cake into hard masses after mixing.

Never mix basic slag, wood ashes or other substances containing free caustic lime with sulphate of ammonia, unless for immediate application as the lime, by displacing the ammonia, causes its escape as gas and a loss in valuable plant food ensues.—By Dr. Frank T. Shutt, Dominion Chemist, and B. Leslie Emslie, Supervisor of Expl. Work, Division of Chemistry, Central Experimental Farm, Ottawa.

BEAUTIFUL HOME IS ALWAYS ADMIRED

We are more the creatures of our environment than we ourselves suspect. When we see a run-down farm with buildings lacking paint, boards off the outbuildings, roof sagging, we at once say, "a poor farm, surely." We jump at a conclusion and may be mistaken; it may be inhalited by a poor farmer, or one without pride in his surroundings.

This value may not be altogether in dollars and cents. If it were then the loss could be computed; as it is the loss in self respect, consciously or unconsciously, is far greater than the financial one. If we live in poor surroundings we take a mental tone from them; we associate ourselves with poor things, poor farm equipment, poor home, and inferior standing in the community.

We do not mean to argue that the man with a small or cheap equipment is inferior or should be regarded as so; we simply wish to make the point that as we keep our surroundings our reputation rises or falls. The small house, neatly kept, surrounded with trees set to show the place to advantage, is often more admired than the large, ugly residence with nothing to set it off or relieve staring walls.

We have been so eager to be financially successful in our country that we have not thought some of these things worth attention. But we know that interior arrangement may depress the mind or make us nervous, easily vexed. A beautiful farm home is a product of study, of thought. It is not made in a day, but is the fruit of years of labor and has much to do with moulding character—more than most of us think.

The Rise of Maxwell is Due To Its Metals

Fine soil makes fine wheat; fine feathers make a fine bird; and fine metals have made the Maxwell. They have given it:

1—A life of 100,000 miles. 2—Thriftiness.

For its metals are light in weight. Therein comes thriftiness.

But these metals are of extra strength. Therein comes long life.

Metallurgists—those who have made the study of metals a science—will tell you that such metals are costly, but they guarantee quality in a car and their generous employment in a Maxwell is by far the best evidence anyone may need to determine its quality.

They are almost alone responsible for the rapid rise of Maxwell, for the fact that nearly 400,000 now have been built, for that ever-growing friendliness to Maxwell the world over.

MAXWELL MOTOR CO. of Canada, Limited, Windsor, Ont.

Lawndale Stock Farm

Jerseys and Shorthorns (Pure Bred)

Our Present Offering in Jerseys is as follows:—2 splendid young bulls, both from R. O. P. mothers, 1 dropped in June 1919, the other in July, 1919. They are beauties and the right sort.

Write soon for information to

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

Elmwood Stock Farm

We have a few young bulls to offer, sired by Dutchland Colantha Sir Rag Apple, a son of Colantha Johanna Lad. His dam is a granddaughter of Pontiac Korndyke. Thus combining the blood of two of the greatest bulls the world has ever seen.

The dams are daughters of Dutchland Pieterje Count. These calves are a nice straight growthy lot.

W. L. ETTER, Shubenacadie, Hants Co., N. S.

Shorthorn Cattle

High grade registered stock for sale

J. E. HETHERINGTON
CODYS, :: :: :- N. B.

HOLSTEIN BULL CALVES FOR SALE

I am offering for sale 5 bull calves from a week to 18 months old. While the dams of these calves are not tested, the dam's dam and the sire's dam of each calf has a record, some as high as 32 lbs in 7 days. The sire of these calves has 14,000 lb. 2 year old daughter.

They will be sold at a bargain prices if taken within a month

ROBERT HICKS
Glenrane Farm, West Bathurst, N. B.

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on, as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue, which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex N. B.

FOR SALE.—Pure bred Holstein bull calf, born April 27th. For particulars write H. MacINTYRE, Box 525, Campbellton, N. B.

WANTED. — White Wyandotte baby chicks from bred-to-lay strains and healthy stock only. BURTON ROSS, Taymouth, N. B.

FOR SALE.—20 sheep, 14 lambs, three year old Reg, Ayr bull. Apyly to ROY S. PARLEE, Parleeville.

POR IMMEDIATE SALE.—A number of pure pred Yorkshire pigs, both sexes, and well bred. Price $10.00 each. J. ARLINGTON CASSIDY, Welsford, N. B.

FOR SALE.—Dark roan three year old Reg. Shorthorn bull sired by Statley Monarch. This bull is the sire of our champion beef bull at Winter Fair, Amherst, 1919. For further partticulars write C. N. BLACK & SON, Aulac, N. B.

WANT TO HEAR from party having farm for sale, give particulars and lowest price. JOHN J BLACK, Maritime St., Chippewa Falls, Wis.

SELL your property quickly for cash, no matter where located, particulars free. REAL ESTATE SALESMAN CO., 530 Brownell, Lincoln, Nebr.

SEND FOR FREE catalogue of 300 Annapolis Valley farms and homes. VALLEY REAL ESTATE AGENCY, Wolfville, N. S.

LADIES WANTED TO DO PLAIN and light sewing at home, whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars. NATIONAL MFG. CO., Montreal.

THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and other premises. Price $4.00 per 100 lbs. Apply by mail to "NAILS," care of Office Maritime Farmer, Sussex, N. B.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T. D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

"Carleton County Holstein Breeders' Club, R. W. Maxwell, Woodstock, Secretary."
F. W. C. Nase, Nerepis, N B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B.

Ayrshire Cattle

McIntyre Bros., Springbrook Farm, Sussex, N. B.
E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co,, N. S.
C. A. Archibald, Truro, N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

YORKSHIRE PIGS

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
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J. James Ross, Pictou, N. S.

Barred Plymouth Rocks.

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Our Egg Price Now 47c

For the next two weeks we will pay forty-seven cents per dozen for strictly fresh eggs, f. o. b. St. John. Eggs must be shipped to "The Maritime Farmer," St. John, N. B., in case lots, by Express. We will take anything up to 1000 cases at this price. The quotation is the highest market price quoted at time of going to press. If you have fresh eggs to sell and the market rises, advise us. We will pay you direct, without the aid of a middleman the full market price. Be sure and see that the eggs are properly addressed. See also that your name and address are properly indicated on the label. In our last issue we offered 44 cents per dozen for eggs. The market jumped in response to this offer. We put hundreds of dollars in the pockets of farmers as a result. This week we offer you another chance to make a dollar.

In our next issue we will make you an offer for your dairy butter. We believe it will be well worth watching for. The goods will be shipped to St. John, under the same conditions as eggs shipments are being made. We want only good butter—and we are not looking for anything except butter which will command the best prices.

Watch our co-operative columns. There will be money in them for you. You deal direct. Be your own middleman.

A Great Big Bargain

We have made a big buy in auto tires.

We have a lot of first tires which we offer at $16.50 f. o. b. Sussex. They are every one fully guaranteed and are from one of the leading manufacturers in Canada. Tires may go up but these are offered to you while they last for a price that will never come again this year. The supply is limited. We express the same day as order received to Maritime Farmer readers. The size is 30x 3½ and they are all Non-skids.

SUNNYSIDE STOCK FARM

Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

HIGHLAND LAKE HOLSTEINS

Herd sire, AVONDALE PONTIAC ECHO (underlease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.

We have young bulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows; and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yonge St. Radial) JEFFERSON, ONT

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for salo calves of both sexes, sired by Dutchland Pieterje Count, a bull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Johona Lad, who was 101 A. R. O. daughters 4 over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice, come and see these calves or write for further particulars.

We will also book orders for young Yorkshire pigs for the next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - CANARD, N. S.

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We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—1 recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows have in turn been bred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter each in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a heifer calf or two. Get your orders in quick, they won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

Special Offering

Maple Green Farm Holsteins

On account of the great shortage in the supply of milk in our home town, we have decided (with regret) to dispose of our entire crop of Bull and heifer calves.

If taken inside of the next 30 days will price them away below their value.

The Dams of these calves are now running in the R. O. P., and the last official test conducted by the R. O. P. inspector showed an average test of 4.62% fat for the lot.

All are sired by our 32.32 lb. herd sire "King Korndyke Johanna", whose Dam is a full sister to Canada's Champion R. O. P. cow, "Jemima Johanna of Riverside". Milk in 365 days 30373; butter in 365 days, 1280 lbs.

Phone or write,

R, L. HICKS
DALHOUSIE JCT., - - - N. B.

ELMHURST STOCK FARM

Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S.

Five Ayrshire Bulls for Sale!

If you want the best in Ayrshires come to Hillside. Our Stock sires are a son of the great "Jean Armour" and a son of "Gardrum White Floss", 1919 Amherst champion over all breeds.

Prescott Blanchard,
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CENTRAL CAMBRIDGE,
QUEENS CO., N. B.

For Sale, a J. C. C. Bull, one year old. Also five pure bred cows.

Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages. Have some good cows to freshen soon. Am booking orders for ram lambs for fall delivery. Write or phone for prices and description.

J. ROBIE MacDONALD,
Shubenacadie, - - Nova Scotia
Successor to J. MacDonald & Son

AYRSHIRE CATTLE AND OXFORD DOWN SHEEP

G. A. TAYLOR & SON
Salisbury, - - - N. B.

Present Offering—Two Ayrshire Bulls, 12 and 12½ months old. Their sire's dam is "Rose" with a 4 yr. record of 12,913 lbs. of milk and 485 lbs. fat. The dam of their sire's sire was "Milkmaid 4th". Prices right.

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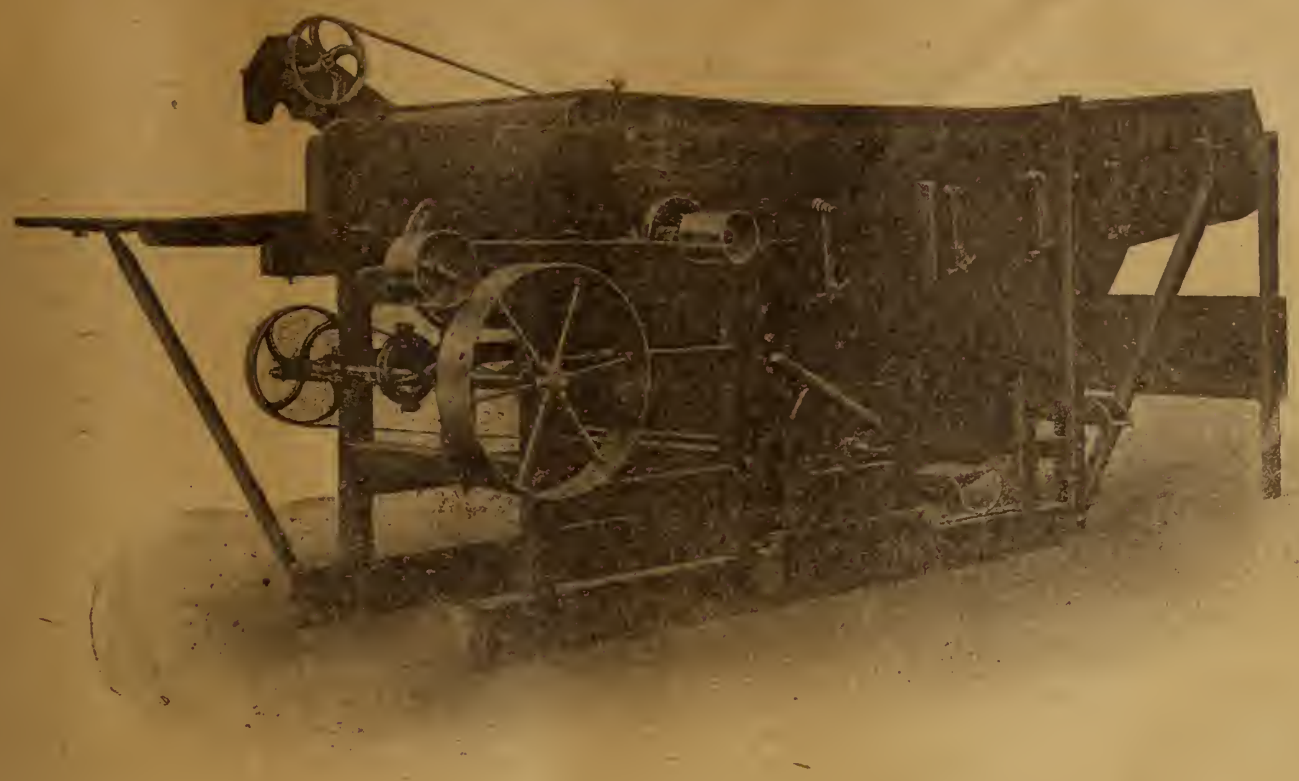

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Order your Little Giant early and be ready for a good season. A Guarantee of Satisfaction goes with every Sussex Little Giant. Ask for Special Catalogue.

WALLACE MACHINE WORKS, Limited, : Sussex, N. B.

Holstein Herd Averages 18812 lbs. Milk

A herd of 13 purebred Holsteins last year averaged 18812 lbs. milk and 638.57 lbs. fat.

Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in

HOLSTEIN CATTLE

send for booklets—they contain much valuable information.

Holstein-Friesian Association of Canada
W. A. CLEMONS, Secretary.
ST. GEORGE, - - ONTARIO

FOR SALE

We have to offer a nice bunch of Shorthorn bulls and heifers ages 1 to 3 years.

Also span 4 year old horses, span 5 year old horses, span of brood mares and a choice driver

For further particulars apply to

FRANK C. FAWCETT
Upper Sackville - - N. B.

AYRSHIRES BULLS!

fit for service, bred from heavy producing stock.

FRED S. BLACK & SONS,
Springvale Farm,
AMHERST, - - - N. S.

Chester White Pigs for Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

COSSAR STOCK FARM
Lower Gagetown, N. B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

We are presently offering, one imported Clydesdale Stallion "Dunure Crag" sired by the famous breeding horse "Baron of Buchlyvie."

Also

One Canadian bred Clydesdale Stallion "Baron Cossar", rising 5 years old.

Further particulars on application.

G. C. Cossar, Proprietor. J. Melklejohn, Agent.

FAIRVIEW FARM
Holstein and Yorkshire Swine

Calves of either sex, eight mos. of age and younger, from well bred and Tuberculin-tested Dams. Write for further particulars or come and see them.

Booking orders for Yorkshire Pigs for Spring delivery—from 1st Prize Sire and Dams at Fredericton Exhibition, Fall 1919—either sex, six weeks old. $10.00 each.

FOWLER BROS.,
WELSFORD, N. B.

W. E. B. TAIT

DORCHESTER, N. B.
Breeder of
DUAL PURPOSE SHORTHORNS
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BRED-TO-LAY BARRED ROCKS

Eggs for Hatching from winners of P. E. I. Egg Laying Contest 1919, mated to Pedigreed Cockerels imported from Oregon Agricultural College. Price $4.00 per 15.

Eggs for Hatching from high producing Pens, $2.50 per 15.

Pig Club Pigs For Sale

Last year we could not begin to fill the demand for our high class Registered Yorkshire Pigs. If you do not want to be disappointed this year, order now.

THE SOUTH TETAGOUCHE BOY BREEDERS CLUB.
Lyndsay MacIntosh, Secretary,
R. R. No. 1. WEST BATHURST, N. B.

Advertise in the Farmer

WISH-TON-WISH STOCK FARM

Have 4 good bulls fit for service, that are well grown and are extra choice individuals, and out of goid, big, heavy producing cows. Also 4 or 5 good bull calves from one to two months, as well as a few good heifers ready to breed, and some already bred to Sir Johanna Ormsby of Hickory, whose dam has a yearly official record of 22,159 lbs. milk asd 971.25 of butter in 365 days. For description and prices write, or come and see our herd.

HARDING BROS., Proprietors, WELSFORD, New Brunswick.

Firshade Farm
Dual Purpose Shorthorns

P. R. L. FAIRWEATHER
Rothesay, N. B.

FOR SALE

Two yearling Gurnsey bulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

SARAH E. M. SMITH,
Woodwards Cove, Grand Manan, N. B.

AYRSHIRE CATTLE. KARAKULE-ARABI SHEEP

We are offering two Ayrshire Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

For particulars and prices write

THE EASTERN KARAKULE-ARABI SHEEP CO., LTD. WINDSOR, N. S.

A. T. McLEAN, . V. Sc.

Veterinary Surgeon and Dentist,
late of Can. Army Veterinary Corps.

Graduate of University of Toronto and Ontario Veterinary College, 1910.

Treatment of diseases of all domestic animals.

WEST MARKET ST., MONCTON, N. B.
'Phones, Office 979, Residence 1079

Springbrook Farm Ayrshires!

We have to offer one bull, 24 months, 1st prize at Woodstock, Fredericton and Chatham, 1919. Six choice bulls from 8 to 20 months, sired by the prize winning bulls "Morton Mains", Amanth Imp. and Cherrybank Cicero. Also females, all ages.

McINTYRE BROS.
SUSSEX CORNER, - - N. B.

GUERNSEYS!

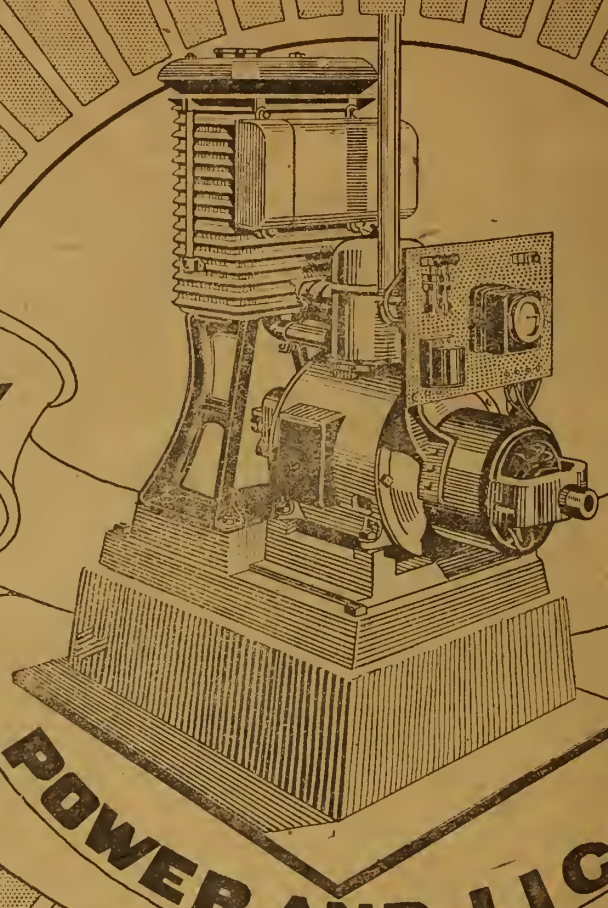
For Sale—Registered stock. Male or female.

T. D. BLAIKIE,
Great Village, N. S.

Willow Glen Shorthorns!

Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

A. N. GRIFFIN,
New Mines - - - N. S.



The Name Behind Canada's Greatest Electric Farm Plant

YOU can link the name Northern Electric with the ideal power and light plant for your farm as Canada's electrical engineers linked it when specifying the Nation's telephones.

First in the electric farm plant field is the Northern Electric name. The experience gained through years of successful electrical manufacturing is your personal safeguard for the lasting and steady dependability of

Northern Electric
POWER and LIGHT

The unit plant is simple in construction and of efficient design. It has no belts or pulleys. It is self-cranking; self-stopping; and its oversize Titan battery assures ever-ready current for both power and light needs. It is truly the leader for Canadian farms. We also have a belt-driven plant for use with ordinary farm engine, for those who desire this type of plant.

Your farm has need of time-saving, money-making, labor-saving electricity. Hundreds of Canadian farmers could tell you what it has done for them and their farms.

From coast to coast there are Northern Electric distributing houses—the one nearest you is always at your service. There, in stock, is the plant for your farm and everything electrical required for its installation. Make your whole plant Northern Electric—we willingly assume the responsibility for its perfect service.

If you now have electricity, either from Central Station or a private plant, buy Northern Electric appliances. We can supply your every electrical want.

We have prepared some interesting Power and Light literature.
May we send it to you? Fill out the coupon now.

Northern Electric Company
LIMITED

"Makers of the Nation's Telephones."

MONTREAL
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CLIP AND MAIL TO-DAY!

Northern Electric Company
LIMITED
(Address Nearest House)

Please send me free and without any obligation, copy of booklet entitled "Farmer's Power and Light Handbook."

Name..... M F 116

Address.....

Province.....

The
MARITIME FARMER
AND CO-OPERATIVE DAIRYMAN

TRADEMARK REGISTERED

Published Fortnightly in the Interests of the Farmers of the Ma[illegible] of Canada

Vol. 25 SUSSEX, N. B., JUNE 8, 1920 No 18.

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PURITY OATS

for Porridge

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for Bread, Cake and Pastry

Western Canada Flour Mills Company Limited

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Your 180 page Cook Book, Postpaid, for which 20 cents is enclosed. .....

92

A Flood of Energy for Farm Motors

Try These En-ar-co Products on your Farm

White Rose Gasoline

A pure, dry power fuel, that puts greater "pep" into your engine. Has a wonderful record for dependability.

En-ar-co Motor Grease

For differentials — gears — transmissions, on motor cars and tractors.

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A steady, clear-burning fuel for lamps, lanterns, heaters, brooders and incubators. No smoke or smell. Also the most economical tractor fuel.

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A dependable grease, that ensures a smooth-running, wear-resisting axle.

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The Scientific Lubricant

Perfect lubrication for your tractor, car, stationary or other farm engine is necessary if you are to get the greatest power from it.

Low grade lubricating oils are poor economy. Nothing but a perfect lubricant is good enough, because on it depends the smooth-running of your engine—hence the amount of power and the length of service.

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has made En-ar-co Motor Oil the perfect lubricant. All the non-lubricating properties are removed from selected crude petroleum by trained workmen in the En-ar-co refineries. It cushions your engine's moving parts and removes all friction.

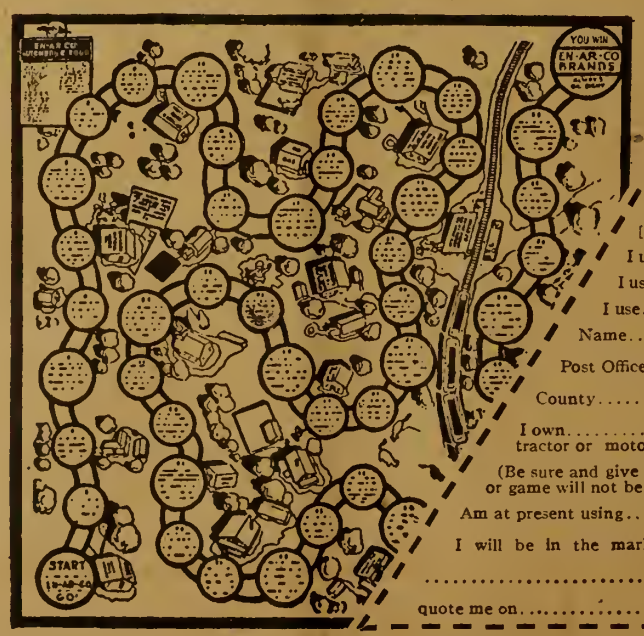
Thousands of gallons of En-ar-co Motor Oil were used with complete satisfaction in airplanes during the war—an exacting test. To-day, thousands of farmers are finding that it puts new energy into their farm engines.

Have YOU tried it on YOUR farm yet?

Order En-ar-co Products from your local dealer. If he hasn't got them, write us and we'll see you are supplied promptly.

Send for Our FREE Auto Game

A fascinating game in which autos compete in a cross-country race will be sent FREE to any auto, tractor, motor boat or engine owner who will fill out the attached coupon and mail it to us.



CANADIAN OIL COMPANIES, LIMITED
1490 Excelsior Life Building,
Toronto, Ontario

Send me En-ar-co Auto Game free. Enclosed find three cent stamp for postage. Also give nearest shipping point and quote prices on items marked.

I use.....gals. Gasoline per yr.
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I will be in the market again for more oil about.....
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quote me on.....gals. En-ar-co Motor Oil.

Canadian Oil Companies, Limited,

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Overland

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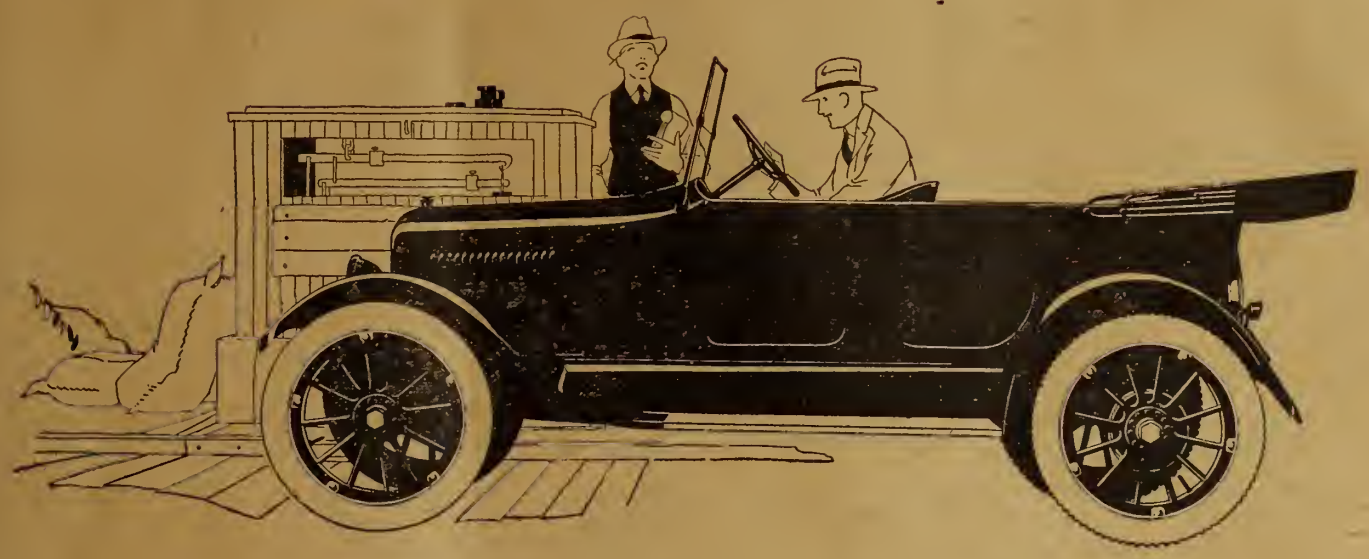

Comfort That Scales Cannot Weigh

DRIVE the new Overland on the scales and you discover the light weight of its easy-to-handle, 100-inch wheelbase.

Ride in it over rough roads and you find the unusual comfort of its 130-inch **Springbase.**

Heretofore your choice was limited to either heavy car expense or light car discomfort.

But now **Triplex** Springs permit the building of this new type of light car with all the advantages of economy in fuel and tires.

They also give this new Overland that long sought comfort on all kinds of roads, which has come as a real boon to motorists.

Examine its bright enamel finish which resists the attacks of sun and rain.

Then note its complete equipment with electric starting and lighting and rain-vision windshield.

Being a car that is not confined in its use to improved roads, the new Overland will aid in the development of new farming country.

The new Overland is a tribute to Canadian manufacture. It is built completely in Canada and is peculiarly suited to the needs of the Canadian farmer and ranchman.

See this car at your earliest opportunity.

WILLYS-OVERLAND LIMITED

Sedans, Coupes, Touring Cars and Roadsters

Head Office and Factories, Toronto, Canada

Branches: Toronto, Montreal, Winnipeg and Regina

ON THE JOB!

When the man at the head of a business is always on the job, keenly alive to business opportunities and the chance to do shrewd buying and profitable selling, he keys up every man in his employ. The "Boss" who trains his men to keep their eyes open for his benefit must also be prepared to act on their information.

As an example: A cargo of leather was recently lying at Halifax subject to forced sale. A traveller for Clark Bros. Ltd., St. Stephen, N. B., so informed the firm, and as a result Mr. John F. Clark, general manager, paid a visit to Halifax. He bought the entire cargo at far below market price, shipped it to St. Stephen, and then journeyed to Toronto, where he placed an order with ONE firm for $60,000 worth of shoes to be made from this happy purchase of leather.

We will be pleased to tell you more of this enterprising firm, and of their new issue of eight per cent. preferred stock, which we are undertaking to sell after a thorough investigation of the values, purpose, products and people behind the invehtment. Free from normal income tax and fully protected by insurance in the lives of the principles.

J. M. Robinson & Sons

Established 1889

ST. JOHN, N. B. FREDERICTON, N. B.

Don't Let Him Sneak Up on You

Old Potato Bug doesn't blow a horn to let you know he is coming. Just when your potato plants are shooting out tender green leaves this deadly destroyer sneaks in and begins to chew them up. Have a hot reception all ready for the pest by spraying plants with

MUNRO'S PURE PARIS GREEN

It is the good old killer that always does the job right. Spray early and as often as required, and your Potato plants will be impervious to attack.
Munro's Pure Paris Green is made to conform to Government standard.
It is a fine, fluffy, rich green powder, which mixes evenly in water.
Ask for it by name at all stores where garden supplies are sold.

Manufactured by

McARTHUR, IRWIN, LIMITED

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We Prepay all postage to your home address

1000 1 lb. Printed, - -	$5.50
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500 Printed, 2 lb. - -	$5.00
500 2 lb. Choice Dairy Butter,	$3.00
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Parchment marked "Choice Dairy Butter" 250 sheets, 90c; 500 Sheets for $1.80, Postage Paid.

The Maritime Farmer

SUSSEX, N. .

Brantford "Ideal" Kerosene Engines

An engine for every need. Also operated on Gas and Gasoline.

Maple Leaf Grain Grinders. 6 to 15 in.

Kerosene Light Tractors

WINDMILLS,

Pumps.
Tanks.
Waterboxes.
Steel Saw Frames.
Concrete Mixers.

Opposed Cylinder Kerosene Engines

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The "Ideal" styles of Engines for Lath, Shingle & Sawmills.

Agents wanted in unrepresented territory.

GOOLD, SHAPLEY & MUIR CO., Limited

BRANTFORD, CANADA

Artistic Roofs

for Beautiful Homes and Public Buildings

An added touch of beauty and a distinct "individuality" is given to the home roofed with Brantford Asphalt Slates.

The crushed slate surface of brownish red or dark green is not only beautiful to the eye; it is also fire-resistant.

Sparks from railroad engines or from chimneys, falling on

Brantford Asphalt Slates

are harmless and die out immediately.

This roofing is used on railway stations, one of which is illustrated here.

What is safe for a railway station is doubly safe for a home, a school or a public building.

And Brantford Asphalt Slates are the durable, economical, satisfactory roof. They will not crack, curl, rot or blow off. Easily and quickly laid.

Two sizes: *STANDARD* Slates, 8 inches x 12¾ inches, Brantford Asphalt *SLAB* Slates, 32 inches x 12 inches, four standard slates joined together. This is the newest idea in roofing. It saves time, labor and nails in laying.

Write for our booklet "Permanent Roofing Satisfaction" and get complete information.

Brantford Roofing Co. Limited

Head Office and Factory, Brantford, Canada.
Branches at Toronto, Montreal, Halifax, Winnipeg.

St. John's Cathedral, London, Ont.

Home in Brantford, Ont.

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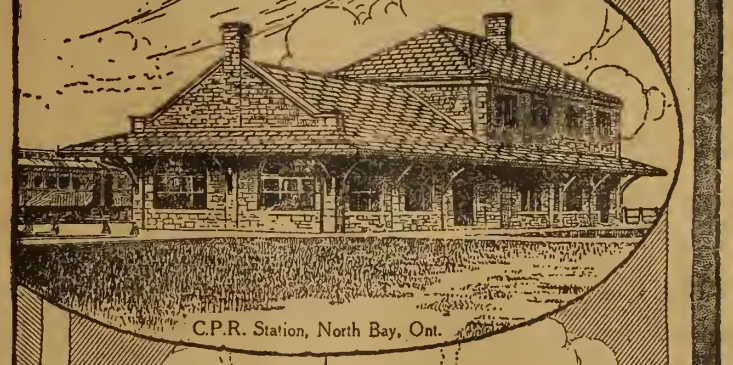
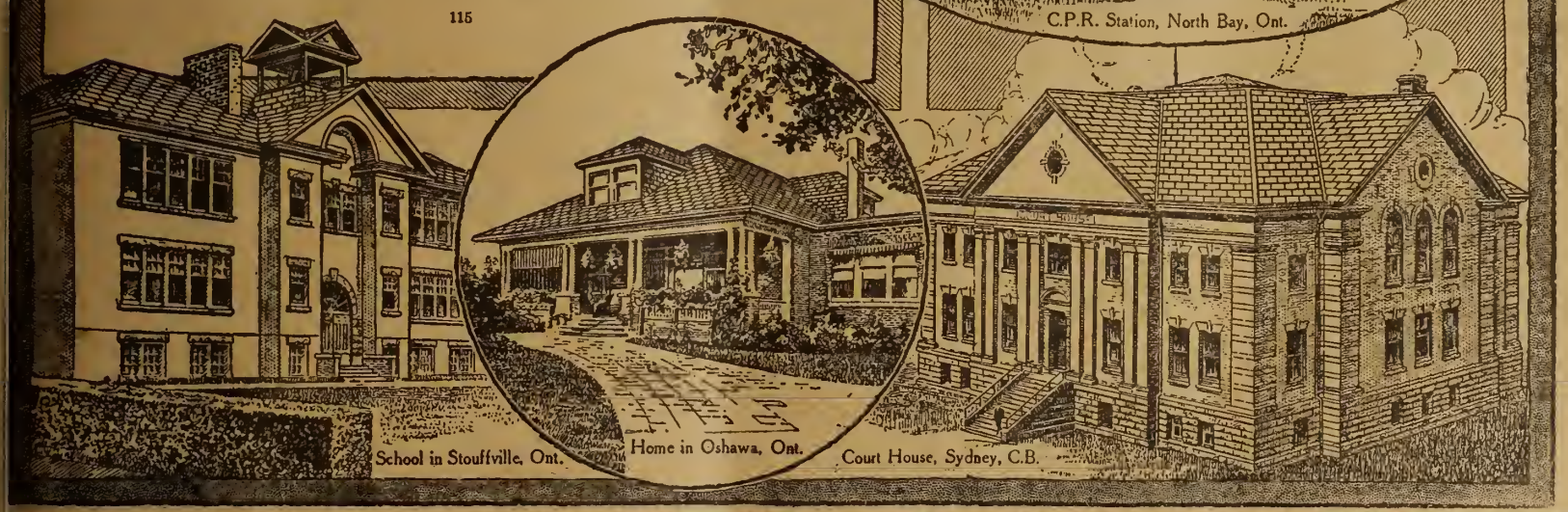

C.P.R. Station, North Bay, Ont.


School in Stouffville, Ont.

Home in Oshawa, Ont.

Court House, Sydney, C.B.

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LIVE STOCK NOTES

he following table shows the re- e number of live stock exported Canadian Stock Yards to Un- States points from January 1st ay 20th of the present year and esponding period of last year, ac ing to the returns of the Live k Branch.

here was a falling off in exports cattle during the present year unting to 63 per cent. The heavi- decreases occurring in mature le. Exports of calves were only tly shaded from those of last r.

xports of sheep and lambs de- ed by approrimately 42 per cent. mong the chief factors influencing reduction in trade were the ex- ionally high costs and the inter- nce with the movement of roll- stock on account of the strikes. strikes practically paralyzed the rican cattle markets, and killers bought in meagre quantities. The suspension, however, gave American killers an opportunity to get rid of heavy accumulations of frozen stock. This fact augurs well for killing demand at American points from now on.

On the other hand, it is reported that feeders sustained tremendous financial losses and it may be some time before buyings of this class of cattle are resumed to any appreciable extent on United States markets.

Exports to United States Points from January 1st to May 20th

	1919	1920
Calves	5329	6019
Bulls	459	23
Heavy Steers	79	118
Butcher Cattle	39271	10301
Stockers	2177	2572
Feeders	18033	4976
Cattle	65348	24009
Sheep and Lambs	7878	4535
Hogs	980	....

Stocker and Feeder Movement to Country Points in Canada

Comparing the return of stockers and feeders during the periods mentioned above, it is found that there was a decrease during the period of 1920 amounting to 41 per cent. The decreases were all made in the lighter classes of cattle. Exports of the heavy feeders show a slight increase The reduction in purchases is attributed largely to the trying experiences of feeders during the past Winter and the backward condition of pastures during the Spring.

It is anticipated, however, that as soon as the pastures have become well established there will be heavy shipments made in an effort to restock.

	1919	1920
Stockers	50268	25451
Feeders	7712	8848
Total	57980	34299

—Live Stock Commissioner

A NEW POULTRY BOOK

A new book on Poultry, entitled "Canadian Farm Poultry," has just been published by Macdonald College. The book is replete with practical information and should be of considerable help to those who keep chickens.

The more important phases of the Poutry Industry dealt with, include:

Breeds of Piultry suitable for the production of eggs and poultry meat

The selection of layers, and breeding for egg production.

Producing and shipping hatching eggs.

Incubation.

Brooding and Rearing.

Fattening all classes of chickens.

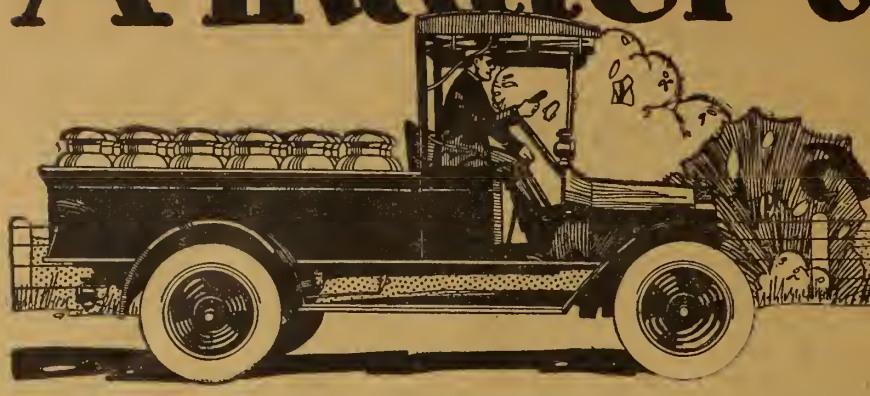
The marketing of poultry and eggs.

Preserving eggs.

Hygiene and Sanitation.

The book may be secured by sending 50 cents to The Bursar, Macdonald College, P. Q., in stamps, or money order.

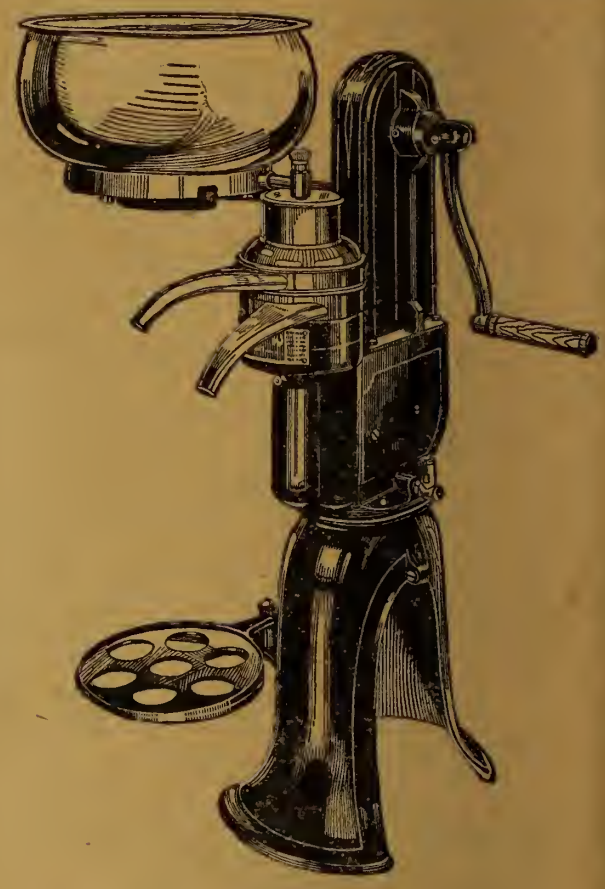
A matter of Dollars and Sense



THOUSANDS of dollars are lost by Canadian farmers through the use of poor separators.

With butter selling between 60c. and 80c. a pound, it does not take long for a poor separator to lose enough butter fat, from an average herd of cows, to pay for a good machine.

In various Tests made at Government Dairy Schools the



Renfrew

Cream Separator

has demonstrated that it gets 99.99% of the cream out of the milk.

So it is a matter of dollars and cents in extra "butter money" for the farmer to use the Renfrew, because it saves him real "cream money" that would otherwise be thrown away in the skim milk.

Easily Cleaned

All the parts of the bowl, the supply can and the spouts are made of highly polished metal. There are no rough corners hard to get at. Every part is readily accessible and can be easily scalded and rinsed.

The working parts are enclosed in a dust-proof and oil-tight casing. No dust or dirt can enter into the gears. As all the gears run in a bath of oil in this oil-tight casing it is only necessary to oil four times a year.

No oil can ever leak out on to the frame of the Renfrew Separator and then on to the floor. Think what this means in cleanliness!

A Money Maker For You

The Renfrew Separator will save you more money than any other machine used on the farm because it gets all the cream and saves much time and labor.

Write to-day for "Booklet" on the Renfrew Separator—"the all-Canadian Separator." *Buy Canadian made goods to keep Canadian money for Canadian trade.*

The Renfrew Machinery Company, Limited

Head Office and Works, Renfrew, Ontario

Branches: Montreal, Que., Sussex, N.B., Milwaukee, Wis., U.S.A.

Other Lines: Renfrew 2000-lb. Truck Scale, Renfrew Oil Engine, Happy Farmer Tractor

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTESED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 25. SUSSEX, NEW BRUNSWICK, JUNE 8, 1920. Number 17.

Farm Boys Achieve Distinction Everywhere

Are we to Believe That These Splendid Types of Manhood Degenerate After Leaving the Farm ? Are They to be Despised and Condemned Because of Success ?---It's too Narrow

When a boy leaves farm life, takes up new work, and succeeds does he become an undesirable citizen?

That is a question which the Maritime Farmer would like every father and mother, resident of the farms of the Maritime Provinces to weigh well.

Possibly YOUR boy is no longer on the farm. He may even be engaged in manufacturing, a lawyer, a merchant, an eminent practising physician or surgeon, an eloquent divine, a scholar, a professor noted for his special qualifications as a teacher, or he may have entered upon any of a thousand and one avocations which are open today to young men who are ambitious to attain success.

So the Maritime Farmer asks you as a parent do you really believe that because YOUR OWN SON has won a place for himself, he should be denied entry into any organization which he might choose to join, providing that the society is general in its scope and seeks the greatest possible measure of public support?

It seems to be reasonable that the society should be glad to welcome him. But that is not so in the poiltical organization which is being engineered from Winnipeg among the farmers of this province. THEY WANT ONLY FARMERS, THEY SAY, AND THAT VERY PLANK IS ONE THAT CONDEMNS THOUSANDS OF DESIRABLE FARM RAISED BOYS FROM PARTICIPATION IN A MOVEMENT, WHICH TO BE NATIONAL OR CANADIAN MUST BE OPEN TO ALL.

Let us look the situation over. May we be permitted to speak of the case of possibly your boy, or at least your neighbor's lad. In any case you know him. He is now, perish the thought, a manufacturer. He left the farm to make his own way in the world. Probably he took the train for the city at a time when butter in the Maritime Provinces sold for 15 cents per pound, potatoes for next to nothing, eggs for eight cents per dozen, poultry was bringing from 30 to 50 cents per pair, apples went to England and did not always pay for freight and expenses, strawberries sold for six cents per quart, delivered at the selling point, with equally low prices for everything sold from the farm. Any person forty years of age can well recall those conditions, when farm life was hardly what it is today. Well, with more boys at home than such prices would maintain, John went away, to make his way in the world.

You remember him. He was a worker. He was a thoughtful boy and a pretty fair student. His habits were good and the neighborhood regarded him as a young man who would make his way in the world. So to town John went and like many another lad before him, he took the first job that came to hand. As this is not a novel, we leave the reader to fix the job to suit his own hero. But whatever the work was, it was well done and in the course of time John won out out and became of such value to his firm that now he is "the firm." Never in all those years has he lost sight of the old folks, "back on the farm." He visits them and he helps them and he has been generous to his home community, and he has lost none of the qualities which his mother loved him for. In fact he is highly thought of where he lives and "where he formerly lived."

Just a little story of a couple of parishes in New Brunswick. From one came four boys. One was the governor of this province, (a manufacturer too); one a member of the Dominion Government; one a leading divine and professor; and the fourth an eminent preacher. All four were from the farm. All four had to fight hard for success, and all won it.

Another little village has given a chief justice, a cabinet minister and a governor, and a host of other men who are looked upon as being citizens of merit and worth. They were all FARM boys. But they had to go out in the world and win their way. Today they are mentioned with pride in the places of their birth, and boys in their teens are reminded that what these men accomplished, they, too, can achieve.

And yet, the farmers of these provinces are asked to regard these outstanding examples of what the farm can produce, as men who are not eligible to sit at table with their families or their old and tried friends. They have left the farm. Therefore, we are told, have done with them. If they are getting along in the world, they are profiteers, they are robbers. They were decent boys, they came of decent parents, they are still so regarded by their neighbors, who know them best, but you are to be taught to regard them as something undesirable in the land. Their splendid qualities as they appeal to you, who know them best, are derided and represented as something to be regarded with suspicion or worse. We ask you if, away down in your heart, you believe that sort of thing.

We know there are those who thrive on denunciation of everything that is decent and worthy of praise. These people, who possibly have never accomplished anything, can always instruct their neighbors. How many times do you see it that some fellow, who talks so much and so long that his own farm is a sight to make angels weep, can always tell the other fellow just how this should be done and how that should not be done. And they, in large measure, are the very persons, who decry the good qualities of your boy and would erect between him and you the "highest fence" that can be devised.

The Maritime Farmer has asked the question of hundreds of farmers, "Do you believe 'So-and-So,' with whom you went to school, is an object of suspicion, because he succeeded?" And an emphatic "NO" came back with a snap. Then your friend tells you all about "Bill" or "Jack" or "Tom" and how he is "just as he used to be." There is no use in trying to convince anybody in that section that 'So-and-So' is a crook and an undesirable citizen, somebody the farmer need fear and avoid. That is because 'So-and-So' is known. But his type in another section, (just the same kind of a chap) is held up to some other place as a monster and a degenerate, a crook, a robber and a citizen concerning whom nothing too bad ran be alleged. That sort of campaign is being carried on consistently and thoroughly. It is as narrow as the men who conceived it.

The Maritime Farmer believes that there is an opportunity for the farmers of the Maritime Provinces to organize in a way that will make this part of Canada stand for something. We should be all pulling together. Just as it is we get nothing. Thousands of immigrants pass through these provinces from Europe, who have never been advisd that there was such a place. Millions are being spent to attract population elsewhere Our boys are won from us by so called "harvest excursions' and propaganda, the unsoundness of which is only realized after costly experience. We are told by western politicians that not only have we no claim for compensation for western natural resources, in which we are shareholders, and which is is proposed to hand over to others, but that EVEN OUR CLAIM AND OUR SIDE OF THE STORY SHOULD NOT BE LISTENED TO. And yet we are asked to divide our strength, to adopt a class system. We are invited to join hands with the peasants of Austria and Russia, to take to our bosoms tens of thousands of foreigners (nationalized in name only), to look lovingly upon thousands of American farmers who have settled in the West, as brothers, and at the same time to regard our own FARM BOYS, SUCCESSFUL IN OTHER WALKS OF LIFE, AS UNDESIRABLE CITIZENS AND DANGEROUS TO THE FARM LIFE OF THIS COUNTRY.

THE MARITIME FARMER HAS BEEN ACCUSED OF TRYING TO DIVIDE THE EAST AND WEST. NOTHING TO IT. BUT WE DO CONDEMN A LINE OF POLICY WHICH TEACHES THAT THE VERY BEST PRODUCT OF OUR FARM LIFE IS SOMETHING TO BE SHUNNED AND DESPISED AS SOON AS IT LEAVES THE FARM, AND THAT THE REFUSE OF EUROPE SHOULD BE PREFERRED TO GOOD CANADIANS AND OUR OWN FLESH AND BLOOD.

We say again, think it over. Make up your mind if you have come to the stage when you are disposed to regard all men, not farmers, as citizens with whom you have nothing in common. Their blood tie should be their highest recommendation. You know them. Do you think of ALL of them as you are invited to regard them?

One of the chief advocates of dividing the farmers from their own flesh and blood is J. J. Morrison, Secretary of the U. F. of Ontario. On May 27th Premier Drury and the United Farmer members of the United Farmer party in the Ontario legislature, with the exception of ten members refused to be dictated to by Mr. Morrison and passed legislation, which that gentleman tried to defeat from outside of the legislature. The farmers of Nova Scotia, New Brunswick and Prince Edward Island should realize that they are competent to run their own affairs. The Maritime Farmer is prepared to back them to the limit in that worthy object.

HOW AUTOMOBILES HAVE INCREASED

Automobile registration in Canada go ahead by leaps and bounds, and already thousands of motor licenses have been issued in the several provincs for the current year. With so many farmers buying automobiles and trucks, 1920 is expected to be a record in the trade and eclipse all previous years by many thousands.

The growth each year in Canada since 1907 is indcaited in the following table:

1907	2,100
1908	2,939
1909	4,711
1910	8,937
1911	21,682
1912	34,789
1913	50,489
1914	67,415
1915	87,675
1916	120,368
1917	199,302
1918	267,408
1919	334,190
1920 (estimated)	395,000

Notes From the Nova Scotia Agricultural College

THE MARKETING OF WOOL

Arrangemens have now been completed for the marketing of this years clip in Nova Scotia, through the Canatdian Co-operative Wool Growers, Ltd. There are to be three collecting stations, one at Port Hood, in charge of Mr. D. F. Fraser, one at Antigonish, in chrge of Dr. Hugh McPherson nd one at Truro, in charge of Mr. L. W. Black.

The first step to be taken in order to take advantage of this organization is to procure from Mr. Black at the Agricultural College, Truro, a supply of paper twine for tying up the fleeces. This twine costs 40c per lb, plus postage. There is sufficient in a pound to tie up forty fleeies. The following directions for tying and shipping will be found useful, and should be followed as closely as possible.

Have the shearing floor clean and free from chaff and seeds. Keep the fleece intact as much as possible, and when taken off the sheep spread out carefully on the floor, skin side down Fold in the two sides to a width of twelve to fourteen inches, then roll from the two ends to the centre and tie with paper twine. If you have a wool box and can tie with that, it is still better.

Place tags on inside as well as outside.

The receiving stations mentioned above will be ready to receive wool after June 15th and up to July 15th. The packages must be addressed to the person in lharge at the station most convenient to the shipper. The names are given above. Freight charges are paid by the buyers, and deducted from the price to be remitted. 25c per lb. is remitted when the wool arrives, and the balance after it is graded. The final price cannot be guaranteed beforehand, but will be the highest possible for the grade.

As a criterion of the price to be obtained last year's experience may be cited. 35c. was paid on arrival of the wool, and when the wool was sold about an equal amount more was forwarded. In general, those who marketed throogh the Canadian Co-operative realized aboot 40 per cent more on their wool than those who marketed in the old way. While there can be no guarantee given of corresponding prices this year, yet those who market through this agency may depend upon getting the very highest prices the market affords.

Last year Nova Scotia marketed through the Canadian Co-operative Wool Growers, Ltd., 111,377 lbs. of wool. Of this amount 103,649 lbs. was graded in the combing classes, medium to low, all of which brought the highest prices, leaving less than 8,000 lbs. of the coarser and poorer qualities, which brought somewhat lower prices.

One of the great advantages attained through the co-operative marketing of wool is that a premium is placed on the better quality over the poorer. It is anitcipated that this year the better will bring 20c. per lb more than the inferior qualities. The main considerations in producing a good fleece are—good regular feeding; keeping sheep in pastures free from burrs; and feeding hay in racks in winter, so as to prevent the chaff material from being imbedded in the fleece.

If further information on any matter in this connection should be desired, communications may be addressed to Mr. L. W. Black, Agricultural College, Truro.

NEW ASSISTANT DAIRY SUPERINTENDENT FOR N. S.

Mr. W. J. Bird, who was Assistant Dairy Superintendent in Nova Scotia during 1915, has been appointed to the same position recently and will take up his duties at once. Since 1915, Mr. Bird has served three years overseas, and on his return completed the course for the B.S.A. degree at Guelph, Ont.

During the past two years the position of Assstant Dairy Superintendent has been ably filled by Mr. R. B. McLennan of Brookfield. Mr. McLennan resigned some weeks ago to take up a private creamery business in Truro on a large scale. His successor is well equipped both by training and practice to continue the good work in association with Mr. W. A. McKay, Dairy Superintendent for Nova Scotia.

GROWING SUNFLOWER FOR SILAGE

A field of an acre and a half at the College farm has this year been sown to Russian Sunflower as a silage crop Reports from tests in other places indicate that this crop is not liable to injury by frost as corn is, and that it yie'ds a larger amount of succulent feed per acre than the O.P.V. mixture. It is largely grown in the mountainous districts of Colorado and in some parts of the Canadian West. It has also been tried out at the Mt. Cameron Farm, St. Francis Xavier, Antigonish, and reports from there state that the yield was large, that it made a very satisfactory silage, and that cattle ate it well. The results of this test at the College farm will be watched with interest.

METHODS AND RATIONS USED BY THE POULTRY DEPT., N. S. A. C.

Such phenomenal success in egg production has been reached by the Poultry Department at the Agricultural College, in the Egg Laying Contest now well along, that numerous enquiries are being received as to rations and methods employed. In response to these a circular has been issued, which runs as follows:—

The following methods and rations are being used by this department in rearing young chickens. They are giving good results where used properly. Don't pull off foolish stunts and then complain of hard luck and bad luck with little chickens.

Do Not

feed your little chicks until 48 hours after hatching. This alone will save the lives of many chickens

Make Sour Milk

the first feed. It will pay to feed milk to little chicks.

First Week

feed five times per day of fine chick grain on clean boards. Rolled oats and dry bread crumbs may be used. Provide clean dry sand and cut straw or clover leaves on floor of brooder. If no chick feed is to be had, make a mixture of equal parts of fine cracked corn, wheat, pin head or steel-cut oats and add 5 per cent of millett seed and broken rice.

Do Not Overfeed

Put on the boards just what the chicks will eat in 5-10 minutes. More chicksk are done to death by overfeeding than are starved to death.

Second Week

substitute dry mash for two of the feedings, once in the morning and once in the afternoon. Use shallow boxes or feed boards for the mash and provide ample feeding boards for the chickens. Begin with 15 minutes feeding periods and when three weeks old leave mash before chicks all the time.

For Dry Mash Use

2 parts (by weight) Bran, 2 parts corn meal, 2 parts oatmeal and 1 part fine meat scrap. Keep some fine grit or sand, dry ground bone meal, fine charcoal and water or milk always available. After the first week get the little chickens out on to the ground for a short time each day.

Feed some raw vegetables finely chopped or get the chicks on grass plots after the first week.

When sex can be distinguished separate cockerels from pullets. Give pullets free range. Confine cockerels and fatten on the following ration 2 parts (by weight) cornmeal, 2 parts ground oats (hulls sifted out) 1 part ground barley, 1/2 part of meat scrap This mixture should be mixed with milk or buttermilk or fed with 15 per cent or raw or cooked vegetables mixed in the water the vegetables have been cooked in. Market cockerels as early as possible.

Open hen houses to the sun and keep them dry. Get pullets into winter quarters early in the fall. Cull all inmature pullets and send them to market.

Important

Keep healthy early matured pullets. A few well reared pullets will be more profitable for egg production than a flock of late hatched chickens.

The early pullets should lay in October and can be kept laying by good feeding and proper care during winter.

Feed for Laying Hens

Mash 100 Bran, 100 Cornmeal, 100 Gluten, 150 Ground Oats, 100 Meat Scraps.

Feed dry in large hoppers so as to be available to the birds at all times.

Grain—Equal parts of wheat and corn in winter and in summer 2 parts of wheat to 1 part of corn (cracked).

Count the hens in the pen and feed 2 ounces of the mixture for each hen in the pen per day. This should be divided into two feeds morning and night. At noon feed boiled vegetables dried up with wheat middlings. Allow the fowls to eat what they wish for 10 minutes each day and remove any feed that is left. Keep grit, oyster shells, charcoal and clear water in clean dishes before the fowls at all times. Feed skim milk whenever available. Always provide some green vegetables such as cabbage, mangles, turnips or sprouted oats. During the breeding season do not use vegetables too freely.

Mate 10-12 hens to a vigorous male to insure good hatching eggs.

Use good wholesome clean grains for poultry feed. Musty grain will cause sickness and loss in the flock.

Tack this up in your hen house and read it often. If you want another or your neighbor wants a copy address: Manager Poultry Department, Agricultural College, Truro, N. S.

CUT OUT THE BLUFF

The Maritime Farmer Holds Itself Responsible for all of It's Statements--This Paper, Like Others, is Answerable for It's Articles--A Big Bluff Called

In its issue of May 25th, The United Farmers' Guide manfully states that it has taken over the troubles of the Grain Growers' Guide and its editor, Mr. George Chipman, and offers the Maritime Farmer One Thousand Dollars, if the said Maritime Farmer will appear before Four Sussex Lawyers and prove statements made by this paper in its issue of March 2nd last.

The United Farmers' Guide in referring to a somewhat similar offer of this paper, says it is "stupid." We realize that. We realized that when we made it. But we deliberately made the same kind of an offer that Mr. George Chipman devised, and so we simply imitated that gentleman's stupidity. We claim no credit for originality or for any desire for credit. When Mr. Chipman made his offer, he knew he was putting something over that is much older than he is, and something that he has described very accurately as "stupid." We are glad Mr. Chipman recognizes his child. So far as the United Farmers Guide offer is concerned, may we say that we prefer to deal with the principal owners of that paper, The Grain Growers' Guide, Winnipeg.

The statements of The Maritime Farmer are declared to be "cowardly and unscrupulous" falsehools. If they are then there is one place to so stamp them. That place is the properly constituted law courts of the country. The Maritime Farmer is prepared to defend its statements at all times, and the Grain Growers' Guide is at liberty to start in at any time. The jury will be composed of farmers in most part. The Maritime Farmer is willing to abide the issue.

The Guide also ventures to read a lecture on the ethics of journalism to this paper. May we say that such a lecture comes with bad grace from Mr. George Chipman, a man whom this paper in its issue of March 30th denounced as a common blackmailer. Mr. Chipman, it will be remembered tried to blackmail the manufacturers of this country in an effort to secure funds for carrying on the propaganda of "Western Farmers." Possibly Mr. Chipman is today spending some of that very money, supplied by these big interests, in his extended tour of the Maritime Provinces. So from that souruce the Maritime Farmer needs no lecture, no lesson.

We did not publish a letter from Mr. Chipman, because Mr. Gordon Sharp, at a meeting at Fredericton, lied deliberately in a statement made concerning this paper's treatment of a letter from Mr. Norman Lambert. We agreed to publish it. Mr. Sharpe was sent to Fredericton to say we refused publication, despite the fact that Mr. Lambert had in his possession a letter giving him the date of publication. The letter was published as agreed. In view of such remarkable conduct, The Maritime Farmer declines to have anything further to do with such men, until Mr. Lambert has the ordinary decency to explain why Mr. Sharpe was sent to make that statement under the circumstances. From men of that stamp this paper proposes to take no suggestions as to decent journalism. They hardly understand the term.

An average of $840 was realized on 40 females at a Shorthorn sale held at Worthington, Minn., on April 8, by Andrew Olson. Three thousand dollare was paid for Clara 61st, a yearling, and Northcote Rosemary 2nd, with a heifer calf at foot, sold for $2,575, and Village Lady, with heifer calf at foot, for $2.500.

Notes From Prince Edward Island

DAIRYING IN P. E. ISLAND

Recognizing the value of dairying to this Province, and realizing the necessity of improving the production of the individual cow of the average herd, the Department of Agriculture has inaugurated a series of competitions to demonstrate the value to the farmer of learning the relative production of his cows. Heretofore the premium offered in dairy competitions were in the form of small money prizes, which were not sufficient to bring out a large entry, and the premiums when disposed of are forgotten. Believing that a well bred heifer calf would prove a permanent demonstration of the advantages of better breeding and feeding methods, and be of benefit in assisting those who have never realized the advantage of better breeding to undertake the improvement of their herd by the introduction of better females to take the place of the poorest cows, discovered through the medium of the individual testing method to be adopted by those entering tbis contest, it is now proposed to offer tbirty high grade heifer calves and yearling heifers and two pure bred bull calves as premiums to the Managers of our cheese and butter factories, making the largest proportionate increase in quantity and in quality over last season's make.

Desiring to give the greatest assistance to the small producer in districts where cheese and butter factories operate only five months a year, 50 per cent of the $1000.00 offered will be divided into thirteen prizes, in this class, open only to grade cows. Beginning with $40.00 value for the first prize and reducing each successive prize $2.50 until the thirteenth prize of $10 is reached. A pure bred bull calf to the value of $100.00 will be awarded to the factory winning tbe greatest number of prizes. A competitor owning one or more pure breds is not barred from entering the balance of his herd.

In Class II. $375.00 value in heifers is offered for grade herds only throughout the province, and is one year in duration beginning June 15th 1920 to June 14th 1921. Seven prizes will be awarded with conditions simllar to Class I. A pure bred bull calf of any breed to the value of $100.00 will be awarded to the Factory winning the greatest number of prizes. The desire of the Department is to demonstrate the value of pure bred and selected males, as well as to stimulate as large an entry as possible from eoch district.

Class III. offers $175.00 and is for all herds in the Province including pure breds, mixed and grade herds and is for one year in duration. Seven prizes will be awarded, beginning at $40.00 with conditions similar to Classes I and II.

In this way it is hoped by inducing each man to work individually to win a premium and collectively to win a pure bred bull calf for their district and with the maker also interested, we should considerably increase the made and demonstrate the value of the individual cow testing.. It is found in every herd where individual records are kept that there is a great differense in the producing ability of the different cows, and if a competitor with a herd of four or more cows learns at the conclusion of the contest that he has lost a position by having one cow producing ten to twenty-five dollar less value than another in his herd he will see before entering any further competitions that this animal is replaced by as large a producer as he is able to secure.

The average production of all dairy cows in this Province is not over 3,500 pounds of milk a year, while many of our good grade herds are producing an average of 10,000 lbs. as shown in the records of our cow testing association. If the average of the 40,000 dairy cows owned and fed in this Province could, by better breedng, feeding and selections be increased to even 5,000 pounds it would mean estimating this increase at two dollars a hundred an addition al value of $1,350,000 to this Province without any added cost. Each competitor must enter his cows in the cow testing association, weigh his milk every ten days, morning and evening, or three times a month and take a sample at each milkking in bottles provided free of cost. Testing will be done by an official of the Department. and at the end of the competition he will be able to learn what each one of his cows has produced. The knowledge gained will be of much greater value to him than the small amount of time necessary to attend to this work, and he will soon discover that whatever average grade his cows may be if the entire stock were equal to the best one his return would be materially greater. Dairymen, many of whose cows now average $200.00 each a year, find that they cannot afford to neglect the work. It is the only way that they can discover which of their animals are the best producers, those that they should retain and whose heifer calves should be reared to further improve to all competitors. This nformation secured by the Department will be of great benefit in showing what improvement it is possible to their herd. This demonstration obtain by starting with the commonest herds of the country and in a business-like manner learn their comparative production, and breeding up by the use of pure bred sires, high class producing herds.

In this way it is hoped to extend the methods that have brought the most productive districts in this Province to their present condition.

Every farmer who has sons would be well advised to allow and encourage them to enter their herds in com petition, and give the heifer won to the boy. The Department will select as good individuuals of the breed chosen by the distrct as can be purchased for the sum allotted for each prize, and gve the premium to the competitor as soon as it is possible to secure a suitable individual.

COMPETITIONS FOR THE PROMOTION OF DAIRYING ON PRINCE EDWARD ISLAND

The Objective

The principal object of this series of competitions is to place an opportunity within the reach of every Dairyman of the Province by which he can receive assistance towards the improvement of his herd.

Dairying has long held a prominent place with the Agricultural Industries of P. E. Island, and during late years it has rewarded the Dairy farmer with handsome profits. Its prospects never were brighter than today. Markets are broader, quality is the watchword and prices though variable at best promise to maintain a higher level than was ever anticipated by the most optimistic observer

The Dairyman who has made the most of his opportunity is the one who has given the greatest amount of attention to the producing end of his business, THE COW. Individual Milk Records, the use of a Pure Bred Sire from high producing animals, and the consequent careful selection of future milk producers and breeders involves an amount of work and attention that cannot be eliminated, but each in turn pays its own dividend.

With a view to giving encouragement and assistance the Department of Agriculture has allotted the sum of one thousand dollars into prizes for the several competitions. A part of the prizes will be given in the form of thirty high grade yearling or heifer calves and two pure bred calves of any breed.

The Classes are arranged to give particular encouragement to the Dis tricts which have not up to the present specialized in Dairying, and to permit every man to enter a competition against Dairymen of his own class.

Objects

The objects sought after in these competitions are:

1. To increase the milk production of the average Dairy cow.
2. To establish an appreciation for a higher grade of Dairy cattle.
3. To promote a more general use of pure bred sires from proven high producing stock.
4. To encourage the better care and feeding of the Dairy cow.
5. To encourage and assist the Dairy industry throughout the Island.

Competitions

Class I—($500.00) is for grade herds and open to all dairymen where factories do not operate for the full year. Records will be for 5 months duration, June 15th to November 15, 1920. All prizes will be paid in the form of high grade yearling heifers or calves, with cash values as follows:—

1st $40.00; 2nd $37.50; 3rd $35.00; 4th $32.50; 5th $30.00; 6th $27.50; 7th $25.00; 8th $22.50; 9th $20.00; 10th; $17.50; 11th $15.00; 12th $12.50; 13th $10.00

The Factory winning the greatest number of prizes will receive a pure bred bull calf of any breed to the value of $100.00, also a special prize will be given to the makers having the greatest percentage of increase in quantity and quality for the season and giving evidence of general proficiency in the conduct of their work to the value of:—

1st $25.00; 2nd $20.00; 3rd $15.00; 4th $10.00; 5th $5.00.

Class II—($375.00) is for grade herds throughout the Province and is one year in duration from June 15th 1920 oo June 14th, 1921. Seven prizes will be awarded with conditions similar to Class 1 as follows:—

1st $40.00; 2nd $35.00; 3rd $30.00; 4th $25.00; 5th $20.00; 6th $15.00; 7th $10.00.

A pure bred bull calf of any breed and to the vaule of one hundred dollars will be awarded to the Factory winning the greatest number of prizes.

Class III—($175.00) is for all herds of the Province including Pure Breds Mixed and Grade herds, and is for one year in duration, June 15th 1920 until June 14th 1921. Seven prizes will be awarded with conditions similar to classes one and two, as follows: —

1st $40.00; 2nd $35.00; 3rd $30.00; 4th $25.00; 5th $20.00; 6th $15.00; 7th $10.00.

Class IV—($50.00) is open to the cheese and butter makers of the Province who operate during the entire year. Judgment will be based on the percentage increase in quantity and quality and general proficiency. Prizes will be to the value of:—

1st $20.00; 2nd $15.00; 3rd $10.00; 4th, $5.00.

Regulations

1. All prizes will be awarded on the basis of the greatest average pro duction of butter-fat per cow, as computed by the cow testing Association.
2. Every competitor must keep individual Dairy Records according to the regulations of the cow testing association, which includes weighing and sampling milk, at each milking, or three regular days per month.
3. The Supervisor of Dairy Records, the Dairy Inspector, or an authorized official of the Department of Agriculture will have the right to call at any time to weigh and sample the milk of the cows entered for competition.
4. A competitor in classes one and two must enter his entire herd (excepting pure breds in classes one and two. A herd must be composed of four or more cows.
5. Class three is open to any herd within the Province.
6. A cow freshening within one month after June 15th shall be included in the herd for Class one, and one freshening three months after June 15th shall be included in the herd for classes two and three.
7. If a competitor loses a cow or her yield is materially diminished by an accident or sickness she may be withdrawn from competition on the recommendation of an authorized Inspector of the Department of Agriculture.

SHELL MUD

Prince Edward Island is very fortunate in having extensive deposits of oyster and mussel shells in the bays and ripers throughout the whole province.

In the early days these shells were lifted at low tide during the summer and spread over the fields for fertilizer or burned to secure lime for plastering.

The top layers of many of these deposits were composed of blue mus sel shells in the various stages of decomposition. This mud was found to be very valuable when applied to new land or land requiring lime. Ingenious farmers soon invented and constructed mud-diggers of different types, but all efficient for lifting the deposits. Some of the first ones were mounted on scows, but the general practice of liftng mud thirough the ice in winter was soon adopted, and most of the surface deposits of mussel-mud were quickly exhausted. Underneath these there were deep deposits of oyster shells and in other places extending from near the surface at low tide, to a depth of over 20 feet almost pure oyster shells mud was found. These have all received the general name of Mussel-mud after that first used. Large quantities have been lifted at points such as Bedeque Bay and St. Peter's Bay and shipped inland by rail. A dredge has been employed for several summers at the latter place by the Provincial Government, and the mud shipped to ocalities in need of this fertilizer.

The first application of shell mud to land not previously mudded invariably is most beneficial. It is scarcely ever known to fail to produce most luxuriant crops of clover, following increased root and grain crops. These muds are essentially lime fertilizers usually containing 85 percent. or over of carbonate of lime with traces of nitrogen and phosphoric acid. They are usually piled on the shore or in small heaps in the field and exposed to frost which breaks down many of the shells before being spread on the land.

Farmers living near the deposits applied very heavy dressing in the early days. It was found when this was done and a second application made after a few years that very little benefit resulted from a second application. It is generally considered that a carload of 12½ tons is a good dressing for an acre. The price for many years was $3.50 per car at the point of shipping. This was advanced to $8.50 and at the present time $14.00 per car is quoted at point

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Supreme Revelation, Divine Command, Sublime Incentive

Rev. R. M. Bynon's Annual Sermon to Fellow Agriculturists.---City and Rural Conditions Contrasted

The following is the sermon delivered by Rev. R. M. Bynon in the Lewisville United Baptist Church on Sunday afternoon, May 16th, before representatives of Boundary Creek, Coverdale, Fox Creek, Harrisville, Irishtown, Steeves Mountain and the Gorge Agricultural Societies and many others.

"He hath shown thee oh man what is good and what doth the Lord require of thee but to do justly, love mercy and walk humbly with thy God." Micah 6:8.

It is a peasure to meet with you today, to recognize and acknowledge our dependence on the Great Supreme. It is fitting that you who to day are the most independent of men should have a recognition service of your entire dependence on the Divine. We meet today on this exalted platform regardless of at what shrine we worship or by what name we are known, servants of none, dependent on none, coerced by none. We plow, plant or sow depending alone on the Eternal, the giver of every good gift who never fails. Here we erect our Ebenezer "Hitherto hath the Lord helped us."

When twenty years ago I preached my first farm sermon I spent the first five minutes defending my doing so, showing God planted the first garden, agriculture was man's first vocation that most of the great men of sacred and profane history came from or were engaged in agricultural pursuits. Gideon threshing grain, Elisha from the plow, Cincinnatus at his farm, David among his sheep, Cromwell in the flats of Huntingdonshire or Washington on the plantation in Virginia, or the spotless, peerless, immaculate incarnate Christ of God using trees, seed, sower and soil for miracles, parables and sermons. Today it is superficial to linger here. Only the ignoramus would question our thus meeting. The world war has demonstrated of all material vocations, farming is the most essential. If today all earth's provisions were equally divided there would not be enough to last 12 weeks. If farmers went on strike for three months strikers would strike no more.

We honor the splendid men who went forth with life in hand to break the power of the oppressor; men who wrote the name, fame and glory of Canada in letters of blood. Across a world horizon now a more colossal task confronts us; construction is greater than destruction; to produce and save is greater than invent and destroy. Millions of starving women's and children's mute appeal calls from far across the wave for succor we alone can give.

Three Thoughts Suggested

My text to me suggests three thoughts: A supreme revelation; a divine command; a sublime incentive

1.—Supreme revelation. "He hath shown thee O man what is good." God the Eternal created man in his own image and breathed into him the breath of life. By this inbreathing, of Jehovah man is lifted above all other created things, stamped with the image of his maker, possessing personality, conscience, affection reason and will. Through these God by his ordained agents, makes known to man heavens' mandates that we may atune our lives to His will in nature and grace.

It is good to be optimistic; as we live this May day near to nature's heart to see each bursting bud, each fragrant flower, each singing bird, proclaim our Creator's love and care It is good we should realize the bless ing of living in this land of plenty un der the protection, freedom, justice, honor and light of the old Union Jacn and that of all the fair domains o'er which it floats none is more loyal, happy or prosperous than we. It is good Labor and Agriculture should have saner views of each other's position for it is good "as much as lieth in you to live peaceably with all men." To do this we need but follow His rule: "All things ye would men should do to you do ye even so to them." The pigmy who meanders out to the farm boy to tell him of his short hours, big pay and little work, does not rightly represent the true position of Labor. The true man sweating blood in unwholesome work and foul air to make his own toll and that slackers' represents a very different side bringing to our mind the words of the Wise: "He who tilleth the soil shall be satisfied with but he who follows a vain person is void of understanding." Remember long hours in healthful surroundings with wholesome provision and good air is not always an unmixed curse. Apart from railway work and war ten are killed in off hours to every one killed at work. The characters of fifty are blighted, blasted, mildewed, damned in hours other than work to every one who falls in work hours. It is true the present labor unrest has caused much suffering. This is but the swinging of the pendulum the other way; men having time who have not trained themselves to think but we believe that time will bring the training, then when trained intelligence asserts itself, capital will receive its just consideration and labor its right reward; then shall slackers, profiteers, extremists and paid agitators receive a foretaste of their more direful doom. Farmers have suffered much by capitalistic combines and socialism gone mad yet today the farmer is the bed-rock of social order and good government. Not one of our 10,000 members would favor the black nightmare of Bolshevism. We need closer affiliation in all life's avocations especially in our rural districts. "How shall I retain the affection of my husband?" asked a young bride of an aged dame "Feed the brute," was the laconic reply. Man is more than a brute. He has a social nature and more. "Man shall not live by bread alone." It is not good for man to be alone and because he does not get the desired companionship in the country the farm is left for city life. Few young women today wish to remain on the farm. Spurgeon said "Man is the head, but woman is the neck that turns the head at will." Hold the girls on the farm and the keeping of the boys is dead easy. "I have no use for the dog-caressing, dog-clothing, dog-auto-riding dandies and kindred cousins. Solomon said: "As jewels of gold in a swine's snout so is a fair woman that is without discretion." But for the bright, honorable, intelligent woman who has no domestic task to prevent and enters office or any other honorable occupation to help bear the colossal task of keeping a home today, for her I have naught but the highest admiration. Compared wtih the useless, dueless, gadding gossiper, she is as an angel of light to a demon of darkness, and yet high as this honorable, industrious class stands they by no means reach the highest type of christian womanhood The greatest asset Canada has or ever can have is christian mothers. They are they who hold the destiny of Canada in their hand. She whose very life enters into the rearing and moulding of honest, honorable, God-fearing children must ever sit queen in the realm of heroines. Too oft in city life child life is crowded out. Ads will appear "Houses to let for families without children." Billy Sunday referring to such landlords says 'they will get a place by and by where there are no children and it won't be Heaven." Recently the young ladies of Mount Holyoke College representing some 620, mostly old Puritan homes, gleaned the following: Their great grandmothers raised an average of over six children, their grandmothers five, while in their families there was only an average of 3¼. With so many of our brightest and best young women seeking positions in office or elsewhere, with foreigners coming to our land raising children in squalor, profanity and cigarettes, whose parents are absolutely useless as citizens, we are fronted with a question that will not down—who shall grip these and thousands rushing to our Canada, coming with systems hoary with age and dark with superstition, with light regard for legal order or human life, with Bolshevik poison in their very veins? Seen from city standpoint alone there is much to alarm and cause pessimism. But the rural life in the past have brought to the fore the greatest men who have walked God's earth. On them we stake our faith that they by help divine, will hold our nation true to its highest ideals and lift the alien to a glorious future. She who raises a family of loyal, industrious, progressive children, who fear God and love their fellowmen shall praise her name, her children shall rise up and call her blessed. The late Miss Helen Gould gave $250,000 to erect a hall of fame to the honor of fifty of her nation's greatest; four-fifths of the names that grace that hall were born and reared on the farm. From our rural districts still shall come the men who shall guide our fair Dominion to recognition of equal rights to men and humble, reverent homage to God; men shall meet the oncoming thousands with the gospel of my text and win them for glory and God.

The Divine Command

II. The Divine Command—"Do justly love mercy." Consider with me the justice that has and is being done to those self-sacrificing heroines who above all others are and will make our nation great. Her city cousin works about eight hours per day five and a half days per week; she about fourteen hours per day seven days per week; the one about forty-four hours, the other about ninety-eight. The woman in other vocations usually gets two, four or six weeks vacation; she seldom a day. Many get free passes all over the Dominion on her railroad; she never. If she goes she pays her own way and has a little extra tucked on for those who go free. Other workers in most vocations, after a few years of faithful service, are pensioned. What statesman dare propound a pension for her who faithfully wrought on the farm, ten, twenty or forty years or raised and trained half a dozen whole-hearted, true-hearted, loyal God-fearing, serviceable children, and one of them worth more to our nation than a carload of foreigners. Surely "juustice standeth afar off, truth hath fallen in the street and equity cannot enter" and yet we are asked "why do our young people leave the farm?" O shame, where is thy blush.

Do justly—our schools are a festering sore, a decrying shame, a standing injustice, to every boy and girl who would make farming their life vocation. There is not in the curriculum of our country schools one text book on agriculture. Worse, men who have the power to get it there are using that power to prevent. At our farmers' association in March, re presenting more than 10,000 men, we unanimously voted a resolution requesting the Prov. Government to compel a text book on elementary agriculture in the curriculum. Such a resolution has been passed before and yet the crime continues chiefly because of opposition none of which comes from farmers. In justice to our children and country we are obligated to compel our demand. When farm ers speak today wise statesmen stop and listen; farmers hold the majority vote in this country and they are beginning to learn how to use it. If in rural schools was taught just what each plant draws from the soil, its food value for man and beast, just what fertilizer was required to change a field growing yellow weed, daisy, sorrel, etc., into a field that would grow clover, wheat, corn, etc. just how to know if soil is sour and hour to sweeten it and like useful kindred subjects a taste for scientific farming would be inculcated and would eliminate much useless drudgery and give more time for leisure study, social, and above all religious life. For what lives man above the brute who holds no social intercourse with his fellow and lifts not mind, heart and soul, in communion with his Creator, Redeemer, Savior, Friend

Why should not the powers that be give a prize to every child of good deportment who would successfully pass an examination on agriculture? Why not give the pupil and mother free passes and entertainment to experimental farms or exhibitions or other educative institutes. If we would eliminate the useless and establish the useful, the money that is now spent on leeches would more than cover expenses. There is another evil of which I will speak, not so much in the interest of the fairly well to do farmers; and the fairly well paid laborer but there is a class in our midst we do well to stop and ask "how do our acts affect them?" I refer to the orphan, the widow, the invalid, the aged and infirm, for as we treat them so a righteous God will treat us. Do not forget the man who makes long prayers, and devours widows' houses will get the hottest hole in hell. Men who cry 'equal rights to all' and have raised the price of labor and produce, lowered the worth of the dollar until these, many of them God's poor, can scarcely provide for home. Look at some of the things that are injuring them that we tolerate. We do not raise enough meat, beef, mutton, etc., in this province for our own use. Yet the Dominion Government paid a man to go around and buy carloads of sheep and lambs and ship them to Montreal vet we import more from Ontario than we export to Montreal. Who pays for that useless truckage? The poor have to pay their share, why have we not a stock yard and abattoirs with their affiliations here and eliminate the useless wages and freight that is a burden to many. Again there are those sent out and paid by us to investigate the high cost of living who say there is no

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BIG COUNTRY CHURCHES

Priest, Farmer, Banker, Community Builder

(By A. Macdonald in Country Gentleman)

All through that part of Missouri they call the big stone church on the hill Father Moenig's Church. Then there are Father Maenig's schools, and Father Moenig's bank, and Father Moenig's pure-bred Guernsey milk cows, and Father Moenig's orthere are Father Moenig's schools, ment farm.

The man who drove me into the settlement said they might as well call the village clustered round the big church, Moenig, if it had not been for Father Moenig there would be no village there to give a name to.

"Why," said the driver, "this road we are going over is Father Moenig's road."

"How is that?" I asked him.

"They call it that because he laid it out, and cut down the hills for it, and graded up the hollows; and now he has a contract to hard-surface the road. He says he is going to make it the best rock road in Missouri."

"I never heard of a priest building roads before," I suggested.

"No, I guess not; but you never heard of a priest like Father Moenig before, either. I'll bet you never did" the driver said.

The road we were on wound up and down, in and out, among the low hills that form the last eastern outposts of the Ozark Mountains in Missouri. The western beginnings of that range of hill country are in Oklahoma. They cdoss the northwestern corner of Arkansas into Missouri, and extend clear across the southern part of that state until they 'peter out,' as the driver said, in a series of humps and bumps and wrinkles, and sink nito the broad, level swamp lands that border the Mississippi River.

Eastward from that last cape of the Ozarks that juts out into swamp country, the range comes to the surface again, forming an island of small hills, seven miles across in either direction, with level country all round it. This tall end of the Ozark hills is known all through that country as Father Moenig's parish.

On the hilltops and hillsides of that island and in its valleys live 130 families of farmers, and every one of them is a member of Father Moenig's Catholic Church; they look to him not only for spiritual guidance but for worldly guidance too.

The driver, who said he was born and raised in that country and knew it like a book, made this remark as we drove along: "I don't believe a woman would put a settin' of eggs under a hen without asking Father Moenig's advice about it first. He tells them what to plant, and when to plant, and when to harvest, he goes to Wisconsin and buys cattle for them; he tells them what kind of chickens to keep; he markets their products for them; he teaches their children; marries 'em, baptizes 'em, and, by gorry"—the driver turned and looked into my face, and gave me a poke with his elbow, the better to emphasize what he was going to say —"he brings a lot of 'em into the world!" He paused there to let that statement sink in.

Doctors and Nurses Them

"He isn't a doctor, too, is he?" I quired.

"Yes, sir, he's a doctor as well as a banker and expert farmer. Lots of 'em won't have anyone else when they're sick. And they say he's a good doctor too. When the smallpox come through all this country a few years age he preached a sermon about it, and told them they all must be vaccinated, and he gathered them all together and vaccinated them, and the consequence was they didn't have the smallpox in these hills, but they had it all round here. Yes, sir, he doctors 'em, nurses 'em, takes care of 'em in health and sicknkess, and when they are going to die he gets them ready for that, and buries their bodies in the ancient graveyard back of the church, and sees to it that their souls get safe off to heaven."

The driver fished up a plug of tobacco, bit off a big chew, gave it a few munches, stowed it into his cheek, and went on: "Whether you're a Catholic or not, you've got to hand it to Father Moenig. He has made these hill farmers prosperous."

Father Moenig's church is on top of a hill, with the two schoolhouses across the road, and the few houses of the village clustered round it. A church was there before the Civil War, and in that struggle guerillas burned it. It was rebuilt, in a way, soon after the war, but it was small and in bad shape. Father Moenig said that when he went there as its pastor, twenty years ago, "It ooked like a colt that had been ridden too hard." He tore most of it down and rebuilt ti, making it larger. He put up the tall spire. He spent $28,000 on the church in six years. The pews are made of yellow poplar, cut in the hills round. There is a big organ in the loft in the rear of the auditorium. An old German wood carver was brought down from St. Louis, and the life-sized figures of saints that are on the altar were carved by him from solid blocks of yellow poplar. Artists have come all the way from the East to see those statutes and the paintings, and have said they are works of real art.

When we entered the church that Sunday morning in February the place was vibrant with the music of the Mass from the great organ and orchestra of eighteen pieces and a choir of twenty-eight voices. There were 585 persons in church that morning and each of them was from a farm.

The Gospel, read that morning from the lectern of Father Moenig, was the Parable of the Sower:

"A sower went out to sow his seed and as he sowed, some fell by the wayside; and it was trodden down and the fowls of the air devoured it.

"And some fell upon a rock; and as soon as it was sprung up, it withered away, because it lacked moisture.

"And some fell among thorns; and the thorns sprang up with it, and choked it.

"And other fell on good ground, and sprang up, and bare fruit an hundredfold."

As Father Moenig finished reading the parable, he closed the book, stepped forward and said:

"How simply our Lord tells that story of the sower and the good seed and the good soil, and the poor soil and the weeds, and of how some of the seed was wasted, and other grew and yielded an hundredfold."

And then he preached a sermon; first, about the spiritual lesson in the parable; then, the application of it to their everyday work upon the farm. He told them of the importance of selecting good seed, and that they must test the corn and wheat to be sure it was good, and, if they had not already done it, that was the time, that very week, to get out the corn tester and put it to work. He talked about the spring rains that were coming, and how they would wash the soil on the hillsides; and he told of a meeting soon to be held, at which A. I. Foard, the county farm agent, would be out to talk to them about terracing to prevent soil erosion, and he urged them to attend. He spoke of the many times the agent had already been with them, and that he was a man of fine knowledge aiming only to help them be better farmers.

"Your farm is a sacred thing," he told them. "Our Lord gave us the land to hold in trust for those who will come after we are dead and gone We must not let the good soil from the hillsides wash away. We must not let our farms run down, we must not waste the alnd, but we must hand it down to posterity better and more fertile than when we received it."

The Gospel of Good Farming

Father Moenig said afterward, when I spoke to him about this sermon: "Well, I want to give them a good lift, if I can. I am here every Sunday morning, passing out the gospel of good living and good farming."

I spoke of the great number at church, and he said: "We seldom have fewer than that; we often have a great many more. Everybody in this parish comes to church. They just leave the house vacant and all come, hired men and all."

He stopped under a great cedar tree in the front yard of his home to tell me that years ago that church parish stretched out twenty miles in all directions. Since then, as the swamps were cleared and settled, the original parish was carved at different times into six parishes, each with its own church.

"Now," he said, "I have only these hills, seven miles across, with 130 families."

"Is everyone a Catholic?" I asked.

"All but one man, a bachelor," he answered.

The ancestors of the people of New Hamburg nearly all came from one village in Alsace. Father Moenig was in the German Army when a young man, and he ran away to America after slapping the face of an insolent officer. He was born in a city and he knew nothing of agriculture until he came to New Hamburg; then he was forced into a study of farming to save his parish among the hills from becoming depopulated.

Eighteen years ago the swamp lands round his hilly island began to be drained and settled. The land there was much better than that of the hill farms, and Father Moenig's parishioners began to move out. He saw that the only way to hold them was to teach them to build up their worn-out and washed-out farms. A field of forty acres was producing only seven bushels of wheat to the acre, and Father Moenig brought an agricultural expert from the state college in Columbia to look at it and see what was wrong. The expert found that for eighteen years that field had been planted to wheat. It was cropped out and worn out. Father Moenig called a meeting of the farmers and the expert gave them their first lesson in crop rotation, and the need of giving th land a rest once in a while, and of plowing under a clover crop to put humus in the soil and of getting nitrogen into it.

"That was an eye opener," Father Monig said to me. "I began to see that we were not producing a fourth of what we ought to for the hard work we were doing. I began the study of agriculture."

He soon saw that the hills of his parish were good for dairying, but his parishioners knew nothing of that, and there was not in all the parish a pure-bred animal. Father Moenig preached a sermon about dairying and how it might make their farms far more productive than they were. In that sermon he told them he was going to Wisconsin to study the dairy business, and invited all who would go with him. He took twelve of his best farmers to Fort Atkinson, Wisconsin, and they visited different dairy farms. He bought seven pure-bred Guernsey cows and a pure-bred bull and shipped them to New Hamburg, and gave them out among the farmers.

Father Moenig went to Louisville, Kentucky, and with his own money bought for $19,000 the entire herd of eighty-five pure-bred Guernseys of Henry Bell & Son, and brought the cattle to New Hamburg and parceled them out among hs parishioners, taking their notes for the cows. He paid $1500 for the herd bull, King Lewis, which has since taken ribbons at state fairs in Kentucky, Ohio and Tennessee. More than one hundred of his pure-bred progeny are owned by farmers in New Hamburg; there are hundreds more of grade cows in the parish.

Pulling Together for One Breed

I was told by a man who had heard Father Moenig lecture on bees that it was one of the most interesting things he ever heard, and that the audience sat, seemingly fascinated as the good priest talked.

In the priest's house, behind the stove, was a big tin sign with this inscription: Pure-Bred Guernseys and Big-Type Poland-China Hogs.

"That is a sign I have just had made," said he. "Each member of our Guernsey and Poland-China association gets one to put up on his fence so that all passers-by may see. It is designed to give them more pride in the pure-bred business. I urge every farmer to give a name to his farm too; most of them have. The Guernsey association meets every Monday night in winter in the big hall over the schoolhouse. It is a community affair and by means of it we all pull together for one breed; not this way and that, for different breeds; but all for Guernseys and Poland-Chinas. We have the county farm agent out from Benton and he helps us. Next August we are going to have a big Guernsey show here."

Through the influence of Father Moenig a cream station was established in New Hamburg, and the New Hamburg cream is of such excellence it brings six cents more than the market price. Last year $14,000 worth of cream was sold through the receiving station.

Father Moenig's annual picnic is known throughout southeast Missouri In a grove close to the church he has a circular band stand, and a dinner hall where 300 persons may eat at once. The picnic is in August. The meats are barbecued on the grounds. The fires in the pits are lighted eight days before picnic day, and they burn constantly, while men keep turning the carcasses on the spits. Last year they cooked four steers, twenty hogs twenty sheep and 300 chickens. The bread was baked in the farm homes and everything was contributed by the farmers.

Three thousand persons were fed there that day, and the village made a clear profit of $3500 from it. The money is used to fix the streets and repair sidewalks and for the benefit of the village in other ways. This picnic has been held annually for 20 years.

Each week-day night, except Saturday something is going on in the school hall. Monday night the Guernsey association meets, and Mr. Foard the farm agent or some other expert is generally there to talk about problems of cattle and hogs. Tuesday

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THE MARITIME FARMER

And Co-operative Dairyman
Registered Trade Mark
Fortnightly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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JUNE 8, 1920

BOLSHEVISM AND ITS AIMS

The Maritime Farmer was recently accused of being an opponent of Bolshevism, and cheerfully acknowledged the offence. At the same time the intelligence of the person who directed the accusation was commended editorially by the United Farmer's Guide, the Maritime Province edition of the Grain Grower's Guide, of Winnipeg. In that city they had a pretty thorough demonstration of Bolshevism, just about a year ago, and the ringleaders are now serving prison terms. These gentry, who were convicted by juries composed of farmers, declared against all recognized government, the rights of citizens, and went so far as to refuse supplies and medical treatment, except to those who happened to think along the same lines as the criminals. So the editor of the Grain Grower's Guide, who is also the managing editor of the Moncton paper, has an opportunity of seeing at first hand, the merits of Bolshevistic domination. And so in the issue of the United Farmer's Guide, May 12th, all these splendid? features of radicalism were pronounced "intelligent."

May we ask just how far the enthusiasm of this Winnipeg controlled organ goes? Is it in favor of property confiscation? Does it believe that farmers occupy their properties illegally, that they make use of their farm implements in defiance of the rightful claims of the radicals of this country and that they are making use of their live stocks in opposition to Radical principles, which recognize no property qualifications and declare that all real and personal estate should be for the common good?

And where does the United Farmer's Guide and its highly commended "intelligent" correspondent stand in the matter of religion? The Bolshevists would have none of it. The churches of Russia were defiled, the clergy were foully murdered and every virtue was cast asie. Are these the things which the United Farmer's Guide professes to think so highly of? The managers of that paper can hardly plead ignorance of the cause which they espouse so eagerly and whole-heartedly. We conclude, then, that for political advantage, they are inclined to support general confiscation of farmers' lands, their goods and their herds. It is a policy which the Guide pronounces to be "Intelligent". We leave it to the readers of the Maritime Farmer to say just how "intelligent" they think it. We are opposed to every suggestion of the kind. The length to which the paper and its correspondent have gone makes it more clear, that the Maritime Province farmer would do well to look to his own interests. He can manage his affairs without Bolshevism, Radicalism or Non-Partisan Leagueism. We want none, despite the endorsation of all three by the Winnipeg controlled paper. Elsewhere we publish a sermon delivered by Rev. Mr. Bynon, to farmers, and his opinion of Bolshevism may be read with profit.

SPIRITUAL ADVISER, FARMER AND COMMUNITY BUILDER

In this issue of the Maritime Farmer, the reader will find two articles of special interest to the clergy of the Maritime Provinces.

One of the articles in question is an agricultural sermon adressed, on a recent Sunday, to a large audience composed of members of several Agricultural Societies, in the County of Westmorland, N. B., by Rev. R. M. Bynan, of Lewisville, a Protestant clergyman.

The other article, entitled "Big Country Churches", is from the pen of A. B. McDonald, writing in a recent number of the Country Gentleman, in which Rev. Father Moening, a Roman Catholic clergyman, of Missouri, is depicted as Priest, Banker, Farmer and Community-Builder.

We have, in the Maritime Provinces, a number of clergymen who do not think it beneath their dignity, nor detrimental to their social or spiritual standing to take an active interest in matters agricultural. So those who may be somewhat indifferent to matters of this kind, a careful perusal of these articles is especially commended.

Clergymen who take an active interest in the avocation of their parishioners, find that by working in sympathy with their temporal affairs, it is much easier to enlist their interests in spiritual matters. The influence that such noble workers as Rev. Mr. Bynon, Rev. Dr. P. C. Gauthier of Prince Edward Island, Rev. Fr. Legace of Kent Co., N. B., and many others whom we might mention, has been a tower of strength in setting the example of agricultural progressiveness in their respective communities.

There are practical lessons for the layman in the example of these men. May some of the principles set forth in the articles herewith reproduced, be seed sown on good ground, and bear fruit many thousand fold.

CANADIAN TRADE RULES

The following article concerning Canadian Trade Rules, from the columns of The Daily Telegraph, St. John, is heartily concurred in by The Maritime Farmer.

The work of the Reconstruction Association of Canada is attracting wide-spread attention in the United States. The association which is paying special attention to the development of Canadian trade has recently adopted "Ten Rules for Canadian Trade" which should greatly stimulate activity in promoting the nation's material progress. **The rules are as follows:**

1. Buy Canadian products. It means busine expansion, more work, more workers, more goo and more wealth for everybody.

2. Import only necessities, and then only similar Canadian articles are not available.

3. Produce to the limit in field and facto Increased production means new wealth.

4. Co-operate, conserve, specialize, standa ize. This is the way to increase production, prove quality and lower prices.

5. Develop export markets. Foreign b ness gives stability to domestic industry a trade.

6. Utilize Canadian services, transportati expert assistance in any line, etc., and spend va tions in Canada.

7. Manufacture raw materials to final sta in Canadian factories. It is money lost to other nations do it.

8. Use science for the determination and d velopment of natural resources.

9. Make quality the hallmark of Canad products.

10. Be fair to Canadian capital.

Government officials in Washington have b so impressed by these rules that they are send them in printed form broadcast in the Unit States, and pointing out that they are as appl ble to the American people as to the citizens the Dominion. The Bangor News, commenting the wisdom of applying such rules to busine says that "if they were widely studied and heed they would be worth millions a year."

RULES FOR SUCCESS

Marshall Field & Co's rules for success: To the right thing, at the right time, in the rig way; to do some things better than they we ever done before; to eliminate errors; to kno both sides of the question; to be courteous; to an example; to work for the love of the work; anticipate requirements; to develop resources; recognize no impediments; to master circ stances; to act from reason rather than rule; to be satisfied with nothing short of perfection.

The rules of various individuals for success:

Give your body and soul plenty of sunlight.—Thayer.

Deny self for self's sake.—Franklin.

Put all of your eggs in one basket and wat that basket.—Carnegie.

Employ an hour and a half every other eve ing in some important and constructive culti tion of the mind.—Arnold Bennett.

Control yourself. Anger is too valuable use except on special occasions.—Joseph H. App

Be of good courage; that is the main thing— Thoreau.

Never tell business lies.—Baron Rothschild

Now's the only bird lays egg o' gold.—Low

"It cannot be done," cries the man witho imagination. "It can be done, it shall be done cries the dreamer.—Marden.

* * *

If part of the world is always on strike, ho can the rest of us work to advantage? And, if takes all that we can do, even in peace times, t maintain the "scale of living" which we have d veloped, how can we produce enough food, clot ing and shelter to catch up with ourselves overtake the losses from war, should part of lay off all the time? If we look only to the stri and other hold up methods to even up—or down— how and when shall we begin to gather up and to overtake our shrinking supplies?

* * *

Farming is no get-rich-quick scheme, but it is the path to a rich, full life, and well will it be when the flocks and herds multiply on all our farms and we learn to live within our own resources. Nineteen hundred and twenty is full of big lessons for the farmer, but not one hints at increase of flocks, herds, or acreage in cultivation upon the basis of hours and wages controlling mill and factory.

TRYING TO EXPLAIN THAT PROFITEERING

United Farmers of Ontario Vainly Try to Explain Why They Soaked The Farmers of Ontario. New Brunswick Farmers Better Buyers and Wiser

Although the Maritime Farmer has not been asked to publish the following reply from the United Farmers of Ontario, in regard to the charging by them of $4,450 per car more for No. 1 Red Clover seed, than was paid by New Brunswick farmers, after paying freight and expenses from Toronto, we are publishing it in full for the benefit of our readers.

THE U. F. O. REPLY

The "Maritime Farmer" of April 13th markes some very ugly statements against The United Farmers Co-Operative Co., Limited, with regard to the prices which they charged the farmers for their grass seeds. The writer claims that his paper sold red clover seed at the rate of $4,400 per car less than our company here and other grass seeds at very much lower prices, and infers from this that "if there ever was a concern caught red-handed in profiteering it is The United Farmers' Co-operative Company of Toronto." We think he should investigate the circumstances and try to find out some of the facts before he starts any such mud-slinging.

We are making no secret of the prices we charged for these seeds. In deed, we are proud of them. We claim that we have saved for the farmers of Ontario many thousands of dollars because we sold at much lower prices than those set by the retailers.

If the "Maritime Farmer" sold its seeds at the prices stated it must have purchased them away back in 1919. This was good business, but we are not in the fortunate position of having oodles of money in our reserve fund to always purchase every thing just when it is most advantageous. Last fall The U.F.O. Company had a paid-up capital of some $90,000 and was carrying a stock in trade of nearly $100,000. Under these circum stances it could not very well finance the purchase of $80,000 of clover seeds to carry them in stock during the winter.

In January of this year we bought seeds right up to the limit of our credit The comparative cost and selling prices were as follows:

	Cost	Sold
No. 1 Red Clover	$45.00	$47.00
No. 1 Timothy	8.64	9.50
No. 1 Alsike	38.40	41.00

I think that even the "Maritime Farmer" will admit that after deducting the overhead expenses there was not much "akin to highway robbery" in the transaction. Evidently the farmers of Ontario dd not thing so either, for in less than three weeks we were away oversold. On February 27th we bought 100 bags more of red clover and 20,000 pounds of timothy. The prices had advanced materially since the former transaction, and were:

	Cost	Sold
No. 1 Red Clover	$45.00	$43.00
No. 1 Timothy	9.36	10.00
No. 2 Timothy	8.64	9.50

If the writer had taken a little bit of trouble to find out our methods of business he would have learned that by the terms of our charter the maximum dividend on capital stock that may be paid is seven per cent. After the books are closed at the end of the year the first charge against the gross profits is the ordinary operating expenses of the company, next comes the dividends to the shareholders. What profits still remain after these charges are paid go back to the customers in proportion to the amount of goods they have purchased during the year. We leave it to the readers to say whether these profiteers which the "Maritime Farmer" has caught red-handed are going to become bloated with wealth from the huge profits shown in our figures above.

Our most estimable friend would "allow a jury of good clean Kings County farmers to say whether a profit of four thousand, four hundred and fifty dollars, plus freight from Toronto to Sussex, N. B., on one car of clover seed does not constitute something akin to highway robbery." I think we can come to an agreement on this point without going to all that trouble. We will call it "carried unanimously" and will even go one further and suggest that anyone getting it should be hanged as a profiteer.

"Those who wait until the last minute to order their seeds are going to wish they had followed the example of their more alert neighbors," says the "Maritime Farmer." Very true, but unfortunately in business besides alertness there is always the question of finance, and after all, 'it's money makes the mare go."

We want every farmer to read this reply to the United Farmers of Ontario, very sarefully. Particularly are we anxious that the hundreds of farmers in New Brunswick and Nova Scotia, who bought their seed co-operatively this year, should read and digest it.

In the first place, the farmers of New Brunswick did not buy seeds until January fifteenth, 1920. The seeds were not paid for until March twenty second, 1920. When they were paid for it was by the Farmers of New Brunswick and Nova Scotia, themselves, and not by any wealthy persons or by any wealthy corporation. The Maritime Farmer has repeatedly said that the farmers of these provinces do not have to take lessons from anybody in running their own affairs and this exploitation of the farmers of Ontario proves that. We saved the farmers thousands of dollars as compared with their fellows in Ontario, and we did it on the open market.

Why, as late as April seventh last New Brunswick farmers bought No. 1 Clover Seed in Toronto, on the open market, in small lots for $43.00 per bushel. And they bought No. 1 Timothey for $8.88 per bushel. That is they were able to buy in small quantities and pay all expenses to the Maritime Provinces, and still undersell the United Farmers of Ontario by about two thousand dollars per car.

We are glad to note that profiteering is admitted. The Maritime Farmer repeats that the whole transaction borders on highway robbery. The explanation doesn't explain. It doesn't convince the hundreds of farmers who saved the thousands of dollars. They know because they acted for themselves and did not stand for being exploited. No more ridiculous defence was ever made of a transaction than the one we cheerfully publish. May we again ask for a more satisfacto y explanation of the steal?

TENT CATERPILLARS PLENTIFUL

The apple tree tent caterpillars and the forest tree tent caterpillars, particularly the former, are observed in greater abundance than usual and promise to cause considerable defoliation and damage to orchards unless controlled as outlined below.

On small trees the young caterpillars may be best destroyed in their tents by crushing with a piece of sod or old sack. This is best done in the evening or on a dull day when the young caterpillars are all in the tents; this cannot be done in bright sunshine as the caterpillars will be spread all over the trees feeding on the young leaves.

On trees that are too large for the nests to be reached handily the simplest and best way to control these caterpillars is to spray the trees with some form of stomach poison early in the season before the caterpillars are more than half grown. The sooner this is done after the elaves unfold, the better. This insect is effectively controlled by the poison in the first regular apple tree spray, which is applied just before the blossoms open, and consists of Bordeaux mixture made of 3 pounds of Bluestone, 10 pounds of hydrated lime or water slaked lime and 1½ pounds of arsenate of lime to 40 gallons of water. Or in place of this spray, a spray of 1½ to 2 pounds of dry powdered arsenate of lead to 40 gallons of water will kill these caterpillars.

The method of killing these caterpillars in their tents by burning them with a swab soaked in kerosene is to be discouraged as quite often part of the branch on which the tent is, is destroyed by the burning.

The Apple Tent Caterpillar spins a true tent or web, and can by this feature be easily distinguished from the more destructive Forest Tent. Within the tent the caterpillads spend the nights and stormy days. With this exception and the fact that the apple tent does not feed on forest trees, the life histories of the two insects are the same.

The caterpillars differ in that the Apple Tent has an unbroken white stripe down the back, while the Forest Tent has a row of white spots.

Our Egg Price Now 48c

The Maritime Farmer has paid out quite a bit of money for eggs in the last fortnight. Never before have the farmers of the Maritime Provinces had such an opportunity to get the top price out of their eggs. We offer for the next two weeks forty-eight cents per dozen for eggs. This price is for choice eggs f.o.b. St. John. The eggs must be strictly fresh and suubject to candle test. Be sure and address all eggs to The Maritime Farmer, St. John, give shipper's name and address. Also notify The Maritime Farmer, Sussex, but be sure and ship eggs to St. John.

Remember only strictly fresh eggs should be shipped.

TIME FOR THE THIRD SPRAY

(By G. Sanders)

After the blossoms have dropped and before the calyx has closed.

On account of russetting the fruit, Bordeaux cannot be used for this spray. The formula that has given good satisfaction in the past is the soluble sulphur 1 lb., hydrated lime 5 lbs., and arsenate of lime ½ lb., to 40 gallons of water.

If Green Apple Bug is present the formula should be 2 lbs. soluble sulphur and 1 pint Black leaf 40 to 100 gallons of water.

If biting insects are bad such as Tussock Moth or Codling Moth, the sulphur spray may be eliminated and 3 lbs. of dry lead arsenate to 40 gallone used. This will not only control the biting insects better than a combination spray, but it will prove a better fungicide than soluble sulphur

The pests controlled by this spray are Apple Scab, Codling Moth, Green Apple Bug, Tussock Moth, Green Fruit Worm and 'Pit Rot.'

Year in and year out this spray will probably average the most important in the producton of apples although in many seasons others are more important. Excepting where Green Apple Bug is present it is advised to apply this spray as a fog mist in Nova Scotia.

THE POTATO CROP

(Experimental Farm Note)

The potato is one of our most important food crops, and yet it is one that very often does not receive the attention it should. It is the practice of many farmers to leave the plantnig of potatoes until practically all other crops are in. With the exception of, perhaps, some parts of the Maritime Provinces this late planting means a much smaller yield than there would be if the planting were done before the middle or by the middle of May. By the end of May or beginning of June the seed potatoes have sprouted so much that when these are broken off at planting time the new shoots will not come on with the same vigour as they did early in the season. Furthermore it is important for the potato to get a good root system before the hot weather sets in.

It is of the greatest importance to use good seed. Two lots of seed of the same variety which look very much alike may give a difference of three hundred or more bushels per acre in the crop, as has been shown in experiments at the Experimental Farm. Ottawa. In 1919, for instance one lot of Irish Cobbler yielded at the rate of 378 bushels per acre and another 37 bushels per acre. The best Green Mountain stcok yielded 330 bushels per acre and one of the poorest 46 bushels per acre.

If possible, one should know where the seed was grown the previous year that he is about to use. If it came from a crop, the plants of which grew vigorously until cut down by frost, then, if free from disease, it will, as a rule, yield a much better crop than if it is from a crop, the plants of which withered in the middle of summer and the tubers lay in hot soil the rest of the season. This year when the price of potatoes is so high there will be a temptaiton to use small potatoes for seed. If these small potatoes come from a good crop the previous year the results are likely to be satisfactory if the season is favorable, but if they are from a small crop the previous yar when the plants dried up early the plants this year are likely to be weak and the yield not very good. Good sized sets of from one and a half to two ounces have been found the most satisfactory taking one year with another, although if the season is particularly favourable smaller sets will produce a good crop, but one cannot tell what the season will be, hence it is better to be on the safe side.

The distance of planting which has been found most economical in most places in Canada is, rows two and a half to three feet apart and sets twelve to fouurteen inches apart in the rows. While quite shallow planting has given the highest average yields at Ottawa, it is necessary to plant about four inches deep for field culture to enable one to harrow before the potatoes are up without pulling up the sets.

The varieties which have been most generally satisfactory in Canada are Irish Cobbler as an early potato and Green Mountain as a main crop or later variety. Other varieties which cannot be distinguished from Green Mountain and are included in the Green Mountain group are Gold Coin, Uncle Sam, Wee MacGregor, and Delaware. The Dooley of the rural group has done well in the warmer parts of Ontario, and in coast climates Burbank is also popular.—W T. Maccun. Dominion Horticulturist.

Work is well known on the dairy farm, but worry is not a frequent visitor. Few business have a surer foundation.

'Xact book accounts and complete records are absolute essentials in successful dairying.

HORTICULTURE.

METHODS OF GROWING TOMATOES

Tomatoes should be kept growing from the time the seed germinates until the fruit is ripe. If sown in the hot bed very early they are likely to receive an injurious check when held back until it is safe to plant them out When the seed is sown about the middle of April the seedlings are ready to prick out into flats about the 10th of May and should be ready to set out immediately after the early June frost, which usually occurs in Pince Edward Island the first week in June.

They are ready to prick out into the flats when they have the third leaf. In setting them out they should be planted so that the first leaves are about level with the ground. A little clay may be mounded around them to protect them from the wind.

Any good garden soil is suitable for tomatoes. It is usually best to delay manuring the plants until after the first fruit has set. Most amateurs make the mistake of planting in soil too rich in nitrogenous manures, which produces great vines with late fruit or a very large percentage of green fruit. Once the fruit has set, then liquid or other forms of manure may be applied generously.

A series of experiments were conducted with two varieties, "Bonny Best" and "Cparks Earliana," for several years at the Charlottetown Experimental Station, to determine the best method of growing tomatoes. Five methods were used with each variety as follows: No. 1. The plants were set four feet apart each way and the plants allowed to spread over the rground. They were unprun ed and left lying on the ground.

No. 2 Planted two feet by four feet apart. The tomatoes were prun ed to two stems and tied to wires.

No. 3. Planted two feet by four feet apart. The tomatoes were pruned to one stem and tied to stakes.

No. 4. Planted two feet by four feet apart, pruned to one stem, and tied to wires.

No. 5. Planted two feet by four feet, pruned to one stem, tied to stakes and one half of the foliage removed during the ripening period.

The first method produced the greatest quantity of fruit each year with both varieties. The tomatoes were later ripening than with the other methods and the total quantity of ripe fruit from the plot was less than on the plots grown by the second method, where the plants were pruned to two stems and fastened with wires. The second method gave the largest returns of ripe fruits. This was closely followed by methods No. 3, which produced the most early ripe fruit, though not the greatest total quantity. The removal of the foliage in method No. 5, decreased the quantity of both ripe and green fruit, but greatly increased the percentage of ripe fruit on the plants.

Large quantities of tomatoes can be produced by planting four feet apart each way with the least amount of labor. A good percentage of ripe fruit can be obtained if the plants are not supplied with nitrogenous manures until after the tomatoes have set. The method that was most successful in producing ripe fruit early in the season was that of tying the plants to stakes placed two feet apart in the rows. J. A. Clark, Superintendent, Dominion Experimental Farm, Charlottetown.

SOWING GARDEN BEANS

(Experimental Farm Note

Beans are an important truck crop—Garden beans are one of the most important truck crops and practically every farmer should grow a patch for sale or for home consumption, ac cording to his location. Being a leguminous plant, this vegetable stores in the soil nitrogen gathered from the air, and the cultural metho ds generally given to it leave the ground in splendid shape for the following crop. The consumer also has great advantages in buying them as they are a delicacy, they may easily be canned and are considered a very healthful food indeed.

One or more varieties.—To be profitable and palatable, garden beans should be eaten when the pods are well grown but still green, and this period only lasts during about a week of the plant's life. This in why a succession of sowings is generally made by persons who desire to have this fine vegetable on their table for any length of time. It was suggested that a numbr of varieties of different seasons, put in the same day, might do as well, and this prompted an experiment at Cap Rouge.

The Cap Rouge Experiment—The object was to compare the yield of green pods from one variety, sown at four different intervals of about a week, with that of four varieties of dieffrent seasons the same day. The results of five years showed that Round Pod Kidney Wax, sown at four different intervals, yielded at the rate of 3138 quarts of green pods per acre, whilst Round Kidney Wax, Stringless Green Pod, Early Red Valentine, Refugee, sown the same day yielded at the rate of 3298 quarts per acre.

One Variety Generally Enough—The difference between the two methods was only around five per cent which is practically negligible, and it seems that either will about give the same results. Persons who would rather make only one sowing, and be done with it, will have, of course, to choose varieties of different seasons, whilst others who prefer to sow at intervals of a week or ten days, should take an early variety, such as Round Pod Kidney or Pencil Pod Wax, so as to get the first edible pods as soon as possible.

Save your own seed—Probably the latter way is preferable as ripe beans can be gathered from strong healthy plants each year, for the next, which not only means a saving of money, but, which is quite important, one is thus sure of getting seed of good vitality and of the right strain. G. A. Langelier, Superintendent Experimental Station, Cap Rouge, Que.

TIME FOR SECOND SPRAY

By G. E. Sanders

When the blossoms show pink but not open. This spray may be 2—10—40 or 3—10—40 Bordeaux and I pound of arsenate of lime to 40 gallons of solution. On susceptible varieties or in orchards liable to serious outbreaks of Apple Scab, 3—10—40 Bordeaux is advised. The 3 pounds of copper sulphate to 40 gallons will make a much better fungicide than 2 pounds to 40 gallons and only cause a slight increase in the russetting of the fruit.

The second spray controls Apple Scab, Budmouth, Green Fruit worm, Canker worm, Browntail Moth, Tent caterpiller and Green Apple Bug.

If insects are bad, this spray should be applied with considerable force, but if no special outbreaks of insects are present, applying the spray as fog will give the best results.

If Green Apple bug is present do not use the Bordeaux formula. Use 2 pounds of soluble sulphur and 1 pint of Black Leaf 40 to 100 gallons of water and apply as a very thorough drench at high pressure.

It will be remembered that last year those who applied the second spray very thoroughly got the best results.

It sometimes happens that the first spray is of no great consequence in the control of Apple Scab but it is very seldom that a man can neglect his second spray without serious reduction in the quality of his fruit.

THE DISEASES OF PLANTS

We know that plants are attacked by numerous diseases. Who among us is not acquainted with rotten potatoes, smutted grains, and scabby apples? Who among us, farmers, ever and anon does not suffer some kind of losses due to them? But if we know very well the effects of the diseases, we do not always understand the causes of them. It is not surprising. Agriculture is too complex a science to be throughout known by any one man. We have to divide it into several branches or specialties and assign to each of them professional men, the experts, who devote all their time for the -advancement, the improvement and application of those particular lines.

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We have to have our chemists, microbiologists, zootechnists, etc., and our plant pathologists. We have to follow their advice. It is the sine qua non condition of a progressive agriculture.

Plant pathology is one of those sciences. It studies the diseases of plants. The professionals who give attention to it are called Plant Pathologists. They are the Doctors of the plants. Let us learn from them the causes of the diseases in plants and how to fight against those intruders of our fields. But, before we discuss these plants, let us speak a little of the

Economic Importance of Diseases in Plants

The diseases of plants reduce the world's food supply; they interfere with our necessities, decrease the materials from which we derive our clothing, shlter, etc. It is on that account that they are of economic importance.

The disease looses occur, under modern conditions, in three different phases of the handling of plant products: production, storage and transportation-distribution.

It is with regard to the first of these phases—production—that the losses have been longest appreciated. They have received in the past almost all the attention of those who have concerned themselves with such matters.

Nowadays, in order to have fruits or vegetables in any season, even in the dead of winter, we store them in vast quantities in great coldstorage plants. Here again diseases destroy the products which have already cost heavily for their production.

With the development of modern transportation and distribution, food products have become more and more important items of our daily food supply. The conditions under which they are confined during transportation are, in many cases, very favorable to the development of diseases the germs of which were already on the products when they came from the field.

The losses from plant diseases that we have to support every year is scarcely suspected by the average man. Canada loses 6 per cent. of her grain crop each year, that is, for 1918, the following numbers:

	Yield	Losses by smuts
Wheat,	381,677,700 bu.	22,900,662 bu.
Oats	33,357,400 bu.	18,881,994 bu.
Barley	77,378,670 bu.	4,442,720 bu.

That gives for those three crops only a total of 46,225,376 bushels.

In 1917, the late-blight of potatoes in the Province of Quebec alone, caused $15,000,000 of loss to farmers. The same disease was very prevalent last year also. The crop was a com plete loss in many districts.

Anthracnose of beans, wilt of cucumbers and melons, scab of apples, canker of apple-trees are but a few among the great number of these plagues.

Although United States harvested in 1917 over 3 billion bushels of corn an additional 175 million bushels was destroyed by smut.

It is estimated that the losses in the apple crop of the State of New York through neglect of spraying amount to over 3½ million dollars annually.

When a man buys 6 cotton shirts he pays for a seventh lost to disease in the cotton fields of the south.

We have many records of the calamitous effects of plant disease epidemics. In 1844 and '45, late-blight of potatoes caused serious distress in Europe and resulted in Ireland in a real famine in which thousands of people died.

A pathogene from America—the one which causes the grape mildew—introduced into France about 1878, spread with alarming rapidity and threatened to destroy the vineyards of this Country until the discovery of Bordeaux mixture by Millardt averted the catastrophe. The chestnut blight has nearly wiped out the chest nut forests of America.

The wastage of plant products from disease is a constantly recurring drain upon our most vital resources. The losses are first of importance to the consumer for, in the end, the consumer pays the bill for this wastage. They are of distinct concern to the distributor, and the producers, as individuals, commonly lose heavily. Finally, the State is a heavy loser by reason of plant diseases. It is the reason why Governmnt by means of experts, laboratories and quarantine laws is helping the farmers to fight the diseases and injurious insects. We have to follow their advice and to be a little more interested in bulletins and reports they publish. Let us not forget also that we hav in Quebec the "Society for the Protection of Plants against Diseases and injurious Insects," founded some twelve years ago at Macdonald College. Let us become members of it by sending our names to its Secretary, Dr. J. M. Swaine, Entomologist Ottawa. The annual report of this Socity is filled with valuable information.

It is time now to broach the subject of the causes of the diseases in plants.

Causes of Diseases in Plants

Any factor capable of initiating disease in plants may be said to be a pathogene. What is a pathogene?

The vegetable kingdom, the world of the plants, is divided into four large groups: the Spermatophytes, including the plants which reproduce themselves by means of seed; the Pteridophytes, which include the ferns; the Bryophytes, which comprise the moss, and at the bottom of the world of the plants: the Thallophytes, including the low plants: Myxomycetes (the lowest of them); Bacteria; Algae; Fungi and Lichens. Among these five classes, the Myomycetes, Bacteria and Fungi are known to be the pathogenes, the organisms capable of initiating disease in the plants. They are parasites, that is, incapable of living an independent life. They have to rely for their nourishment on the food already prepared by the higher plants. In other words, they live at the expense of

(Continued on page 691-

It made a Success out of a Failure

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DAIRYING.

MILK AS A CURATIVE AGENT

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"We believe the raw Holstein product to be ideal for the milk diet treatment and use it exclusively in our sanitarium.

Our Holstein milk runs from 3 to 3.5 per cent fat, 9 per cent solids not fats, and the bacterial count remains under the certified standard of 10,000 per C. C. This proves to be an ideal milk for the milk diet treatment. The small Holstein fat globules and the lesser amount of cream make it possible for the patient who is taking the whole milk to do so without embarrassment. I do not beieve the milk cure can be given successfully with the Jersey and Guernsey products. They might be tolerated by some stomachs, but taken in the generous quantities necessary many patients would not tolerate milk so rich in butter fat and the larger fat globules. Likewise, pasteurized milk cannot be given successfully.

The general public has the wrong idea in demanding milk carrying a high percent of cream. The Holstein milk digests easier, the fat globules being smaller, but very important is the fact that outside of flesh-producing qualities and some heat value, the cream is not of the importance credited to it. The public mind has been permitted to dwell too much on so called rich milk, while in truth its richness does not depend upon the amount of cream the eye can see on the milk surface. They do not know that casein and milk sugar are invisible, and are just as important as the fat. It is a fact that skimmed milk containing practically no fat is a very valuable food. The nitrogenouus sub stances, carbohydrates and inorganic salts are the constructive constituents, which the body requires of food. These constituents are perfectly balanced in milk, and serve to make blood, bone and muscle, while they also supply energy."

Real Cows or Scrubs

Commissioner of Public Institution G. F. Stradley, Asheville, North Carolina, recently solved the question: "Does it pay to own real cows?" Mr. Stradley sold seven of the scrub cows kept at the County Home Farm and purchased three high-grade Holsteins to replace them. He estimated that the scrubs cost around $15 per cow, per month, for feed, a total sum of $105 for the seven. He has now discovered that the high-grade Holsteins do not eat any more than the scrubs, which brings the feed bill down to $45, a saving of about $60 per month on feed alone. And—here's where the rub comes in—these three Holsteins produce as much milk as the seven scrubs did! The three Holsteins cost around $700 and the seven scrubs were sold for $350. Two heifer calves and a bull calf have been dropped by the newcomers to the farm, and the value of these, together with the saving on the feed bill, is not the least encouraging feature of this changing over from scrubs to real milk cows. Commissioner Stradley's happy experience should open the eyes of many farmers in those sections of North Carolina where the scrub cow still exists and continues to prevent its owner from becoming a real dairy farmer.

More Profit from Fewer Cows

An interesting and significant story is told of a Saskatchewan farmer who owned a milking herd of 14 cows. He decided to test them and the result of his careful investigations in this line was absolute proof that 10 of the cows were not paying for their feed bill. Of course he disposed of these expensive animals at once and secured some real milk producers to take their places; but—here is the most interesting part of the whole story—only five good cows were required to replace the 10 poor ones, for they gave more milk than the 10. We may well credit this farmer with amazement, chagrin and thankfulness —as the truth dawned upon him concerning his past opertions with cows and what the furture might now hold for him. Yet there are still, doubtless, many farmers uselessly carrying the same burden of unprofitable investment and labor under which the man struggled so long, and like him in ignorance of their mistake. It is for such men that we are repeating this story that has come to us from the northwest. Any man owning cows, the production of each one of which is not known to him in weight and fat percentage, should read it and take its warning to heart. A cow that does not produce milk enough to pay for her feed should be fitted for the butcher at once.

How the Cow Testing Association Helps

Another unprofitable cow comes to hand—this time from the Missouri college of agriculture. It is a surprising one: A man in Webster Co. was milking 50 cows when he joined the cow-testing association in June. The test eliminated 26 and he is now making more profit from the remaining 24 than he made on the whole 50 besides reducing his labor by one-half. His neighbor, who started in a year ago with 37 cows, has reduced that number by 14, with the same result—more prolt from fewer cows. It was found that 36 per cent. of the cows in this county association were losing money for their owners. The cow-testing associations have done much for dairymen. They teach the way to find the profitable cows by the use of milk scales and Babcock test. More power to them.

HEAD YOUR HERD WITH PURE-BRED SIRE

Why should anyone be satisfied with scrub cattle? It is true there are not enough purebreds for all, but the heifers from a scrub herd will be wonderfully improved over their dams if they are sired by a good pure-bred bull from a productive dam A registered bull calf can be had at a reasonable price from a dam which has made a creditable record, and the offspring of such a bull proves the wisdom of the investment. It is a known fact that in many cases the milk production by the heifer of such a bull is more than double that of the dam. Neither these animals nor their ocspring will ever be purebred but the continued use of a first-class registered dairy bull of the same breed will in a few years result in a herd that may equal in production many purebred herds.—E. O. Hansen, of the Dairy Husbandry Division Minnesota College of Agriculture).

MAKING GOOD DAIRY BUTTER

The old saying: "The world was not made in a minute," also applies to the making of good butter. Under no conditions can butter be properly churned in five or ten minutes. A half hour is about the average time required to get butter to come in a beautiful granular form, with the buttermilk testing 2 per cent. or less One commonly hears the remark: o"My butter came in six minutes to day," and the response comes back from the neighbor, "Why, mine came in four minutes." Butter can only come in this length of time when the temperature is too high. This means a greasy butter churned up into a big lump with a lot of buttermilk mixed up in it, and what buttermilk

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VISIT some farm or dairy near you where they are using Empires. If you don't happen to know of one, write us and we'll direct you. Ask the man to let you test the action of the teat cup. Put your thumb in it. Then you'll understand why cows like the Empire—why there is no possibility of teat or udder trouble—why they let down easily and give more milk and act so contented when the Empire is at work.

The Empire Teat Cup massages the teat from tip to udder—an exclusive Empire feature—and one absolutely essential if cows are to be kept in perfect condition.

The action of the Empire Teat Cups is only one of the superior features of the Empire, but the more you examine the machine and talk with users the more convinced you'll be that the Empire is the machine for you. If you're milking 10 or more cows you should read our catalog 20 Write for it today.

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C315

there is left is as rich as average whole milk. When butter is properly churned it must come in granules ranging from the size of a wheat ker nel to a corn kernel. The factors affecting the length of churning may be placed under three heads:

Factors Pertaining to the Production of Milk and Cream

1. Breed of Cow: The fat globules in the milk of different breeds are not the same size. Those of the Jer sey and Guernsey breeds are larger than those of the Holstein and Ayrshire breeds. Since cream containing large fat globules will churn more readily than cream containing small globules, cream from Jersey and Guernsey milk will churn more easily, other conditions benig the same.

2. Stage of lactation: Toward the latter part of lactation the fat globules become very minute and hence cream from stripper's milk churns with difficulty.

3. Season of the Year: In winter time it is natural for the fat in milk and cream to become chilled and there is usually little or no rise in temperature during the churning pro cess. Hence cream does not churn as easily in the winter time.

4. Feed: A ration without any succulence in it, such as corn silage beets or beet pulp, is conducivve to the production of hard butterfat globules and hence to difficult churning

5.—Size of the Herd: Difficult churning occurs most frequently when the herd is small, one to five cows. In the small herd the factors above mentioned are apt to play an important part. The individuality of the cow is to be reckoned with in the case of the small herd. The cream from certain individuals may always churn with difficulty. When the cream comes from mixed milk of a larger herd, the variations due to individuality are covered up.

6. Thickness of Cream: Cream which tests 20 per cent. or less will churn with greater difficuulty than a 30 to 35 per cent. cream, simply because the butterfat particles are nearer together in the 30 per cent. cream. One should aim to make a 30 per cent. cream for butter-making Without a separator this is, of course impossible, and a man without a separator is more liable to experience difficulty in churning at various times. Too thick cream is not desirable, as it sticks to the churn and churns with difficulty.

Factors Pertaining to the Handling of Cream

1. Bacterial Contamination. It sometimes happens, although cases are rare, that cream becomes contaminated with certain ferments which cause it to froth and foam and makes churning an impossibility.

2. Sourness of Cream. Although sour cream looks thicker than sweet cream, it is less sticky and the fat globules come together into bututer more easily from sour cream than from sweet cream.

3. Churning Temperature. In all probability a large proportion of the cases of difficult churning are due to the fact that the butter maker does not possess and use a good dairy thermometer. No definite churning temperature can be given to apply to all cases. In general, on the farm, the churning temperatures should be 52 degrees to 58 degrees Fahr. in summer and 58 degrees to 65 degrees Fahr. in winter.

Factors Pertaining to the Churning Process

1. Type of Churn. The churn should be of the barrel or combined type and be so built as to give proper concussion. In case of the barrel churn the staves should be nearly straight or else cream will flow around in the churn rather than rise and fall.

2. Fullness of the Churn. To secure best results, the churn should never be filled more than one-half full of cream. To get butter to come there must be concussion. There is no room for it in the churn that is too full. Neither will the butter come easily in the churn that has but ittle cream in it, due to the fact that the cream simply coats and sticks on to the sides of the churn.

3. The Speed of the Churn. The speed should be such that cream can be heard to rise and fall with each revolution of the churn. Too slow speed means that the cream simply flows from one end of the churn to the other, while too fast speed means that the cream is held stationary in one end of the churn.

A Combination of Circumstances

More often a combination of some of the factors above mentioned cause difficult churning. For example, a man with one cow, well advanced in lactation, in the winter time, raising cream by gravity, feeding corn stalks timothy hay, gluten and bran, and churning in a churn that is large enough to accommodate the cream from five cows, certainly is in a bad predicament, and has reasons enough why his cream doesn't 'come.' The remedies can be read in the causes as they have been stated. Some have reported that scalding the milk before separating it overcomes the trouble. Either this or pasteurizing the cream by heating it to 145 degrees Fahr. and holding it for from 20 to 40 minutes is sure to help, particularly if cream is to be churned in a sweet condition

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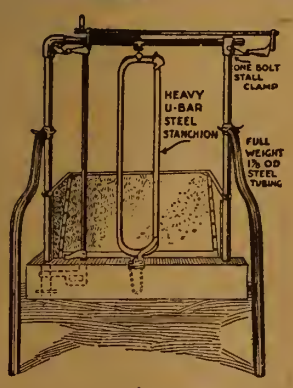

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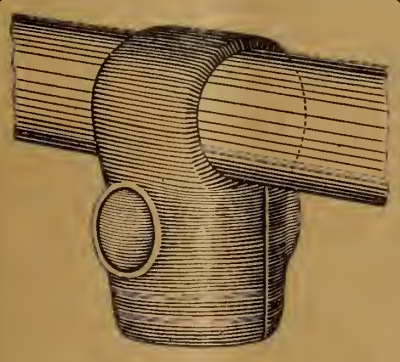

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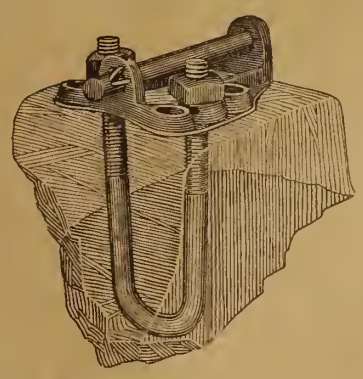

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LIVE STOCK.

HOW TO IMPROVE THE QUALITY OF LAMBS FOR MARKET

High quality brings the high dollar in the market. Every sheep owner should get his shoulder behind the wheel and lift to establish a standard of high quality for Maine grown lambs and wool.

We are in the midst of the lambing season and quite naturally the minds of those most vitally concerned in the upbuilding of the sheep industry are giving consideration to those things which must be done at this season, and which have much more to do with quality than is known to many growers.

The first to consider is that the young lambs must be well nourished as their growth is much more rapid the first few weeks of their life than at any time after; under-nourished lambs fail to get this rapid growth at the right time and seldom, if ever, are they able to overcome this setback. With lambs as with all other growing animals, a full stomach and contented mind cause rapid growth and fine finish, which means, in the final, high quality. Too little attention is given to castration of the rams. This operation is a simple one and the financial loss resulting from a failure to perform it, is considerable. Ram lambs develop sexual characteristics when about three or four months old. They then become restless, worry the rest of the flock and fail to make satisfactory gains themselves; they can not be profitably kept for a favorable market. The 'fell' or papery membrane covering the carcass becomes strong and if not removed before cooking, has an objectionable flavor. Some of the ewe lambs may be bred to the poorest ram in the flock, the ram lambs become coarse as they grow older and the increase in weight iis confined mostly to the forequarters, neck and head, which are the cheaper cuts of the carcass. Wether lambs devlop in the loin, back and leg, or the high priced cuts; all of these points are considered by the buyer but not men tioned to the grower, except in price fixing. Lambs should be castrated when from eight to fourteen days old if they are allowed to become mhch older, the operation is much more severe. One of the best methods is to cut off one-third of the scrotum with a clean, sharp knife and force the testicles down. They should then be grasped one at a time with the thumb and forefinger and pulled out with the spermatic cord attached.

Many shepherds think it best to dock all lambs—ewe lambs when from eight to fourteen days old, and ram lambs from four to five days after being castrated. Docking prevents the accumulation of a great deal of filth at the rears and adds very much to their general appearance, giving them a more blockly and uniform appearance. Some flock owners are afraid to dock their lambs because they think there is a danger of their bleeding to death, but there is little danger if the operator is careful. If any lamb should bleed too much, a piece of strong cord should be tied tightly around its tail close to the body; this will check the flow of blood and can be removed in three or four hours.

The method of docking most commonly in use, and by many considered the best, is using a sharp knife. The best way to hold a lamb while being either castrated or docked is as follows: The assistant holds the lamb by all four legs, with the lamb's back firmly pressed against his breast In this position the operator can locate the second joint of the tail from the body, which is the proper place to dock it; as much of the skin as possible should be pushed back toward the body of the lamb so as to leave some loose skin to grow over the stub, then place the knife over the jont and give it a quiuck slash, when all is over in an instant and the lamb hardly realizes anything has happened to it.

Castrating and docking should be done in the morning, so the lambs can be watched through the day; then if one should lose an excessive amount of blood, it could be taken case of before it is too late.—By C. H. Crawford, Maine, State Sheep Specialist, Department of Agriculture

WATER FOR FATTENING HOGS

Any animal under heavy feeding of grain of any kind needs enough water taken itno the stomach to help in the process of digestion. Digestion does not begin until dry, hard food begins to soften from the action of the saliva and other fluids normally found in the animal, or by the help of water the animal craves, or will take as needed when the supply is available. The average hog grower fails to appreciate the high value of clean, fresh water always ready to meet the cravings of the animal sub sisting on dry feed.

Water is necessary for the complete digestion of all solid foods. It aids in the assimilation of feeds and besides there cannot be for any considerable length of time a complete elimination of the unasimilated or undigested foods from the digestive tract without enough water to make the masticated food soft enough to pass freely through and out of the animal. Scientists tell us that the reason why constipation is so frequently followed by scours is because the feverish condition of the bowels caused by a lack of water causes an abnormal flow of liquids to be turned from other parts of the body into the digestive tract to aid in the elimination of the undigested and unassimilated foods. The result is a loss of appetite and weight and a weak and unthrift hog. Such ailments may easily be avoided by keeping plenty of clean, fresh water where the hogs may have access to it at all times.

Pigs that are kept in pastures, where they have access to green, succulent grasses and forage crops do not suffer from a water shortage as much as those that are fed in dry feed yards and on dry feeds. If the dry feed needs considerable water to further the work of digestion the more succulent green feed will be

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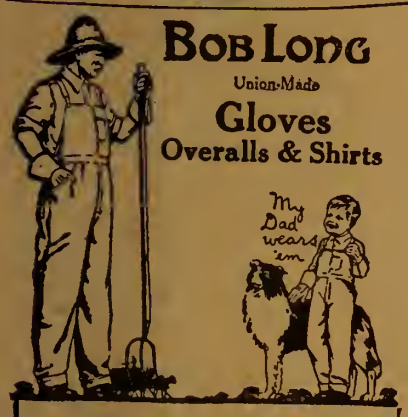

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taken after the dry feed of grain. Many feeders find that withholding water tends to induce fattening hogs to eat more forage. This extra use of forage and grass crops helps to balance the ration, so far as shortage of protein in corn goes, also the shortage of water, because such green feed contains from 80 to 90 per cent. of water, whereas the grain carries but 10 to 12 per cent. of water. But for breeding hogs and growing pigs one cannot go far wrong in allowing the animals to decide when he wants water and how much. Even if he drinks heavily enough to wash out his system a little of the excess of undigested and unassimilated feed he is wisely following the promptings of nature.

The pig's appetite is a safe guide to follow to determine how much feed he can eat and digest and how much water will be needed to eliminate it before it will begin to ferment and cause a disordered digestion. There is no feeder who can intelligently limit the amouunt of water the pig may need to promote the most complete digestion and assimilation of food. He can tell how much water the pig will drink if he has it before him, but by withholding water he is only guessing that the hog can be made to utilize more of the feed eaten if water is withheld, and he loses sight entirely of the importance of proper elimination of unassimilated and improperly digested feed that should pass away to insure the health of the pig. Neither hunger nor thirst favor health or economical gains. Those feeders who assume that water which makes up more than half of the weight of the carcass of the fat hog is less necessary than the dry feed in the fattening process will find that in the long run, the delay in the digestive tract by reducing the water supply will cause disorders that sooner or later will end in loss. W.M.K.

CARE OF EWES AND LAMBS AT WEANING

(Experimental Farm Note)

The ewe that has raised one or two lambs is never in high condition at weaning time as this is the hardest period of the whole season on the breeding ewe.

Lambs should be weaned by the last of August or first of September, and the ewes should then have the best of feed, such as good aftermath clover or rape. If this feed is not available, a few roots with a light grain ration should be fed in order that the ewes may be in good flesh before being bred, which will add very materially to the crop of lambs the following spring and also the condition of those lambs.

With experiments that we have con ducted it has been found that ewes that have not been "Flushed" but have just been kept on dry pasture until breeding, have not produced over 100 per cent. of lambs, where those that have been turned on clover or rape and fed a light grain ration have produced 150 per cent. of lambs which we consider is due altogether to the condition of the ewes at time of breeding. This is a point that every farmer should remember and put into practice as it is very profitable in sheep raising.

There is no time that mutton can be produced as cheaply as in the fall of the year after weaning the lambs. By weaning lambs early and running them on clover or rape pasture and feed them a light grain ration of one-half to one pound each of equal parts oats and barley with a little bran added, for larger gains are produced than leaving them with the ewes.

It is a recognized fact that no class of animals are put on the market in such an unfinished condition as lambs, for quite a large percentage of them are sold very soon after weaning, at a time when the market is practically over-supplied, where, if they had only been turned out on good clover or rape pasture with a light grain ration, they would have very profitable gains and also be in better condition, which would enable them to demand the highest price. J. A. McClary, Superintendent Experimental Station, Lennoxville, Quebec.

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THE HORSE

HEREDITARY UNSOUNDNESS

The enrolment of stallions for pub lic service has for its attainment the improvement of horse breeding through a standard of qualification for sires.

To accomplish the desired purpose the enrolment requirements are designed so as to eliminate as far as possible from public service stallion of undesirable type and poor conformation and to discourage the use of unsound sires likely to transmit the defects. The disqualifying forms of unsoundness are those considered to be of a hereditary nature, meaning an inherent diathesis or predisposition to defects likely to be transmitted to the progeny, thus interfering with their usefulness and lessening their value. In general experience it is found that an unsoundness present in a horse with structural weakness and poor conformation is very likely to be hereditary. In examining stallions for defects the following described diseases or defects should be thoroughly understood and carefully considered.

Bone Spavin or Jack Spavin

This is a bony deposit forming an enlargement which is noticeable usually at the inner and lower part of the hock. A spavin is always an unsoundness, as it may cause lameness at any time. Certain formations of hock are predisposed. particularly those which are small and weakly supported The hereditary tendency to bone spavin is beyond doubt, and it is therefore always considered as a disqualifying unsoundness in stallions.

Bog Spavin

is a soft swelling or puffy enlargement occurring on the front and inner part of the hock. It is due to the capsule of the joint being overdistended wtih the synovial fluid or joint oil. It does not always cause lameness, but is an unsightly defect in any case. In some strains of horses there is a decided tendency to bog spavin. It should be considered as a disqualifying unsoundness when present in stallions with short, weak hocks, or those which are bent or otherwise faulty in shape. Slight puffs on well formed hocks occurring only after considerable use at service or work, and after the age of eight years need not always prevent qualification as there may not be any undue hereditary tendency.

Thorouughpin

This name is given to a puffy swelling at the upper and back part of the hock It is due to an over-distension of the tendon sheath with fluid, and can be pressed through from side to side of the hock, hence the term thoroughpin It does not always cause lameness, and is most liable to occur in short, 'beefy' upright hocks and is frequently associated with bog spavin. They are regarded as hereditary, unsightly defects to the same degree as bog spavin.

Curb

This term is applied to a swelling or thickening on the back border of the hock, about six inches below its point. This thickened condition of the ligament or tendon is noticeable in the deviation of the straight line that extends downwards from the back of the hock. Long, narrow, bent or sickle-shaped hocks are known as curby hocks, and are very liable to spring a curb. Legs of this kind affected with curb constitute an unsoundness liable to be transmitted to the progeny, and a stallion so affected should be disqualified. A slight curb on a strong, well-formed hock need not alweys prevent qualification.

Stringhalt

is also termed Chorea, and is manifested by a peculiar spasmodic jerking upwards of one or both hind legs. The peculiar jerking movement may be slight or decidedly noticeable when the horse is either walking, trotting, turning or backing up. Some horses only show it when first exercised, and after a time drive out of it on becoming warmed up, while in otner cases it persists irrespective of the amount of exercise. The true cause of stringhalt is not known. To detect stringhalt often requires care ful examination and close observation of the horse in all its movements. Stallions showing decidd stringhalt should be disqualified, as it is a form of unsoundness with a decided tendency towards being manifested in the progeny.

Ring Bone

This name is applied to a bony growth forming an enlargement extending around the pastern. It may affect either the front or hind pasterns, and frequently causes lameness which persists. Faulty pastern are a predisposing cause, and in this regaid very long, weak pasterns and very short, upright pasterns are both inclined to the occurrence of ring-bone. It is one of the most serious rorms of unsoundness, and the hereditary tendency is acknowledged, so that stallions affected with ring-bone should be disqualified.

Side-Bone

This name is given to a hardened condition or ossification of the lateral cartilages, which are thin plates of gristle situated on each side of the foot to permit expansion at the sides of the hoof head. When they became hardened their flexibility is destroyed, thus preventing expansion and causing lameness in many cases. There is a decided hereditary tendency to the formation of side-bone, particularly in some of the heavy breeds, especially those with coarse legs.—C. Le McGilvray, V.S., M.R.V. Principal Ontario Veterinary College, Toronto.

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HORSES NEED SPECIAL CARE NOW

Many horses are killed and many more injured by careless feeding and watering. This waste in horse flesh occurs most frequently in the spring time when horse service is in most demand on the farm. The chief cause to emphasize is the way that some farmers attack spring work with unconditioned horses. It takes a right good horseman to finish up a team from winter conditions in fit shape for steady, active spring work. There are men that can feed horses to make them fat, in the same way as bullock are fattened, expecting that when the day comes for work they will be fully prepared. These men come forth to the field full of pride at the team's appearance. This pride is commend able, but if it is not balanced by sound judgment in regard to the necessary gradual training to the "full steam ahead" power, it will not avail much as a profitable unit of labor.

Full of Flesh and Firm

When the season is delayed by inclement weather it is calculated by the teamster that some speed will be required to overtake the lost time and the horses are full of spirit and take readily to the work. But in his anxiety to overtake the work the teamster forgets that the horses' ambition is out of all proportion to their power of execution when put to the plow, if they are expected to accomplish a full day's work at once. There are farmers who have not the ambition to have good looking fit horses, that put the blame for the failure of the good horse feeder upon the extra fat, and accordingly keep their own animals in thin condition by underfeeding. This, too, is a mistake, even a worse mistake than that made by the man who feeds his horses well. The result of putting soft horses to work is often sore shoulders, ambition extinguished and a waste of flesh which, if it had been hardened gradually, would have proved a valuable asset to the team and left the teamster confident that he had something to draw on for long-continued work as the days lengthened and the ground is less easily plowed. With a wrong start the team gets slower and slower and less efficient; what is needed is a horse in full flesh and firm.

Never Recover the Shock

Besides the general care and management of the horse at this season, the feeding demands great consideration. Acute indigestion or colic are the most common ailments among horses in the spring time. The horse generally gets more hay packed into his manger, on the assumption that more work will require more feed. Eating large quantities of fibrous hay and hard work immediately after will disturb the digestive system, laying the horse open to disease and lowering his staying power at hard work. The general rules in horse feeding are: Small quantities of good feed and regular feeding, feeding often and watering before feeding. Employ the simple principles of hygiene and don't work horses to exhaustion or expect a colt to do a day's work equal to an old horse. There are many young colts takken on in the spring time to augment the horse power of the field, and many of them never recover the shock they get from the overstrain in the sudden start and the injudiciouus feeding at the same time. A young colt requires to be trained in his feeding, previous to being hitched up for the first time. Stomach troubles at the start, or contracted in youth, stay with them all through life and materially reduce their value.

When the Horse Should Get Water

The writer's common, every-day method in horse feeding is to give the team all they will drink the first thing in the morning, then feed them their oats and hay, and generally they are not granted the time for over-eating at this period of the day. Horses should always be watered before they are fed. Never water a horse immediately after feeding grain This washes the grain through the stomach before it is properly mixed with the stomach juices, and is liable to cause colic. The fact that horses do not show direct income like the cow, is one reason why they do not get the same thought bestowed on their feeding and care, and therefore may be set down as the reason why horse barns are not generally supplied with self-supply water bowls. This small outlay would return 100 per cent. returns by the increased vitality and vigor of the teams.

When horses come in at noon hour they should not be allowed to drink all they want if they are warm; six to eight swallows is all that should be allowed. Neither should they be given a full meal when warm and fatigued. A full half-hour should elapse to give them time to come to normal, the nthe remainder of their drink should be given, which quantity will be all they require to slack their thirst. Then feed them their grain, and a very small quantity of good hay at the same time. Some horses choose to eat grain and hay in alternate mouthfuls and the hay and grain should be placed before them at the same time. The noon time hay should be of the choicest quality procurable. The evening meal should be more liberal with the hay, but if the horses come in warm, the same precautions should be taken with the watering as at noon time. Never forget during the evening in feeding the horse that he has not got his full drink of water and let him have it finished before you commence to feed him. If the stable is not furnished with water bowls before the horses, have a large part of water placed before them each night previous to retiring. The never failing rule in horse feeding is that they should always be watered before being fed.

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POULTRY.

THREE PREVALENT CHICKEN AILMENTS

March and April are the two great "chicken" months. If we want plenty of eggs in the autumn and throughout the winter, we should aim at hatching most of our chickens off during these two months. March to early April should see our sitting breeds hatched, April and early May our non-sitting breeds. In these notes it is obvious that a good deal of repetition must be employed, both for the sake of new readers and also for old readers who are just making up their minds to make their poultry fall into line with their other stock by bringing them up to date. If not a fortune, there is money to be made out of poultry, if only common-sense management, good feeding, and up-to-date methods are employed, for, in spite of the increased cost of feeding stuffs, the price obtained for poultry and eggs has also gone up, even if not quite in like proportion. There are not a good many chickens about, and so it may be helpful to give causes, symptoms and remedies for three chicken ailments which are sometimes rather prevalent in some poultry yards. Many chicks die annually for want of knowledge as to how to treat chickens when on the sick list.

Diarrhoea.—Causes: Usually injudicious feeding, wet or sloppy food; sometimes a cold snap will bring it on; stale food left lying about will encourage it. Symptoms: The frequent passing of watery or frothy discharges. Treatment: In spite of its price, salad oil is better than castor oil for small chickens; a dose of this is advisable. In addition, try doses of chlorodyne, say, one drop at a time in a teaspoonful of warm milk. Another remedy, often successful, is rice boiled and well dried off and sprinkled with charcoal in a powdered form. Powdered charcoal, always place within reach of chickens, is an excellent thing for them.

Constipation.—Causes: Food that is too concentrating; sometimes feeding solely on hard food; lack of grit as an aid to digestion. Symptoms: The vent crusted over with hard, dried-up discharges; later drooping wings, slow movements and general discomfort. Treatment: With warm water and a flannel soften and wash the coated vent; do not pull the matter away; be very careful, too, in picking it off, as it may cause the chicken a good deal of pain. Give the chick a dose of salad oil, but, if unsuccessful, castor oil must be used in these cases; some raw meat, chopped up very fine, is to be recommended; to the vent, too, apply some sweet oil. Constipation amongst chicks is very common, if we are not very careful about their feeding menus; supply plentifully powdered charcoal.

Gapes.—This is a dread disease, and not easy to eradicate. Cause: A small worm in the windpipe. Symptoms: Incessant gaping, difficulty in swallowing; speedy death if not cured at once; chicks will at times run backwards when thus affected. Treatment: There are two or three ways or treating chicks affected with gapes; two of these, usually successful, will suffice:—

(a) Take a feather, strip the quill to within a short distance of the end, and, either as it is, or treated with turpentine, pass it down into the bird's windpipe, give a sharp twist or two, and, on extracting it, some of the gape worms will probably be found adhering to the feather.

(b) Place the chicks, or, if a large number, some at a time, in a box and let them inhale the fumes from carbolic acid or chlorine gas; care must be taken when performing this operation. The fumes are deadly to the gape worms, but they may, too, seriously affect the chickens. However, if the chicks are removed at once on noticing any symptoms of staggering this remedy should prove successful. Do not let the chicks get at the saucer holding the properties which are to give off the fumes; a wire guard will prevent this.

There is always a danger in rearing chicks on ground where there has been an epidemic of gapes. The chicks manage sometimes to cough up these worms, but they will live and breed in the ground, and the old trouble will re-appear the next year. In such cases choose fresh ground on which to run the chickens, and alawys well lime the affected ground. These two precautions are essential. C. T. E.

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Early hatching with hens may be more successful if only thirteen eggs

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are given to the hens. The average hen of the American breeds can hardly protect fifteen or more eggs, and may be slightly chilled by turns if the hen cannot cover them all. Often they are crowded and broken. When fully as many chicks can be obtanied from thirteen as fifteen eggs, it surely pays to use the extra two eggs for another purpose. The large Brahma and Cochin hens can probably cover at least fifteen eggs at any season.

When feeding laying mash for eggs the producer sometimes keeps it up for two or three weeks and then stops because the increase in egg production does not seem large. Often the birds may have just reached the stage for profitable egg production when their balanced ration is cut down. Poultry cannot stand neglect and it costs more than ever to bring them back into condition after they are neglected. The only way to earn a profit is to keep them on balanced rations at all times. Then if they cannot pay their board and a profit, some other factor in the management is wrong, at least there is no hope for profit if the feeding methods are wrong.

CROWDING CHICKS IN BROODER

One of the mistakes that most beginners in brooder operation make is overcrowding. This is one of the worst mistakes one can make—a mis take that more often that anything else blights the success of the operator. A brooder rated at 50-chick capacity may be large enough for this number of chicks the first week or so, but as the chicks grow and develop they will be sadly handicapped by lack of space, and, as a consequence will not be able to obtain the exercise necessary to best results. It is not advisable to take the rated capacity of the brooder for granted, for the only time that the stated size of the brooder fulfills the requirements is when the chicks are small and they certainly do not remain that way very long. Two weeks' time make a marked difference in the size attained and the resultant room necessary for their well being. It is always advisable to buy a brooder double the size that it is rated at. Thus, if 50 chicks are to be kept in one brooder, select one of the 100-chick capacity. And it is never advisable to have more than 50 chicks in one brooder—25 is better. This does not apply to the stove brooders however, as they will accommodate most any number of chicks.

USE SONS OF BEST LAYERS

The most certain method of improving the egg production through breeding is to use only males that are the sons of known high producers. Males from hens which have laid more than 200 eggs in one year are of special value in transmitting the high-producing character to the pullets. Since the male furnishes half of the blood for the flock, much care should be used in choosing him. Farm poultry keepers can afford to pay a good price for a vigorous male from a heavy laying strain. Unfortunately, not nearly enough males from trap-nested stock are available to supply the demand for such birds.

Where a pedigreed male can not be obtained, the next best plan is to choose from a good producing flock an outstanding scrappy male with strong vitality. No proven method of picking out by physical tests the male which will transmit high egg production has yet been perfected, but vitality and egg production are closely linked and no male showing a weak constitution should be tolerated as a breeder. The strongest males can be easily detected by the marked evidences of masculinity, such as gallantry toward the hens, fearlessness in fighting, and a persistent tendency to crow lustily. The boss of the hen yard is usually the best breeding male.

A well-matured cockerel usually gives better breeding service than an older male, though good results can be obtained with strong yearling cocks. Many breeders use the same males to head the breeding flock for two successive years.

Where a valuable male is secured for the breeding flock, it is desirable that he be mated to the maximum number of females. The number of hens that can safely be allotted to each male depends to a certain extent upon the breed and the vigor of the male. A strong, fully matured cockerel of the medium weight breeds such as the Plymouth Rocks, Wyandottes, and Rhode Island Reds, can safely be mated with from 20 to 25 hens, while with the lighter breeds, such as Leghorns, one male will furnish good fertility whes mated with from 25 to 40 hens.

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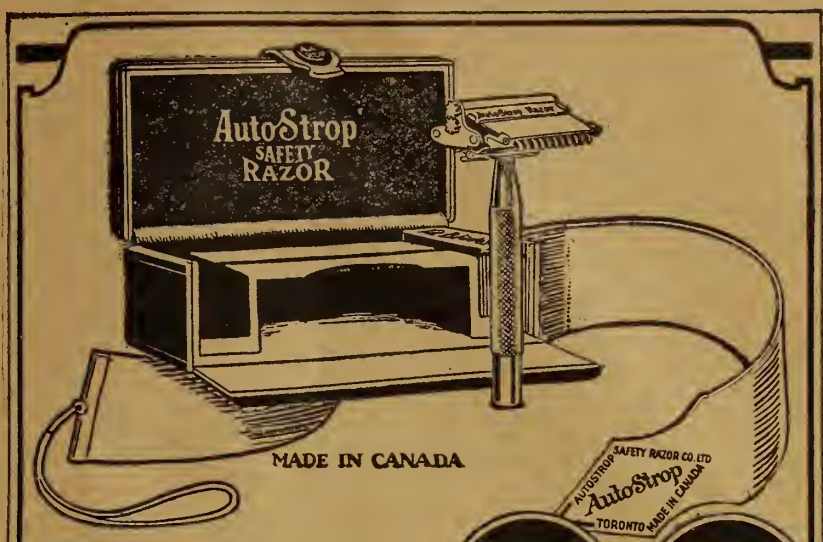

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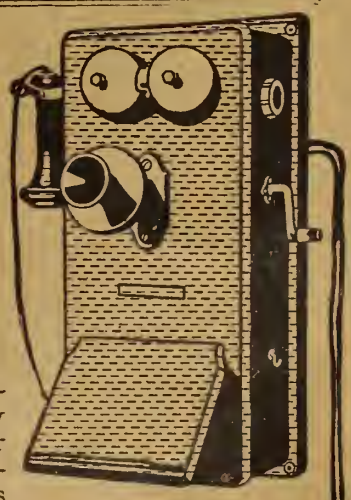

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What is true Greatness? 'Tis to clear
From sorrow's eye the glistening tear
To comfort there, to cherish here,
To bless:
To aid, encourage, and to cheer
Distress.
—George Frederick Cameron

"STIRRING UP OF PAP."

"Cold days come when hot days go," warned Pap Tisly, after emptying his mouth in the direction of the open Franklin.

"Sure do," agreed mam, removing her snuffstick. "But suthin' will hap pen. Always has done, an' always will. It's natur'. Ye ain't got faith."

"Faith a-plenty," denied pap. 'Tain't that. It's 'memberin' lack o' warmin' an' lack o' vittles while waitin' for the suthin' Stomachs has to be took keer of reg'lar, an' waitin' folks has friz. But I ain't one to be a-henderin' by myself."

"Know, he ain't." approved mam's soft, drawing voice. "I always said I was a good picker when husbands was stood up to be looked over. There's some in this 'ere neighborhood that's a trial to their famblies. But I'h hold out for two on the pig."

"Won't give it," said pap. "Ike, he hung on to jest the pig, a long spell, then climbed hard to a dollar. But he 'lowed he wouldn't go no furder."

"Ike's plumb gifted in carin' for his money," nodded mam. "But you stand for two, an' they'll come. Ike'll growl up to 'em, a few cents at a time. He wants the stove to set in his new cabin, an' is in a hurry to marry a wife. A man that-away won't dikker long, 'specially when dikkerin' saves money. Then Blindy's a girl like him ready to kill herself with work. She'll hump over that stove till it's same's new, an' Ike's a man who'll let her. Pig an' $2 make 'bout $5, an' the stove's wuth $10."

'Leven, the church aid woman said when they give it to us last winter," said pap. "An' it's same's new, 'cept for bein' dirty an' rusty. But the aid won't give us any more, lettin' this go."

"Winter days is a long way off," placidly, "an' summer cookin' in a fireplace is easy when one has young uns big 'nough to do the work. Temus can tote firesticks an' Lizy can 'tend the pot. Then they's dif'runt helps. Suthin'll happen. Always does. But if it don't of itself I'll start into a new church goin' an' will keep my needs afore it. Duty to young uns comes fust, an' ours ain't had a 'muse ment in gracious knows how long."

"This show's a mighty good one, the poster bills tell," reflected Pap, his face lighting some. "I look at the picture every time I walk to town. 'Couurse ye're right. Young uns has to be put ahead o' pers-nal comfort. But a dollar will pay for tickets."

"Not with extras—peanuts an' lemonade an' sich. We'd ought to do well by young uuns."

Pap nodded. "'Course we had. I'll hold on for the $2," he agreed.

Mam had been emphasizing with her snuff stick, prodding her ching, striking the palm of her hand or pointing it straight at Pap. It was Mam's way. Her voice was soft and drawling and rather ineffective by itself, but sertngthened by the gyrating snuff stick it carried weight. Especially did it carry weight with Pap His feeble indecision between the stove and the show vanished, and Mam, having no further need for the snuff stick as an argument ally, returned it to its legitimate use, The stick had one end split into a brush. A cigar box held her snuff. She dipped the brush into the box, twirled it for a good supply, and placed it in her mouth.

The next day the stove left and the pig came. Lacking a pen and the energy to build one, a long string was connected with one hind leg of the pig and a stick driven into the ground. It gave the young porker a range of several yards.

The Tisly place was an acre of unfenced, untilled, and uncared for land with a tipsy cabin that was uninhabitable except by a Tisly. An oak tree or two grew near the end, and for the scattered, half-buried acorns of these the hungry pig at once commenced an energetic rooting.

One day a week or so after its coming Temus rushed excitedly into the cabin. "Gold! G-o-l-d!" he yelled, dropping some glittering nuggets on the unplaned plank table. "They're all mine! I found 'em!"

The others crowded about him, trying to examine what he threw his arms over to guard.

"Shore 'nough, 'tis gold!" cried Pap ni an awe-struck voice. "I've heard it ought to be found in these mountings, though nobody ever did. An' now it's us. Where'd ye 'scover——"

"I ain't a-goin' to tell—mebby there's more," screamed the boy hysterically. "I found 'em. They're all mine."

"But mbbbe they's a reg'lar mine—a gold mine," urged bis father. "Was it on our land? Was it on the next j'inin'? S'pose somebody's sneak along an' see, an' jump in' an' call all the neighbors in? Then where'd ye be? They'd get the heft, an' a boy like you'd only have the pinch. Would n't ye ruther 'twould be all in your own family, so every one of us could be richer'n get out. Hey?"

Gradually the arms relaxed and the head rose. Temus was listening. 'I'd have the biggest sheer?" he queried suspiciously.

"Pig's sheer," mocked Lizy.

"I don't keer. It's——" Then he commenced to snicker. "Shore, pig's sheer," he agreed. "But, say—you ——"

For Lizy had suddenly plunged from the cabin. Temus snatched up his nuggets, jammed them into his pockets, and followed headlong. At the door he stopped and snickered again. "Ain't in the right place 't all," he confided to Pap and Mam, who were trying to push by him. 'It's pig sheer, sure 'nough. I found 'em round where it's been rootin' I'm willin' to show you all, but won't tell Lizy. I spect they's a-plenty more."

But a two hours' search revealed only one small nugget, discovered by Mam. The glittering object, small as it was, made her almost as hysterical as Temus. "Ground must be all et up with it," she ejaculated. "Likely all through the whole acre. An' to think that a pig brunug it to sight, a pig who don't root deep! If'd we'd a-planted taters or suthin' a-diggin' up of the ground, we'd be milliners by now. Temus an' Lizy could a' done the hard work, bein' young an' strong."

"Efrum Bill's Paw does their alls hard work for plantin," protested Temus. "Efrum Bill, he jest draps taters an' yanks weeds."

"But this wouldn't 'a' been real plantin'," said his mother. "Diggin' gold is dif'runt. Nobody feels hard work when it's diggin' of gold."

"That's so," admitted Temus readily. "LLet's start in now. It's 'bout tater time."

"Oh, hunky, let's," seconded Lizy. "I can dig. I'm a-goin' to buy an automobeel."

"I'm a-lookin' to a man's gun an' two more dogs," scorned Temus loftily. "I'll bring shovels—though ones handle is split."

"But s'pose folks should come by an' notice," said Pap with apprehension in his voice. "There'd be a gold stampede, like I've hearn tell on, an' we'd be crowded out. Better work fn the night. Ain't that so, Mam?"

"No, 'tain't," tartly. "You listen. It's 'bout tater time, like Temus said I'm goin' round to close neighbors an borry a few taters here. An' I'll borry a shovel or p'raps two. That'll tell everybody we're a'plantin,' which we will be, to keep sharp eyes from a-guessin.' An' doin' that-away, we can work day an' night. The sooner it's dug an' toted off the safer."

"How'll we get shet o' the gold, to buy things?" asked Pap. "Won't folk 'spicion?"

"Ain't goin' to get shet of it right to oncet. We're goin' to raise a loose board in the cabin floor an' pile it down there in a heap. Then we'll tote it to a city an' sell for city prices."

All nodded a hearty approval, for Temus was holding one of his nuggets in the sun, and the sparkle of it filled their eyes.

"Now listen furder," Mam went on "You three start to diggin' at the low end an' go all over the land, shovelin' deep—much as two feet, for I've hearn that gold is heavy and sinks down. Break up every chunk o' dirt fine, so's not to miss any sparkle. I'll hurry for taters an' things, an' will rake the ground and plant good, to fool anybody a-lookin."

The growing of the Tisly crop was a neighborhood joke at first, then a wonder. "Never seen ground dug so deep nor mellowed so fine," said one old farmer. "Must be some of old Granpaw Tisly's energy in 'em, after all. Mighty big crop they'll have.

They did, and it was a year of war prices too. But before any of the crop was harvested a great calamity, which spelled success, enveloped the Tisly's. Pa sold his gun and a dog for a trip to the city. He came back in a state of profund gloom to find an enterprising trader looking over the potatoes and truck. When the trader left, Pap went to the cabin, chuckling.

"Gold ain't no drug, I see," congratulated Mam. "An' we got six bushels under the cabin. Knew we's milliners.

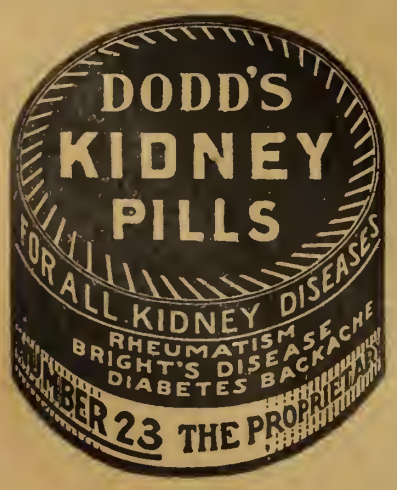
"Not from Temus's gold, though," smiled Pap "His is iron pirates or suthin' thataway—'fool's gold,' they call it, too. But it don't matter. They's a heap better gold mine on our land, one that keeps a'fillin' when it's emptied out. Why, that feller out there come jest to see our truck, which he'd a-heard of. Offered $500 cash down as it stands, butu 'vis ed holdin' an' harvestin' as 'twould bring mebbe twicet as much more. Only he wanted me to promise him fust chancet to buy, which I did."

"Five hundred-" glowed Mam. This was definite money. "Whatever will we do wth t all?"

"I—I ought to have a sheer," whim pered Temus. "I found the—the pirates, which started——"

"I worked hard's anybody," claimed Lizy vehemently, 'An' I'm a gal, an are older'n Temus."

"I been considerin' it all," nodded Pap. "Comin' to the cabin I sort o' figgered this way: Namin' it $500 we'll put one of 'em into the four



ROYAL
YEAST CAKES
are now packed in square packages. Each package contains five cakes, which are equal in quantity to six round cakes. All dealers are authorized to guarantee that the quality of the round and square cakes are identical in every respect.

McClary's
Make good stoves and Cooking utensils.

PIMPLES and BOILS

For Nearly Two Years.

When pimples and boils appear on the face and body it seems as if the skin is the seat of the trouble but the real disease is in the blood.

Lotions and ointments may allay the trouble for a while, but seldom if ever cure.

You have to get under the skin; get at the blood which is the cause of the trouble.

Burdock Blood Bitters goes direct to the root of the disease and restores healthy, normal action to the different organs, and cleanses the blood of all its impurities.

Mr. E. C. Goodwin, Cambridge, N.B., writes:—"For nearly two years I suffered from boils and pimples on my face and neck, and nearly all of my body was covered with the pimples. I tried most everything, but got no relief. One day a friend advised me to try Burdock Blood Bitters, and after using three bottles the boils and pimples had all left me and there is no sign of them returning. I can strongly recommend B.B.B. to anyone who is troubled with skin disease."

Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

acres j'inin' that my pap sold, one in to fencin' 'em off good an' proper, with a pig pen an' shed built, one for an old hoss an' plough an' some tools fifty for mam to buuy a reg'lar cookin' stove an' other fixin's, fifty to mend up the cabin, fifty to put aside for 'mergencies, an——"

"Oh, now, pap," wailed Temus and Lizy in protesting chorus.

"An' the last fifty," finished pap calmly, "for the two hard-workin' young uns', Lizy and Temus, twenty five apiece.

When the exulting tumult subsided enough for him to be heard again pap added simply: But what tickled me most was how the feller looked at me and shook my hand. Said we'd growed the best crop in all the country round an' that old farmers would better come and take lessons from us Think on't. An' them same old farmers have been laughin' at us right along. You wait an' see ms show 'em ag'in next year."

RELIEF AT LAST

I want to help you if you are suffering from bleeding, itching, blind or protruding Piles. I can tell you how, in your own home and without anyone's assistance, you can apply the best of all treatments.

PILES TREATED AT HOME

I promise to send you a FREE trial of the new absorption treatment, and references from your own locality if you will but write and ask. I assure you of immediate relief. Send no money, but tell others of this offer.

Address

MRS. M. SUMMERS, Box 309
Windsor, Ont.

Minard's Liniment Co., Ltd.

Gents,—I have used your Minard's Liniment in my family and also in my stables for years and consider it the best medicine obtainable.

Yours truly,
ALFRED ROCHAV,
Proprietor Roxton Pond Hotel and Livery Stables.

NEW RHUBARB RECIPES

Instead of simply stewing rhubarb try the following directions for baked rhubarb:

Rinse, wipe clean and remove the shreds from larger stalks. Cut stalks in short lengths into a dish with a cover. Scatter sugar over layers. Add one to two tablespaanfuls water. Cover, and cook in moderate oven until tender and deep red in color.

Jam made from the following recipe is inexpensive and delicious:

Select red stalks of rhubarb, as it makes the richest colored preserve. Take off strings of skin, but keep as much of the red underneath as possible. Cut the stalks into half-inch slices. Sover with an equal weight of sugar and let stand over night. For each three pounds of fruit add the grated rind and juice of one lemon. Let boil half an hour, then let simmer very gently another half hour. Seal in small jars.

Cook slowly one-half cup sago and one quart water until clear, then add one scant cup sliced rhubarb, pinch salt, one-half cup sugar and small piece ginger root; turn into buttered baking dish and bake about one hour in moderate oven. If the mixture seems too thick, add a little water. Serve hot with cream and sugar.

Mix one pint flour with one teaspoon baking powder and a pinch of salt, and add milk enough to make a stiff batter. Into buttered custard cups put one spoonful batter, then one spoonful prepared rhubarb sauce and top off with another spoonful batter. Steam one-half hour and serve hot with cream and sugar.

Rhubarb Jelly

Cut the rhubarb into pieces about one inch long, but do not peel it; cook it to a soft pulp in water enough to cover it; strain through the jelly bag, and allow 1 lb. sugar to each pint of juice; finish like other jelly.

Orange and Rhubarb Preserves

Take six oranges and carefully peel off the thin yellow rind; remove the white rind, and the seeds, and slice the pulp into a preserving pan, adding the yellow rind cut very fine. Add one quart of rhubarb cut fine, and 1 lb. to 1½ lbs. of sugar, and boil the whole down; put up like other preserves.

Rhubarb Vinegar

Crush the rhubarb, cover with luke warm water, and let stand 36 hours; then strain. Add 1¼ lbs. raw sugar or molasses to the gallon of juice, and also add a little yeast; keep it covered and in a warm palce for four weeks; then strain, put in a keg and leave it to ripen.

Rhubarb Pudding

Butter a pudding dish and line it with good suet crust rolled out to the thickness of ½ inch. Fill it with rhuborb which has been stewed for ¼ hour with a little moist sugar and the rind of half a lemon. Cover the pudding with pastry, rolled out to the same thickness as the sides, pinch the edges securely, tie in a cloth, and boil two hours, or until done; then turn out carefuly and cut a small opening in the top for the escape of the steam. Serve with cream.

Rhubarb Butter

To each lb. of rhubarb which is peeled and chopped, allow two cups of sugar; let them simmer together until it is done.

ICE CREAM FOR THE HOT DAYS

Philadelphia or French ice cream is the foundation of all creams; the former being made without and the latter with eggs, and is therefore richer. For a quart of the first mix four cupfuls of light cream with a cupful of sugar, and a pinch of salt. Flavor to taste and freeze. If fruit is added put it in after the cream is partially frozen, just beginning to solidify, and finish freezing.

For French cream make a custard of two cupfuls of milk, a cupful of sugar and four egg yolks. Let cool then add two cupfuls o cream which has been whipped, a pinch of salt and flavoring to taste. When vanilla flavoring is used some ilke the addition of a ittle grated nutmeg or powdered cinnamon.

A universal foundation is also used for water ices. This is made by boiling together two cupfuls of water and one of sugar until a thin syrup is formed, then beat until cold, which perceptibly whitens it. Add four well-beaten egg whites, flavor to taste and freeze. If not frozen hard it will be a sherbet. If solid it is a water ice.

Pineapple Ice

Use two cupfuls of shredded pineapple, either the fresh or the canned add two tablespoonfuls of lemon juice and mix with the plain water ice com pound. freeze. If you use the fresh pineapple, cut the top off straight, scoup out the pulp, and kekep the shell in ice water until serving time when pack the water ice in it, and replace top for a lid.

Berry Cream

Add two cupfuls of strawberry or raspberry juice and pulp from which the seeds have been strained to Philadelphia ice cream. Freeze. If peach ice cream is desired use two cupfuls of peach pulp. To get this pare and quarter peaches, then stew with a little sugar until soft, pass through a sieve.

Raspberry Whip

Whip a pint of cream, add half a cupful of powdered sugar, two cupfuls of mashed ripe raspberries and a pinch of salt. Freeze and elt stand five hours before using.

When Home Seems Good

A BLIZZARD OUTDOORS—warmth and comfort within. There is nothing in the home so necessary as a good furnace. Stoves and base burners are unequal to the task—they choke the air with dust and only warm parts of the house.

And buying a furnace is a matter of knowing how. The warm air heating system is the least costly. It is the most effective and healthful too. The

ENTERPRISE BLAZER WARM AIR FURNACE

will keep every corner of your home delightfully comfortable in all kinds of weather. It draws in the pure fresh air from the big outdoors, warms and moistens it and sends it on its way to you. Stoves and radiators can only heat the same air over and over.

Every part of the Enterprise Blazer Furnace is made just a little bit better than is necessary—the grate bars a little stronger—the fire-pot a little heavier. These are the things that enable us to guarantee that the Blazer Furnace will give you entire satisfaction.

Go fully into the matter with your dealer and write us for our free booklet "Warmth and Comfort"

The Enterprise Foundry Co.
Limited
SACKVILLE, N. B.
Makers of the well-known lines of Enterprise Stoves, Ranges and Furnaces 22

MAKING A SEWING SCREEN

A "Convenient Sewing Screen" made in the home at small cost will not only prove an attractive addition to furniture of the sewing room but will save many steps for the housewife by providing a repository for sewing utensils which will minimize the not infrequent misplacng and the irritating hunt for "that scissors or the black thread."

Make two frames about four feet high and two feet wide with slightly projecting ends. Cover one side of the frames with burlap or creton. Hinge the frames with the covering on the outside so that they form an ordinary household screen. Sew in pockets for scissors, darning needles, and other sewing implements. The crosspieces of the frames will provide a ledge for spools. A small cushion sewed on the burlap or creton will provide a repository for needles. A small swinging shelf hung from hinges to one of the frames and supported by hooks and chain when in position will add further to the convenience of the screen.

DO NOT DISMISS
CONSTIPATION
AS A TRIFLE. IT IS NOT.

Half the ills of life are caused by allowing the bowels to become constipated.

When the bowels become constipated the stomach gets out of order, the liver does not work properly, and then follows the violent sick and bilious headaches, sourness of the stomach, biliousness, heartburn, water brash, or the painful, irritating internal bleeding or protruding piles.

Keep your bowels regular with Milburn's Laxa-Liver Pills and you need never be constipated.

Mrs. C. Henderson, Trail, B.C., writes:—"I have been troubled with sick headaches and constipation most all my life. Have not now been troubled for a long time. I have great faith in Milburn's Laxa-Liver Pills since using them."

Milburn's Laxa-Liver Pills are 25c. a vial at all dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

RE PAINT BRUSHES

When paint brushes have become hardened and apparently useless, soak them for twenty-four hours in raw linseed oil, then for several hours in spirits of turpentine. If the turpentine is not at hand, use kerosene. Wash in warm water, and if the paint is not softened and the brush still sems stubborn and hard, put on the stove in an old basin or tin can with an ounce of washing soda in one quart of cold water. Let stand on the stove several hours where the water will not boil. Remove the brush from the solution and rinse. If too much washring soda is used the bristles will be surly. If the water is permitted to become too hot the brush will shed its hairs. If you are using paint brushes and do not wish to clean them to put away, let them stand in water in which there are a couple of spoonfuls of glycerine. This will keep them soft and prevent their freezing if the weather is cold. Sometimes painters let their brushes stand in linseed oil during the intervals of painting.

Has Tried Them Has Faith in Them

ERNEST SMITH TALKS OF DODDS KIDNEY PILLS

Quebec Man, Grateful for the Benefit He Has Received, Pays Tribute to Dodd's Kidney Pills.

Grand Pabos, West Que., June 8. (Special)—Mr. Ernest Smith, a highly respected resident here, is one of the many who have abiding faith in Dodd's Kidney Pills as a remedy for sick kidneys.

"I suffered from my kidneys," Mr. Smith says, "and I read that Dodd's Kidney Pills were good, so I tried them. They have helped me so much that I will continue to use them when my kidneys trouble me."

The kidneys require constant attention if good health is to be maintained and serious disease warded off The kidneys perform a most important work in the human system. They strain all the impurities, all the seeds of disease, out of the blood. When they are weak and unable to do their work the system clogs and sickness is the inevitable result.

Ask your neighbors if Dodd's Kidney Pills are not the best remedy for weak, disordered or diseased kidneys.

GOOD MANNERS FOR CHILDREN

While we are attending to the outer form of our social life, and prompting ourselves for the luncheons, teas or weddings that come our way, I wonder if at the same time we remember the seeds we are sowing at home? Do we try to plant those that will leave the least to be learned when our young shoots begin to go out among their elders?

Who is teaching restless little Polly to hold her spoon nicely between her thumb and first two fingers, or reminding Jack to lift his cap to the ladies his mother bows to, as well as to those who speak to him.

The earlier such habits are formed, hte sooner the germ of true courtesy will begin to develop itself, and your Jack and my Polly will be trusted to meet any situation with the poise and the grace that many elder people sigh for.

Their Early Upbringing

While no one wants to bring up children like little prigs, or make them fear the consequences of speaking before they are spoken to, it is possible for them to learn many little acts of courtesy as they learn to button their shoes, or before. It brings out thesir natural gentleness, and gives them a habit of consideration which will be an asset to them all their lives.

,It is said that people show their breeding by their table manners. But a child's correct behavior at table requires more patience than any other one thing demanded of him, so it is well to begin at the beginning and teach him the correct ways of managing his food before he has formed any habits.

It is much easeir for him to learn to sit properly at first than after he has discovered the comfort of lying on his arm on the table.

Many people nowadays are allowing the children a little recess betwen courses, to shorten the strain of remaining at the table with their "company manners" on. This is much better than allowing them to eat by themselves, as the restraint of the family's presence is very good for those same "company manners."

One of the first things children should be taught is to eat quietly, taking liquids noiselessly from the side of the spoon, and not clattering the spoon against the cup or plate.

How to Behave at Table

Those who are old enough to use knife and fork will learn to lay them carefully side by side on the plate, and leave the spoon in the saucer, not in the cup. They wlli learn not to play with the silver, not to look at people through or over a glass, nor to tip the glass or cup "way over to their nose.

They will ask politely for anything they wish instead of whining, "Mother, I want" so-and-so, and when asked will pass dishes nicely instead of pushing them along the table.

Children taught these elements of good manners, and taught not to soil their fingers any more than possible, will save the family's nerves and develop a daintiness that will make the further instruction in table manners a simple affair.

Next to table manners, children's behavior with grown-ups is a very important thing. There really is a moral qustion involved here, for the child's sense of responsibility is awakened and trained when there are older people to be rckoned with.

For instance, I know a little girl of four who knocks every time she enters one's room, and asks, "May I look at this?" whenever she picks up one of the hundred trinkets that appeal to a child's sense of beauty.

This child is not nearly as likely to develop that common streak of destructiveness as one who has not had the value of other people's property impressed upon her.

In the same way, a boy who has

FLEET FOOT

You See Them Everywhere

IN the country, as in the city, Fleet Foot is the popular footwear this summer.

Whether at work or play, Fleet Foot shoes are ideal for warm weather, because of their superior ease and comfort—their attractive styles—and their sound economy compared with leather shoes.

There are Fleet Foot colored shoes for work, and white ones for rest and pleasure. Ask your dealer to show you some of the Fleet Foot Shoes for men, women and children.

CANADIAN CONSOLIDATED RUBBER CO. LIMITED
DOMINION RUBBER SYSTEM AND ASSOCIATED COMPANIES

Fleet Foot Shoes are Dominion Rubber System Products

The Best Shoe Stores Sell Fleet Foot

43

I KNOW A WOMAN'S SUFFERINGS

I am a woman.

What I have suffered is a far better guide than any MAN'S experience gained second-hand.

I know your need for sympathy and health.

And the treatment that gave me health and strength, new interest in life, I want to pass on to you, that you, too, may enjoy the priceless boon of health.

Are you unhappy, unfit for your duties? Write and tell me how you feel and I will send you ten days' FREE trial of a home treatment to meet your individual needs, together with references to women in Canada who have passed through your troubles and regained health; or you can secure this FREE treatment for your daughter, sister or mother.

If you suffer from pain in the head, back, or bowels, feeling of weight aud dragging down sensations, falling or displacement of internal organs, bladder irritation with frequent urination, obstinate constipation or piles, pain in the sides regularly or irregularly, bloating, dyspepsia, extreme nervousness, depressed spirits, melancholy, desire to cry, fear of something evil about to happen, creeping feeling up the spine, palpitation, hot flashes, weariness, sallow complexion, with dark circles under the eyes, pain in the left breast or a general feeling that life is not worth living, I invite you to send to-day for my complete ten days' treatment entirely free and postpaid, to prove to yourself that these ailments can be easily and surely overcome at your own home. without the expense of hospital treatment, or the dangers of an operation. Women everywhere are escaping the surgeon's knife by knowing of my simple method of home treatment, and when you have been benefited, my sister, I shall ouly ask you to pass the good word along to some other sufferer. My home treatment is for all,—young or old.

Read My FREE Offer

To Mothers of Daughters, I will explain a simple home treatment which speedily and effectually dispels green-sickness (chlorosis). irregularities, headaches and lassitude in young women, and restores them to plumpness and health. Tell me if you are worried about your daughter. Remember it costs you nothing to give my method of home treatment a complete ten day trial, and if you wish to continue, it costs only a few cents a week to do so, and it does not interfere with one's daily work. Is health worth asking for? Write for the free treatment suited to your needs, and I will send it in plain wrapper by return mail. Cut out this offer, mark the places that tell your feelings, and return to me. Write and ask for the free treatment to-day, as you may not see this offer again. Address:

MRS. M. SUMMERS, Box 309 Windsor, Ontario

A Picture of Satisfaction

The rich qualities of KING COLE TEA produce that genial glow of pleasure.

Perfectly packed in bright lead foil, and price marked on every package

"You'll like the flavor"

KING COLE TEA

How the Udder of a valuable cow was

saved

Chas. K. Robbins, of Cheboyne Point, Yarmouth, N.S., writes:—

"A recent experience in reclaiming what was supposed to be a lost section of a valuable cow's udder has demonstrated again the great worth of Minard's Liniment. I can recommend it in the highest terms to all who have a herd of cows.

"For years I have never considered my household stock complete without a bottle of Minard's. For burns, bruises, sprains, frostbites, or chilblains it excels. And I know of no better remedy for a severe cold.

"I think I am safe in saying that among all the patent medicines there is none that covers as large a field of usefulness as does Minard's Liniment. A real truism—Good for Man and Beast."

MINARD'S "KING OF PAIN" LINIMENT

Yarmouth, N.S. 8

LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.

A MESSAGE TO WOMEN!!

Mrs. M. Summers, Box 309 Windsor, Ont.

Advertise in the Farmer.

learned to speak gently and courtesly to his elders is much more likely to be chivalrous to his little sister than one who has never had that side of his nature appealed to.

Speaking Courteously

"I think so, Mrs. Jones," sounds better and can be made just as natural as "Don't know," in answer to a question. Then Mrs. Jones is instinctively more courteous to Tommy, and his attitude toward her becomes neither forward nor shy—both signs of self-consciousness—but is a sample of his natural self, gentle side uppermost.

If he thinks elder people treat him with natural courtesy and not with impatience nor condescension, it will be easy to get hm to rise when ladies enter the room, and remain standing until they are seated, or to offer his chair if, after th manner of boys, he has appropriated the most comfortable one in the room.

Little girls nowadays are being taught to curtsy when they greet older people—a very pretty custom and one that helps a child's self-possession.

Gradually the children's courtesy toward older people will be reflected in their treatment of their playmates.

Consideration For Each Other

The little boys should be encouraged to consider the little girls, and both should remember when they are hosts and when they are gusts. If a violent quarrel arises which the mother needs to quell, she must teach her children to preserve their dignity in their own home, and apologize, no matter where the fault lies.

It is a very dangerous thing to punish or even criticize other people's children. Sometimes children play together for months whose parents do not know each othr. If the playmates are in no way undesirable, this may go on indefinitely unless some event such as a child's party comes up. Then it is necessary to say, "No, Billy, I am sorry to say I can not ask Betty to the party because her mother has not called upon me."

Of course it is the older resident who has the "'privilege of calling,,' but it is the wise woman who makes it a point to know the mothers of her children's playmates.

CARE OF THE REFRIGERATOR

Keep the refrigerator clean and wash it at least once a week in summer and every two weeks in winter with scalding hot water in which you have dissolved half a cupful of washing soda to every two quarts of water. The drain pipe should also be cleaned with the long wire pipe brush that comes for the purpose. A regrigerator cannot be kept clean without it. After washing the refrigerator it should be wiped until perfectly dry. And the ice box should be cleaned as well as the shelves where the food stands.

Nver put warm foods into a refrigerator for the sake of cooling them off. They not only waste ice, but cause moisture. Chemicals and all foods that have an odor should also be excluded. Sometimes it is essential that foods with an odor be placed where there ic ice. If they must go in, cover them well. Fish may be kept for a while in a regrierator without imparting its odor to other foods, if it is wrapped carefully with waxed paper. Yolks of eggs should be covered. so as to prevent drying. Butter and milk, as they absorb odors, should be kept from dead leaves or anything that might possibly taint the atmosphere.

If the food is fresh when put into a refrigerator treated in this way, it can be kept for a reasonable length of time without danger of ptomaine poisoning.

Dampen a soft woolen cloth in ammonia, then in soda and rub each silver. To remove paint from window panes: Rub well with hot, sharp vinegar. silver piece thoroughly. Polish with a soft, dry woolen cloth. Use an old soft toothbrush, also, for engraved

"AMHERST" SPECIALS

A Fine Model

Here is one of the best lines of the season—Note the contour—extra comfortable yet shapely in line and proportion.

This one type comprehends a very extensive range of about twenty-five models—in different Leathers and Colorings, the finest grades of Calfs and Side Leathers — made in Black and the Season's best Browns.

Complete lines in all lasts, styles and colorings stocked both at Amherst and at our Halifax Branch, 164-166 Granville St.

AMHERST BOOT & SHOE COMPANY, LIMITED.

HORSE AILMENTS
of many kinds
quickly remedied with
DOUGLAS'
EGYPTIAN
LINIMENT

The best all-round liniment for the stable as well as for household use. Cures thrush, sprains, bruises. STOPS BLEEDING INSTANTLY AND PREVENTS BLOOD POISONING. Keep it handy.

Price 35c.
At all Dealers and Druggists.

Manufactured only by
DOUGLAS & CO., NAPANEE, Ont.

NOTES FROM PRINCE EDWARD ISLAND

(Continued from page 665)

of shipping. The price at the diggers usually ranged from 20c to 24c per single horse load or from 4c to 6c per scoop full of from 400 to 500 lbs. of mud. Shell mud is a very economical form of carbonate of lime for land that is sour and in need of lime. But it should not be depended upon for maintaining the fertility of the soil. Light applications at reasonable intervals in conjunction with barnyard manure is good farm practice.—J. A. Clark, Superintendent Dominion Experimental Farm, Charlottetown.

CORN PLANTING

(Experimental Farms Note)

Indian corn, the peerless crop of the mixed farm, has a gradually enlarging sphere of usefulness in the Dominion of Canada. It is grown most exclusively in the province of Ontario; the corn growing line in the province of Quebec is gradually being pushed northward, and in several districts in the provinces of Manitoba, Saskatchewan, Alberta and British Columbia the corn crop is gaining in favour.

This reliable crop will grow on a wide range of soil provided always there is good drainage and a plentiful supply of suitable plant food. It is especially adapted to warm, deep loam soils rich in decaying vegetable matter (humus) underlaid with a porous clay.

In the rotation, corn should follow clover hay or pasture. It may also be grown after heavy or even follow a hoed crop, provided the soil is rich or a heavy application of manure has been made.

Fresh or green barnyard manure is the best plant food material, 12 to 15 tons per acre may be expected to give good returns. The application may be made in the fall, winter or spring. It may be worked in on top of the ploughing or ploughed under. The latter method is usually the most practicable and gives uniformly satisfactory results when properly carried out. The manure should not be buried too deeply in order that there will be the least possible chance for the leaching of valuable plant food constituents to depths in the soil beyond the reach of the immediate and future crops.

The aim in the preparation of the seed-bed should be to have it deep, moist, clean and fine. Clay land to be used for corn should ordinarily be fall ploughed, turning a fairly deep furrow but no deeper than the productive soil will allow. Sands and loams, shallow spring-ploughed, provide most favourable conditions for corn. Ploughed under immediately before planting, the sod, the growth of grass and the dressing of manure decompose rapidly, create a "hot-bed or warm condition" in the soil—necessary for the quick germination of the seed and the rapid growth of the plant, the secret to successful corn growing.

Moisture is a factor which must be duly considered in all seed-beds. No seed-bed is complete until the surface and sub-surface soil are connected, with the manure well incorporated so that there is no hindrance to the rise of soil moisture from the depths of the soil to where it may be available as required by the growing plant.

Hill and row are the two methods of planting. Hill planting 3 feet each way is recommended for weed infested fields since horse labour can be used to a maximum in the control of weed growth. It is also an advisable method where seed production is the aim or in short season districts, since hill planting is conducive to a quicker maturity of the crop than row planting.

Row planting 36 to 42 inches apart, is preferred on land in a good state of cultivation. No special machinery is required since the ordinary seed-drill answers the purpose and in harvesting there is less wear and tear on the corn harvester than is observed in harvesting hill planted corn.

The rate of seeding is an important consideration. For each hill from 3 to 5 seeds of strong vitality are sufficient. For rows, 15 to 20 pounds per acre of high quality seed will usually give a stand thick enough to permit of harrowing.

The right time for planting corn depends upon soil and weather conditions. It should not be planted until every indication of cold weather is thought to be past. Neither should corn planting be left so late that there is danger of an insufficient moisture supply and a too short season for growth. The right time for planting can hardly be explained. The experienced planter feels "in his bones" that suitable conditions exist. The beginner can acquire this knowledge only by observation and the exercise of judgment. The range of dates is between May 15th and June 10th.

The varieties of corn for ensilage to sow depend upon the district where seeding is to be done. The flint varieties including Longfellow, Compton's Early and Salzer's North Dakota, among the earliest maturing varieties, are therefore, suitable for the short season corn growing districts. In the longer season districts besides the flints already mentioned, the dent varieties, Wisconsin No. 7, Golden Glow, Bailey and White Cap Yellow dent prove satisfactory. In the Prairie Provinces North Western dent is popular.

Choice seed only should be used, this can be most easily procured by selecting from seed purchased on the cob. Test all seed for germination before planting in order that there will be no chance of too thin planting. Place the seed deep enough to be in moist soil. Following planting stir the soil frequently to mulch the surface, stimulate the germination of weed seeds and to destroy weeds. After the shoots are through the ground begin inter-row cultivation. When the plants are 3 to 4 inches high, and if too thick in the row, use a light drag harrow crosswise of the drills.

Keep the plants growing by maintaining a loose, mellow surface soil. Cultivate deeply at first and as the secondary root systems develop and spread just under the first three or four inches of surface soil between the rows, cultivate shallower in order that the root systems will not suffer injury through pruning and thus prematurely ceck the growth of the crop—W. L. Graham, Assistant, Dominion Field Husbandman.

SELF FEEDER FOR SWINE

(Experimental Farm Note)

One often hears the statement made that it does not pay to perhaps give pigs more than the most ordinary attention and the farmer can scarcely be blamed in this respect if his hired help is inexperienced and yet has to be paid as high a wage as a real good experienced man.

The keeping of a few pigs is practically always a paying proposition but, to make it more so, means must be resorted to whereby the labour can be reduced to a minimum, particularly as the pigs are apt to receive the scantiest of attention in any case. Towards this end, therefore, it seems only natural to try to find out just how well pigs will thrive if allowed to feed themselves. By feeding themselves is meant the adoption of a 'self-feeding' method whereby the pigs are allowed access to a limited supply of dry feed whenever they feel so inclined. This system is of value to the breeder who goes in for swine-raising on a large scale and also to the small farmer who has other countless duties to perform but fints the feeding of pigs the worst chore of all. The latter might find the 'self-feeder' of great value particularly in reducing expenses.

With a view to gaining some definite information on the use of the 'self-feeder' for swine, experiments have been carried on at the Experimental Farm, Agassiz, B. C., for several seasons. Comparisons have been made in the use of the 'self-feeder' as against the trough-feeding method. As far as cost of feed is concerned, results go to show very little differenee one way or the other, but when the labour question is considered the value of the 'self-feeder' cannot be ignored. This comparison of the 'self-feeder' with the trough-feeding method is being continued, until absolute and definite results are obtained but up-to-date, however, the advantages of the 'self-feeder' have been strikingly evident.

With all classes of feeders this device can be used to advantage while it also may be made use of in the feeding of young sows up to breeding age. With mature breeding stock, however, it is wise to avoid the use of the 'self-feeder.'

The 'self-feeder' for swine has many features to commend it, one of the most important being the fact that, of all farm animals, none adapt themselves so profitably to this method as do swine. Where only two or three pigs are kept, the use of a 'self-feeder' can hardly be recommended but, with more than ten pigs the adoption of a 'self-feeder' is well worth a trial. Finally, as a means towards the reduction of the labour expenses, the 'self-feeder' has a distinct advantage over hand-feeding methods.—K. MacBean, Assistant to Superintendent, Experimental Farm Agassiz, B. C.

FARMERS

MAKE your banker your financial adviser. Let him help you to shape your affairs so that he will be warranted in giving you ample credit to operate your farm efficiently. Our aim is to assist you in every way possible. 66A

THE CANADIAN BANK OF COMMERCE

PAID-UP CAPITAL - - $15,000,000
RESERVE FUND - - $15,000,000

CREAM FOAMING IN THE CHURN

After churning several hours I find the cream has only turned into a thick foam. I had the temperature 62 degrees when starting. What is the cause?

Foaming of cream in the churn may be due to too low or too high a temperature, or too long keeping slow or delayed churning is often accompanied by foaming.

You do not state whether your cream is separator or gravity cream. Rich separator cream may be churned at from 42 to 52 degrees. Gravity cream requires a temperature of 58 to 65 degrees in summer and 65 to 72 in winter. If your cream is gravity cream foaming in the churn will result if you have kept the cream on the milk too long or have kept the cream too long before it is churned. The cause of it is the formation of alcohol in the milk by the decomposition of the milk sugar, and the combination of the alcohol with the fat and the formation of a soap. When

Bissell Silos

Maximum results with beef or dairy cattle are impossible unless regular rations of green fodder are supplied. The Silo saves hundreds of dollars' worth of green feed, which can be fed when summer pastures are dried up, and in winter. We make Silos in popular sizes, air-tight, substantial, with all practical improvements. Pine or spruce staves preserved in creosote oil, two-step doors; steel hoops; every item and arrangement is correct. Bissell Silos are the best for the money. Let us prove it. Consult us freely. Literature and prices on request.

T. E. BISSELL CO., LTD
21 Mill St., Elora, Ont.

this happens no amount of churning will bring bututer.

To prevent this trouble, half a teaspoonful of baking soda may be stirred in the cream, and this should always be done, if you suspect this condition, at least one day before the cream is churned. If the cream is too warm for the particles of bututer to unite, foaming will result, and the remedy is reducing temperature by adding cold water; if cream is too cold add warm water, that is, if the cream is fresh.

PRODUCING WINTER LAYERS

(Experimental Farm Note)

Why should we produce winted lay ers? Because there is an increasing demand, not only at home but abroad for poutlry and poultry products. What has caused this great demand? There are several reasons which, when taken collectively, are very convincing why such a shortage should exist in poultry and, of necessity, poultry products.

Firstly, because Canadians are eating more eggs every year. Secondly, because there is a greater export demand for Canadian eggs and poultry to meet the demands in foreign countries—the latter having been depleted of their laying stock during the war, thirdly, because of the high prices of feeds and the comparatively low prices of market poultry during the third and fourth years of the war, meant that a great many laying hens had been killed off. Fourthly, because not sufficient attention had been given to the hatching of early chicks for winter layers. Consequently the poultrymen found their returns were not sufficient to meet their expenses, and th increase in poultry raising has been very slow to what it might have been, had there been sufficient profits realized out of the poultry industry.

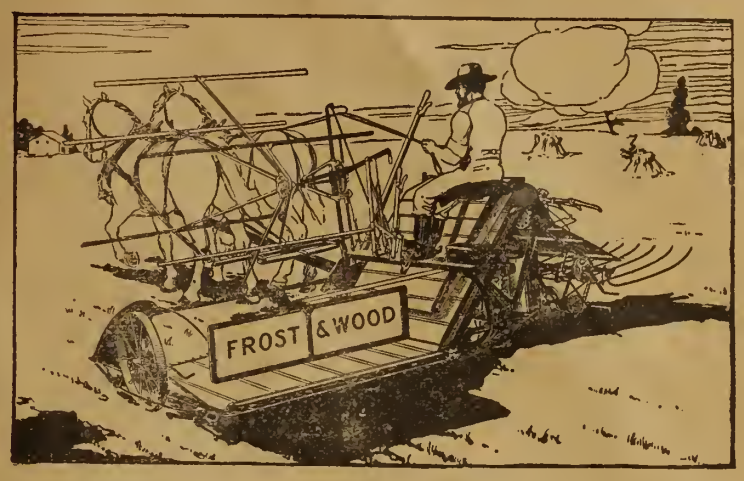
While it is not intended to mislead you into the fact that big money can be made out of poultry and their products with the prevailing high price of feeds, yet this can be said, that your returns may be increased very materially by producing winter layers. The following results, which were obtained on the Experimental Farm, Nappan, from five of the best winter layers, also five of the lowest, from October 1st 1919 to March 31st 1920, will bear this out.

The five best birds laid 413 eggs at a total cost of $8.21. The total value of eggs laid and sold for eating was $23.78, leaving a profit of $15.57. The lve poorest laid a toa total value of $1.99, making a loss a tota vaule of $1.99, making a loss of $6.11 for the six months. Figuring on a basis of 100 hens like the first five, you have a profit of $312.00 against a loss of $122.00 from the latter. In computing the above, only the actual food consumed is taken into consideratin—labour and interest on investment neglected. Now it can readily be seen that the winter layer is by far the more profitable hen to have. More especially when the high cost of feed is taken into consideration.

In order to produce profitable winter layers, we must select eggs for hatching from not only our most healthy and vigorous birds, but from our best laying strain. Hatch these along about the first of April and not later than the last of April. When the chicks are hatched, great care must be taken that the baby chicks do not get stunted. otherwise, they will not be as good as later hatched birds at maturity. Keep brooders and brooder house clean, light and free from dampness and draught. Give them plenty of wholesome chick food such as baby chick scratch grain, baby chick grit, oyster shell, charcoal and sprouted grains. Keep an even temperature at all times during the early stages, for that is the most critical time in the development of the winter layer. Keep them growing well throughout the summer. Do not over crowd your house. Feed plenty of good growing feeds, such as grain mixture of 200 lbs. cracked corn, 200 wheat, 100 of oats, together with a dry mash mixture of 100 lbs. bran, 100 cornmeal, 100 crushed oats, 100 shorts and 20 lbs. of beef scraps, keeping at the same time penty of grit, oyster shell and charcoal where they can have access to it.

During September, select your most promising pullets from the flock and get them into their winter quarters in order that they may become accustomed to their new surroundings. For winter quarters the house or pens should be light, free from draught and dampness and have plenty of fresh air. A good winter ration for the grain mixture is 200 lbs. corn, 200 wheat. 100 oats, and 100 of barley and dry mash, 200 lbs. screenings, 100 bran, 100 shorts, 100 cornmeal and 20 of beef scraps. Hens should always have plenty of grit, oyster shells and charcoal before them and in this way you can easily double your poultry profits.—W. W. Baird, Superintendent Experimental Farm, Nappan, N. S.

Frost & Wood



The Binder has one of the most important farm duties to perform and it must have strength, durability and proper design. It must also have light weight and light draft to do a lot of cutting in a short time.

Frost & Wood Binder

Eighty years of field experience are behind this Binder. It will cut, elevate and tie the lightest as well as the heaviest crop. Its wide range of lever adjustments makes it the ideal Binder for lodged and tangled crops.

Our use of high carbon steel and smooth running roller bearings at all friction points means light draft. The strong, well-balanced, rigid power frame makes a durable, non-sagging foundation for the cutting, elevating and binding mechanisms.

The elevating capacity is very large—it will handle the heaviest crops without clogging. The reel is flexible and very easily operated. The knives work smoothly. The Binding attachment parts are simple, easy to get at and ready for hard work year after year with a minimum of attention or adjustment.

Built in 5', 6', 7' and 8' widths. Tractor hitch supplied if desired. There are seventeen good reasons for the tremendous popularity of the Frost and Wood Binder. Let us send you our Binder pamphlet and you'll understand them.

THE FROST & WOOD CO. LIMITED

TRURO ST. JOHN CHARLOTTETOWN

THE MANUFACTURE OF CLOVER SILAGE

(Experimental Farm Note)

We are but beginning to appreciate the value of clover silage in modern stock feeding. When properly made clover silage is an excellent feed for nearly all classes of live stock. Aside from its higher protein content, it has an advantage over corn silage in point of lower cost of production. The yields of clover compare favorably with those of corn when the land has been equally well prepared.

Seldom are fields seeded down to a purely clover mixture. Usually some of the standard grasses are added. On the Agassiz Farm we use a mixture containing red, alsike and white Dutch clover, also Italian rye and orchard grass. This makes good silage but the greater the percentage of clover in the mixture the higher the feeding value, and the easier it is to make a silage of good quality. The grasses are inclined to be more wiry, stiff and dry, thus requiring more weight to press the mass firmly into the silo to exclude the air.

The most common practice is to cut the clover for the silo when in full bloom, that is, when right for hay making. Care must be taken not to leave the harvesting period too late. It is better to err on the early side rather than postpone the cutting too long. While the plants are young the stalks and leaves are more tender and break up more easily. There is also the advantage of obtaining an earlier second crop. Only as much should be cut at one time as may be placed in the silo during the day. The mower should be started early in the morning while the dew is on and followed at once by the rake. The clover should not be left to wilt between cutting and siloing. If severe wilting does take place better results are obtained by adding water. The clover ought to feel wet as it drops in the silo. Frequently attempts are made to make silage out of clover after it is spoiled for hay. Thsi is a poor policy. Partly spoiled clover makes very inferior silage as it loses its color and likely decay has begun.

Clover silage has been made with some degree of success by placing in the silo without cutting. This should not be done if it can be avoided. Not only is there less liability of the clover spoiling when cut into short lengths but it can be placed in the silo and also removed with much greater ease.

The knives on the cutter must be kept sharp and set to cut approximately half inch lengths. It is a good plan, where possible when siloing clover, to put a layer of corn on top to weigh down the mass below and secure a more thorough packing and thereby also a better quality of silage.—W. H. Hicks, Superintendent Experimental Farm, Agassiz, B. C.

ORANGE CREAM

Add a cupful of orange juice and half a cupful of orange pulp to the Philadelphia ice cream mirture. Flavor with a teaspoonful of vanilla and a tabespoonful of lemon juice, freeze. Serve in orange skin.

SUPREME REVELATION, DIVINE COMMAND, SUBLIME INCENTIVE

(Continued from page 666)

profiteering and no cause for action They are a sham, their salaries increase the white man's burden. Let me cite a case to point. There is a seed imported from Denmark we use quite extensively. Our Moncton seed houses do not handle it but right under the nose of the Board of Commerce in Toronto, a firm lists it at $1.00, 90 cts., and 50 cts., respectively while I buy the same seed, same brand for 25 cts. Are we just in giving that 75 cts. to the rich and then charging it to the poor? Have a care lest in the day that God dams the profiteer we by our carelessness are not reckoned accessors after the facts. He will avenge the fatherless and widow. Surely we are not loving mercy if we by negligence cause the poor to suffer. Love mercy—do justly.

Sublime Incentive

III.—A sublime incentive, "Walk with God." Oh the honor, the dignity, the glory to walk with God. Wisdom asks "How can two walk together except they agree." Lover walks with lover; their aims, desires aspirations blend; their companionship is congenial because of oneness of purpose. Walk with God in nature. De Weeks tells a story that illustrates my point. A new wharf had to be built. By an oversight a part of a pier of the old wharf had been left. It was so close to the new they dare not dynamite it. Chains were fastened to it and a tug procured, but their best efforts to move it failed. A canny Scotchman taking in the situation offered to remove it for a sum. The deal was closed. Sandy immediately procured two large scows placed one on either side of the obstruction, placed two large timbers across them, attached the chains around the piece of pier and tightened around the scantling, lit his pipe and sat down. "What now Sandy?" said one "I have a partner, the Lord. I have done my part, I am waiting for him to do His." Soon the tide began to come in lifting the scows and on that straight lift doing what the side pull alone could not do floating the obstruction. Work with the God of nature. Don't use driving horses for truck; dairy cows for beef, gravel hills for hay, heavy clay soil for orchards, don't educate your boy for city life and then hitch him to a farm Work in line with the God of nature. If thou be wise thou shall be wise for thyself for nature will treat all fair; you cannot break her laws and escape.

Walk With the God of Grace

Walk with the God of grace. Here to they that honor Him he will honor while they that despise shall be likewise esteemed. A few years ago two farmers, an infidel and a Christian were living side by side. The infidel sowed his corn on Lord's Day, cultivated it on Lord's Day, reaped and threshed it on Lord's Day, while the christian revered God and his day. When the grain was measured the atheist had 50 per cent more than the Christian. He wrote a letter to the local paper, boasting of his success. Promptly the editor published the same adding the footnote: "God does not always settle His accounts in October." Again the infidel's letter appeared in the paper with the editor's note and this added information. "Four years ago we published this letter and note. Since God has at least partly settled the account. The infidel's barn has been struck with lightning and it and all its contents burned; his only boy has committed a nameless crime and is now serving a 20 year sentence in the penitentiary; his wife is now in the state hospital. He has just passed the office door the most dejected man on God's earth. The Great Eternal will scan our lives, audit accounts, and settle all bills in the realm of both nature and grace.

Walk kwith Him who went about doing good. He went to a wedding and all were happier because He was there. Walk with Him who went to the grave and shed tears of sympathy and mourners by Him were comforted. Walk with Him who blessed children; with Him who soweth righteousness shall be a sure reward. Walk with Him who did kind things so kindly it seemed His heart's delight to make poor people happy from morning until night. With Him who communed with God in prayer. Cold mountain dew and mid night air witnessed the fervour of the Saviour's Prayer. With Him who had compassion on the hungry and fed them; with Him who sought to bring men nearer to God and thus nearer to each other. Walk with Him who at Jacob's well broke the swaddling bands of religious strife and racial hatred. In this day of extravagance, sport, pleasure, waste, seek His companionship, who commands "redeem the time for the days are evil;" seek Him who said: "Gather up the fragments, let nothing be wasted." "If I seek Him, find Him, follow, what my future here? Many a sorrow, many a trial, many a tear. If I still cling closely to Him what have I at last? Suffering over, labor ended, Jordan passed. If I ask Him to receive me will He say me nay? Not till earth and not till Heaven pass away. Finding, following, keeping, struggling, is He sure to bless? Angels, saints, apostles, martyrs, answer yes." As you go forth to your daily vocation hold the mandate of my text and may you so walk with Him here that one sweet day you shall walk through the pearly gate into the land of eternal felicity where white-robed, palm-branched, victor-crowned, you shall know that for your highest good God commanded "do justly love mercy and walk humbly with the God."

BIG COUNTRY CHURCHES

(Continued from page 667)

night the young men of the church orchestra come in from the farms to practice. Wednesday night the church choir of twenty eight young men and women from the farms comes to practice. Thursday night Father Moenig talks to the boys. Friday night the choir meets again.

Those weekly talks to the boys of the parish began ten years ago when Father Moenig got hold of Henry Wallace's clover book. Clover was not grown in the parish then, and to get them interested in it the priest preached about clover and brought the boys together once a week and read that clover book to them.

"Since then the boys and I have gone through many subjects together," Father Moenig said. "I have taken them through courses on bees lime, soil washing and crop rotation. Oh, they have been through many things in ten years. Since then many of my boys have grown up to be farmers and are practicing things we learned together in our Thursday-night readings and talks. I always try to make the subject interesting, so as to hold their attention and make them want to come. When a boy is plowing he will think of that and it will keep him out of mischief. Just now we are on electricity."

The Peach Orchard Campaign

Father Moenig had a professor from the state university come last month and explain all about storage batteries and the X-ray. In his own home he has an electric-light plant, and a gasoline-gas plant for cooking. He put them in to show them to farmers, and now they are putting them in.

When A. I. Foard came as county farm agent last June, Father Moenig sent for him to come to New Hamburg and help him organize a boy's peach club, and to get farmers interested in planting peach trees. He had found that the soil and sheltered valleys of his parish were excellent for peach growing, and his idea was that the hills there ought to grow all the peaches eaten in the lowland country round about. So he had all the farmers out to hear Foard, and before the meeting was over farmers had agreed to take more than 500 trees They will be set out this spring and a man of the neighborhood will be appointed official sprayer for all the orchards that are to be planted.

"You come back here five years from now and you'll see a peach orchard on every hillside," the priest said to me.

One side of his living room is filled with books from everywhere about farm and country life. There are books about flowers and plants, bees

A "Neponset" Roof or—?

THE roof, exposed as it is to nature's various moods, should receive the greatest consideration—a little extra thought spent on the roof more than pays in years to come.

NEPONSET PAROID

plays an important role in "roofing Canada." Thousands of roofs throughout the Dominion are covered with this long-lasting material.

Any person who has used Neponset Paroid will tell you that it is the premier roofing material in Canada. It combines durability with hard wear; is not affected by weather; and compared with the cost of wood and metal shingles, or slate, it is by far the most economical roof you can lay.

The base of Neponset Paroid is a high-grade rag felt, thoroughly impregnated with asphalt, making it positively water-proof and fire-resisting.

Easy to lay—With every roll of Neponset Paroid is supplied sufficient nails and cement with full directions.

There is a Neponset dealer in your district. Write us for his name and a copy of our illustrated booklet "Roofing Canada."

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make your car and other vehicles shine like new. Ready to use, no trouble and dries with a hard gloss. All popular colors.

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Toronto MONTREAL Vancouver 3

and birds, farm animals and farm tools, fruit and vegetables, canning and preserving, farm housework and farm tillage, and many hundreds of others. He has read them all.

"Here is a book just from Germany," he said, fetching it to me from a shelf. "Oh, I wish someone would translate it and print it in English so that everyone in America might read it. It is the most fascinating book!" He held it up and patted lovingly its green-covered back. "There are a hundred talks to my boys in that book. The German professor who wrote it saw everything in the fields and woods and lived close to Nature and to God. It tells why the leaves of a tree lie flat, and here"—he turned the leaves till he came to a page he had marked—"here it tells how each tiny rootlet of a tree has a tough, sharp-cutting shield at its end, like a plowshare, to push through the hard earth. Oh, its a wonderful book. You ought to come some night and watch my boys how interested they are in all these things."

I had forgotten to ask him if his church was in debt, and if the people gave freely to its support. I asked him then, as I was about to go. He shrugged his shoulders

"Ah- money! I never think of it. I never have to. The church has not had a debt in fifteen years. It takes care of itself I never ask about it. The people are all loyal to it and when money is needed it comes in. In fact," he said, as he laid the green covered book down, "most of my sermons are not preached in the church at all. I preach there only on Sunday but I am preaching many times a day, and every day in the week, outside the church. When I go into a man's barn to help him with the cows I am preaching to him. When I go into his field with him to help him terrace a hillside or plant an orchard or to get a greater yield of wheat, I am preaching sermons, the most fruitful sermons you can imagine.

"Oh' I wouldn't want to live if I couldn't be doing something like that to help bear my people's burdens and make them lighter. I love to mix with them and minister to them in that way. A boy on a farm is no good till he can sit on the fence alone and see God in Nature all round him. If he sees nothing but drudgery in farm work he is lost. When you can get him to see something to love in his work, when you get him to see God is working with him, then you have taken the drudgery out of it for him and ennobled it and made it sacred. Ther is nothing more wonderful than Nature, and the farmer is so closely related to it.

"I had a friend, a priest in a country parish like this, and he complained to me that he was lonesome. I took hold of him and showed him how to be interested in agriculture, how to see beauty in it, how to help, how to be priest, pedagogue and physician, all in one, to his people. Now he is enraptured with his work, and his people love him, and his church is crowded at Sunday worship.

"You wonder at the great congregation in my church, and at the orchestra, and the singing, and the devotion there. Listen!"

We were standing at the gate and I was about to say good-by. He laid one hand on my shoulder and with deep earnestness he said, as he pointed to the near-by church: "That worship in the church, that wonderful music, that intense spirit of devotion—all that is only the expression before God of what we have all been feeling and living all through the week in our daily work in the barns and fields and in our homes. The great sermons are preached to us by the living and growing things all about us, and we gather there on Sunday, in the presence of our Lord, just to commune with Him for a little while and get closer to Him, and to thank Him for His goodness and love and tender mercy."

As I turned a corner in the road and looked back the good priest was standing yet in his gate, in the twilight, listening, and from the church tower above him:

Softly the Angelus sounded, and over the roofs of the village
Columns of pale blue smoke, like clouds of incense ascending,
Rose from a hundred hearths, the homes of peace and contentment.

RATION FOR COLT—STERILITY IN MARE

J. G.—(1) What is the correct quantity of oats for a foal the first winter also what quantity of hay? (2) Mare, 9 years old, was bred this season and in 1915, but has not got in foal. What can be done?

Answer—(1) The proper ration for colts, during the first winter, would be between two and three pounds of oats, or roughly speaking, about two quarts per day. The amount of hay allowed should be a sufficient amount for the colt to clean up, which, on an average, would be about four or five pounds per day. (2) Mares sometimes become sterile, or barren, as the result of some altered condition of the womb or ovaries, and in order to determine the exact seat of the trouble, an examination by a veterinary surgeon may be required. In the case of the ovaries being diseased or cystic the condition might be remedied by rupture of the cysts by the hand inserted in the rectum. This operation, however, could only be done by someone skilled in the work. When the womb itself is the seat of trouble, an examination by a skilled person might determine the cause of trouble, which might be due to some occlusion of the neck of the womb, or some catarrhal condition of the womb itself.

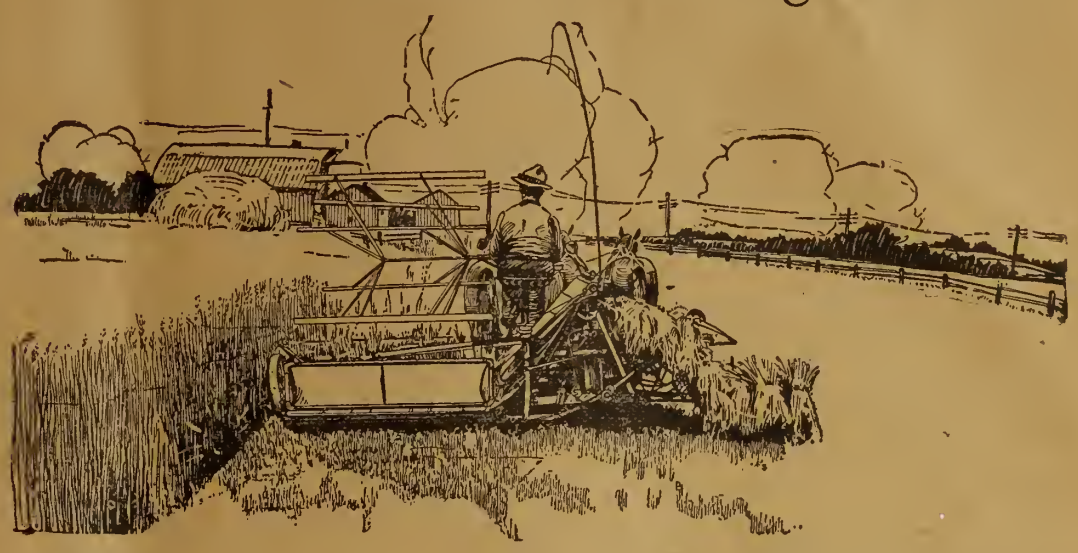
CARS PER CAPITA

Automobile registrations in Canada tion in the world. With an estimated population of 8,835,000 people there is a motor vehicle for every twenty-six persons in this country. In the United States the proportion is one car for every twenty inhabitants.

In European countries there is a preponderance of motor-cycles and by taking into account only passenger cars and commercial trucks owned in the principal nations of the world, the following list shows the ratio of motor vehicles by population in each country:

United States, per capita.....	20
Canada, per capita	26
England, per capita	268
France, per capita.....	402
Germany, per capita	684
Italy, per capita	1000
Austria, per capita	2700
Russia, per capita	5300

Make Short Work of Short or Long Grain



WHEN some of your grain comes up short and stunted, especially on dry, gravelly knolls, and some of it grows tall and heavy, so that it lodges and tangles—*then* you have a harvesting problem—unless you own a **McCormick** or **Deering Grain Binder.**

With these binders it is possible to cut short stubble—get right down close to the ground. The curve of the guards and wide range of platform adjustment permits doing this. And the reel is designed to handle grain in any condition. It can be lowered, raised, swung forward or thrown back almost instantly to accommodate short, long or tangled grain. The binding attachment can be adjusted quickly for short or tall grain, and has a wide band-placing range, so that the tie can be placed in the middle of the bundle if the grain is at all suitable for cutting with a binder.

The names **McCormick** and **Deering** are favorably known wherever there is agriculture. They are guarantees of high quality and operating efficiency. Almost 90 years of harvesting machine development and satisfactory service in the fields of the world stand behind them.

See your nearby International agent **now** in regard to your binder for early delivery. Place your reliance also on **McCormick, Deering,** or **International high-quality twine.** Meanwhile, may we send you a descriptive catalog showing latest improvements and features in the world-standard harvesting machines?

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OF CANADA LTD.
HAMILTON CANADA

WESTERN BRANCHES—BRANDON, WINNIPEG, MAN., CALGARY, EDMONTON, LETHBRIDGE, ALTA., ESTEVAN, N. BATTLEFORD, REGINA, SASKATOON, YORKTON, SASK.
EASTERN BRANCHES—HAMILTON, LONDON, OTTAWA, ONT., MONTREAL, QUEBEC, QUE., ST. JOHN, N. B.

TO OWNERS TESTING HOLSTEIN —FRIESIAN COWS FOR ADVANCED REGISTRATION

Rules as Revised by Executive Committee

Feed and Drink—5. (Former rule on page 14 of Hand Book). During the official test period, no condiments condition powders, tonics or drugs may be given any cow; and no other liquid than pure water may be given as drink during the continuance of any official or semi-official test. Dry food may be softened with water or molasses, but with no other liquid; salt, sulphur, or charcoal may be fed either separately or mixed with the feed. But nothing in this rule shall be taken as forbidding proper medical attendance, either by a regualrly qualified veterinarian or by the owner or person in charge, upon a cow taken suddenly ill. In any such case the owner of the cow, or person in charge, shall make a statement in writing, over his signature and affidavit, describing the condition of the cow, and reporting all medicines given, which statement shall also be signed by the veterinarian, if one be called. The supervisor of the test shall also, over his own signature, add to the statement the declaration that to the best of his knowledge and belief, the conditions were as stated, and that he approved of the treatment given the cow. Such statement and declaration shall be considered as forming part of the application for entry of the record in the Advanced Register. Any sick cow requiring anything more than what might be termed "first aid," as for some acute ailment, must be taken off test.

It shall be allowable to blanket a cow only for the purpose of protection from cold; blanketing to any further extent, especially if making the cow uncomfortable or causing her to sweat, is forbidden. Nothing in this rule shall be construed to authorize or permit, under the guise of medical attendance or for any reason whatever, the giving or administering externally or internally, of any drug, stimulant or medicine, or any substance or thing in the way of feed that may produce any fever or abnormal condition in the cow, as evidenced by high per cent fat in the milk, or any condition inconsistent with normal dairy husbandry. Abnormally high per cent, fat accompanied or followed by marked decrease in milk production shall be held as prima facie evidence that nitentionally or unintentionally the spirit and intent of this rule has not been complied with by the feeder; and no report of test showing such indication shall be accepted to entry in the Advanced Register.

And if it shall be ascertained at any time that the spirit and intent of this rule has been wilfully violated or evaded, then, in addition to the rejection of the test, any person so violating this rule shall be excluded from, and denied all privileges in, this Association; and if he be a member, he shall be expelled from the Association. Should it be found that any test made or influenced by any means in violation of this rule has been accepted to advanced registration, it may be expunged and cancelled off record.

Addition to Rule 7.—(See Rule 7, page 26, of Hand Book).—Should any owner or person in charge neglect to make his monthly milk reports promptly as required by this rule, the Superintendent of Advanced Registry shall twice call his attention to the oversight, explaining the requirements of the rule and penalty for non-compliance; and should the owner for any reason other than absence from home or illness thereafter fail to make his monthly reports prompty, such failure shall automatically debar the owner of the herd from any prize money offered by the Association for semi-official tests. In making reports of monthly credits to owners, the Superintendent of Advanced Registry shall follow the regular order until the reports for any one month have been made. Should any owner before the reports for any month are all completed desire a report of credits falling due in the succeeding month fo any cow, he shall be entitled to such report on payment of a fee of $1.00 to cover the extra cost to the Association of making such reports out of regular order.

In the body of Rule 7, the time allowed for making milk reports is the first ten days of the month following the month in question; and this ten days is now cancelled five days, making it fifteen days. In the revise of the feed and drink rule, an effort has been made to so word that rule that it shall express the thought and intent the former rule was intended to express.

Delavan, Wis., February 15. 1920.
—Malcolm H. Gardner, Supt. A. R.

THE HANDLING OF HIDES

One of the chief factors in determining the value of hides is the quality of the take-off. In the trade the removal of hides is the work of specialists, while in the country, skinning is only an incident in the general work of the farmer, or local butcher. For these reasons the hide removed by the trade is generally superior to the country hide, not only in the take-off but as well in the salting and packing. The difference in quality is indicated by the classification of hides as "Packers" and "Country."

An outline of the essentials to the marketing of good quaity hides may be of some interest.

The loss in hide values through branding is very great, and it has been suggested that the animal be branded in the neck or shoulder, areas of the hide less valuable than the flank. Often the brand is so deeply burned as to show on the reverse side of the hide. If some method of market other than branding could be made practicable, it would result in a very marked appreciation in the value of our annual production of hides.

In bleeding, it is better to cut in a direct line with the centre of the lower lip and the point of the brisket, rather than across the throat, as the latter method renders the hide above the shoulders practically useless. The tail-bone, horns, and the top of the skull, which are often left on the hide, should be removed. After removal, the hide should be laid flat, salted and left twenty-four hours and again salted before rolling. When hides are rolled immediately after salting, heating occurs, and this causes the hair to decay resulting ultimately in destruction of the grain in the leather. Deacons, or hides from immature calves which are subject to sun drying, lose practically all their natural oil it would be profitable to treat these in the same way as the larger hides, special attention being paid to the removal of all meat, so that the hide may be preserved as well as possible.—Live Stock Commissioner.

THE FACTS ABOUT STOCKYARDS

The following facts about Canadian stockyards will be welcomed by those who do not know the special conditions which govern them:—

Four yards, those at Toronto, Montreal (2) and Winnipeg, handle approximately 90% of the live stock sold through stockyards in the Dominion.

The Toronto Union Stockyards oper-

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begs to advise that it has for rental

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for the protection of valuable business or private documents, jewelry, Victory Bonds, &c.

The Manager will be glad to furnish particulars on application

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Puts Your Car in $1,000 Class
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Fits Cars previous to 1917
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Good company on a journey makes the way seem shorter.

Dependable Partridge Tires should be your companions on all your motor trips. They shorten the journey by allowing you to travel in comfort—free from the annoyances, delays and expenses caused by tire troubles.

Partridge Tires, like loyal servants, serve you faithfully always.

PARTRIDGE TIRES
Game as Their Name
119A

ated by the Union Stockyards Co. Dividends are fixed at a maximum of 7%.

Montreal has two yards, one owned by the C. P. R.; the other owned by Montreal Stockyards Co. No packers are interested in ownership or management.

Winnipeg stockyard owned by the Public Markets Limited. No packers are interested in ownership or management.

There are in Ontario operating under Dominion Government veterinary inspection, fifteen packing plants owned by thirteen firms. The plants of seven of them do business outside Toronto. These are, in the country districts, naturally keen competitors of the buyers who ship to the stockyards. Of these thirteen firms, four only are interested in the ownership and management of stockyards. These four invested capital in the Union Stockyards, Toronto, at a time when few people recognized the value of stockyards as a market for farm stock, and when it was difficult to get other supprt for such an institution.

In Quebec six inspected firms operate, none interested in ownership or management of stockyards there.

In Winnipeg four inspected firms operate, none interested in stockyards there.

All stockyards are, by Act of Parliament, conducted under supervision of the Dominion Department of Agriculture. The Act provides for regulation and control by the Minister of Agriculture of:—

The by-laws of the Company;

The construction and equipment of yards;

Operation and maintenance;

The weighing of stock;

Information given on weigh scale tickets;

All charges made by Commission men and for fees and services of any kind;

Complaints of unfair charge or treatment.

Canadian Meat Exports

(In millions of pounds)

	1914-1918
Bacon	653
Beef	214
Hams	41
Pork	58¼
Canned meats	41¾
Other meats	19½
Total all meats	1,027½

(Value in millions of dollars)

	1914-1918
Bacon	142½
Beef	37½
Hams	7¼
Pork	9½
Canned meats	12¾
Other meats	2
Total all meats	$211½

MARTINDALE FARM A REVELATION TO BOARD OF HEALTH

The Guernsey Breeders of the Maritime Provinces will be interested in the following article from the columns of the May 20th issue of the St. Catharines, (Ontario) standard. Some of the cows mentioned bear names that sound like names that graced several beauties at one time owned by Howard Corning, Yarmouth, N. S. Messrs. McSloy are ranked among the foremost Guernsey enthusiasts in Canada.

The Board of Health paid a visit of inspection to Martindale farm on Wednesday afternoon. This was not one of those formal visits where the Sanitary Inspector and the M. O. H. are doing a detective stunt to look for infections of bylaws, but was more in the nature of a demonstration of modern methods of dairying.

To say that the Board was pleased with all it saw, is putting it very mildly. Sanitary Inspector Bonham was divided between hope and apprehension; hope, that eventually every dairy herd will be kept in such scrupulous cleanliness; apprehension, that if such a thing came to pass, he, like Othello, would find his occupation gone.

The Board saw 25 of the finest cattle the world produces in surroundings befitting their aristocracy; modern stables, with up-to-the-minute furnishings; the cattle groomed till their coats shone like silk, attendants in white uniforms looking after them.

Milking Time

Just as the party reached the stables milking was going on, so the Standard man nosed in and followed the process. Cleanliness and sanitary methods are the essence of the contract. The milk goes into a pail through a screen of silk; then it is restrained, and goes to the aerator, where it is cooled; then it goes to the clarifier, where any sediment that may possibly remain is removed. The The whole process was the acme of perfection so far as the production of pure milk is concerned.

The milk taken from every cow is weighed and a record kept. Miss Harvest, a magnificent Guernsey, has the Canadian record at her mercy now, though she has nearly a month to go yet to complete the year.

Just as an ordinary matter of fact, Mr. McSloy told the party that May King's May had a record of one and a half tons of milk in 58 days, and that Bijou de Frances produced 943 pounds of butter fat in one year, equivalent to 1100 pounds of butter.

The very latest addition to the herd is a 2½ weeks old calf, a daughter of "Annie Laurie," the first cow in the herd. There is a possibility that the youngster may be named "Miss Harry Lauder."

And speaking of daughters, the party naturally admired Penroyd Rose whose daughter sold for $3,700 at Chicago a week or so ago.

Jennie Robena and Raula Revere, the cattle that carried all before them at Toronto exhibition came in for a lot of attention.

Maple Glen Sun Brier has just arrived from the United States. He is expected to take a paternal interest in the herd. He is a magnificent looking fellow. His full sister has a 615-lb. butter record.

Fr the general improvement of cattle breeding throughout the district, the Messrs. McSloy have decided to sell Martindale King, a young bull of great promise. His mother is May King's May and his father Royal Blood of Bailey Falls. "We'll let him go for $300 less than half his worth, if he is sold locally," said Mr. McSloy—which looks like a wonderful opportunity for some enterprising breeder.

Every member of the Board was greatly impressed with the visit.

Messrs. H. E. and J. A. McSloy personally conducted the tour which was every moment replete with interest.

EVIL EFFECTS OF DECAYED FOOD

Decayed food should never be given to fowls. There is a temptation to do this when meat or vegetables are around the place which have become too old for the family to eat. People thoughtlessly seem to take it for granted that fowls have some way of disposing successfully of the poisons that are set loose in the decomposition of meat and other foods. So far as we know fowls are no more able to do this than any other animal.

These decayed foods will at the least upset the digestions of the fowls and when that is done the way is opened for the advent of real ailments. If given reasonable choice, fowls will not eat decayed food, but if very hungry for some such food as meat will eat it even if pretty badly spoiled.

FIRST in Canada to adopt the valve-in-head motor—first to manufacture quality cars in quantities—the makers of McLaughlin "Master Sixes" now enjoy the distinction of producing a car in keeping with Canada's national ideals of efficiency, power, beauty and economy.

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The McLAUGHLIN MASTER SIX

A THREE YEARS' EXPERIMENT RESUMED IN A SHORT ARTICLE

In the course of my reading the other day, I came across the details of an experiment which are interesting enough to form the subject of a special article. There is to be found in them matter for careful thought on the part of proprietors of dairy herds. The science of feeding is peculiarly complex; agronomists learn its secrets but slowly, and it is only very gradually that we eliminate the unknown factors.

The report of the experiment to which I now have reference is taken from the annual report of the Armstrong College of Newcastle-upon-Tyne.

I give the principal facts for the information of my readers.

This report shows the results of researches into the feeding of dairy cows, carried on during a period of three years, for the purpose of ascertaining, or at least of throwing a little more light on the following points:

(a)—The effect of the quantity and quality of milk, of milking at regular intervals or otherwise.

(b)—The effect on the quantity and qualityf of milk of a small quantity of phosphates fed directly to the cows.

(c)—Results of milking three times a day in comparison with two milkings per day.

The results of these experiments may be resumed as follows: I think it would be useless to give details of the progress and methods of the experiments. From the practical point of view the results alone are important, but it may be said that every possible precaution was taken to make these resuts conclusive:

(a)—It cannot be said that the total quantity of milk is affected by the regularity or otherwise of the intervals between successive milkings, but the amount of fatty matter in the milk is certainly increased by milking at regular intervals.

Further, the connection between the time of milking and the percentage of fatty matter is constant. The results of very long experiments definitely confirm those obtained in preceding experiments.

(b)—The improvement of poor pastures by the application of phosphate fertilizers and the increased production of milk and meat resulting therefrom being well known, it was decided to try whether precipitated phosphate of bone administered directly to cows at the rate of one ounce per head daily would have any influence on the temperament and nervous system of the cow and would exercise any action on the quantity and quality of the milk. As to these last factors no appreciable results were obtained and there is nothing to prove that the nervous system was stimulated.

(c)—No increased production was obtained by milking three times a day instead of two.

The excessive derangement caused the cows produced, on the contrary, negative results.

The quality of the morning milk was equally unfavorably influenced by an aditional milking. This question is important to the producers of milk near cities and towns.

It will be seen that the conclusions vary as to the efficiacy of the number of milkings per day. Let it be understood that a contrary doctrine is not condemned, but the experiments furnish another argument against it. And it is curious to note the results of experiments which have been made for a long time on the subject.

Such is a very condensed resume of the work effected at Armstrong College.

In a few words you have the condensed report of the work of three years. It is as succint as possible.

SHEEPMEN! ARRANGE TO DIP YOUR SHEEP THIS YEAR

In the face of the high cost of feeds and the ever-increasing necessity of greater production, it becomes more imperative than ever before in the history of our sheep industry, that all handicaps such as the feeding of the external parasites be eliminated as far as possible. It is hard to understand why dipping is neglected, when one stops to think that it is next to impossible for sheep to make progress when covered with ticks and lice which annoy them continually. It is impossible to estimate the loss of feed and the depreciation in flesh when a flock is infested. One may be certain, however, that a great portion of the feed consumed by the sheep is taken up by these parasites

A flock free from ticks and lice is the best insurance towards the better production of wool. The continual rubbing against fences, racks, etc. causes a loss of wool and damaged fleeces which are docked in price. Dipping should be regularly practised at least once a year, and better twice a year. The sheep should be dipped in the spring as soon after shearing as weather permits; in the fall, before the arrival of the cold weather. This will not only free the flocks from ticks and lice, but also tends to keep them free from any skin disease. Even though no disease or parasites be present, sheep should be dipped as a means of prevention, and it stimulates the growtr of wool to some degree. Small flocks can be dipped in vats or other suitable utensils on the farm, but in the case of large flocks a regulation galvanized iron or cement tank will be found much more satisfactory.

The initial cost of a convenient dipping outfit would be the greatest drawback to the small owner who realizes the necessity of dipping at least once a year, but does not see his way clear to go to that expense for a flock of from ten to twenty-five.

Community Dipping Outfits

By the small flock owners in a district combining and having a dipping tank jointly owned, it can either be placed at a convenient centre, and all flocks from a radius of from two to four miles being driven to the centre and dipped on a certain day or each sheepman using the tank in turn at his own place. By the latter method it costs more for dipping fluid as the smaller the flock dipped, the greater the waste, but in either case the cost of dipping is greatly reduced.

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Make yourself, your family, your cattle, your crops, and your buildings safe against Lightning, by having them protected by Shinn-Flat Lightning Rods.

The cost of Shinn-Flat is very small compared to the value of the protection. It is money well spent if only for the comfort of mind it gives.

Write for full information and a copy of Prof. Day's interesting book on "Lightning, its Cause and Control." It is free.

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THE DISEASES OF PLANTS

(Continued from page 671)

our fruits, vegetables, trees, grains and so on. Is it not enough to make them diseased?

The diseases of plants are caused by Myxomycetes, Bacteria and Fungi. Let us speak a little more in detail about these organisms or pseudo-plants. The myxomycetes or slime molds are regarded as to the border land between plants and animals. On germination, their spores give forth a naked mass of protoplasm called a plasmodium which constitutes the vegetative structure of the slime mold. This plasmodium, in the case of parasitic or pathogenic forms, penetrates the cells of the plants at the expense of which they grow.

The slime molds are the causes of but two well known diseases: Club root of cabbage, turnips and Cruciferous plants, and the Powdery scab of potatoes. Both of them occur in this country.

The Bacteria, minute one-celled plants, are very pathogenic to man and animals. Some of them are also parasitic to plants. Fire blight to pears, bean blight, soft rot to turnips cabbages, carrots, celery and others, crown gall of apple trees and so on are caused by bacterial pathogenes.

Bacteria are very small. It would take about 300 of them placed end to end to equal in length the thickness of this paper. The mode of increase among bacteria is by division of the mother cell into two, the daughter cells, which, in turn, divide, and so on through all their life.

Bacteria invade the cells or tissues of cultivated plants and destroy them.

The fungous pathogenes constitute by far the greatest numbr of plant parasites. The majority of our plant diseases are caused by fungi. They are dependent for their nourishment upon food substances elaborated by the green plants. They absorb this food by means of a kind of root called mycelium which can be seen with a microscope through the tissues of the parasited plants. At fruiting time they give birth to a great number of spores, visible to the naked eye on the plants that have been attacked. The black dust taking the place of grains on a smutted head of oats is a mass of spores, capable the next spring of initiating the same disease —the smut.

The fungi which cause plant diseases are small. We cannot see them with the naked eye, except their spores when they are in great mass. We see only their effects: spots, scabs, rusts, which constitute the symptoms of diseases.

The Life History of Plant Pathogenes

The life history of a plant pathogene consists in the story of its activities, its different forms and structures and its relations with the hosts

Most pathogenes exhibit in their life cycles two ddistinct phases: pathogenesis and saprogenesis.

Pathogenesis is that phase of the life cycle during which the organism is associated with the living tissues of the plants. This phase embraces three well marked periods: inoculation, incubation and infection.

The period of inoculation includes the phenomena involved in the trans fer of the parasite or pathogene. Wind, rain, man, insect, etc., which transfer the inoculum (spores of fungi, bacteria), are spoken of as the agents of inoculation.

The period of incubation begins with the arrival of the inoculum—spores, mycelium, bacteria—on or in the plants. The growth of the inoculum begins almost immediately upon its arrival in the infection court. The environmental factors: moisture, temperature, are necessary. Without moisture, the spores of the fungi cannot grow. We have here the explanation of the great development of fungus diseases during moist weather.

The period of infection covers the time from the initial injury to the end of the reactions of parasite and living host. Once the germ of the spores has penetrated in to the plant it continues to grow, invading the cells, where the food is found. After a time, the parasites produce new spores which disseminate the disease through the season.

The second phase of the life cycle —saprogenesis—is the period during which the pathogene or parasite is associated only with the non-living tissues of the host plant. It is during this phase that the winter spores are produced—those that initiate the dis ease in the spring.

En resume, we may say that the diseases of plants are produced by very low plants, invisible to the naked eye, dependent for their iourishment upon food substances elaborated by the true plants. On that account, they are called parasites. They reproduce themselves by means of spores. To fight against those germs —spores and bacteria—is to fight against the diseases. Firmin Letourneau, B.S.A., Oka Agricultural Institute.

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For kerosene-burning stationary engines and tractors.

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Consult the Imperial Charts of Recommendations to make sure you are giving your automobile and tractor the most suitable lubrication—displayed wherever Imperial Lubricants are sold. For further information, consult the Imperial Oil Man; or write our nearest branch.

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Out of every dollar paid by the packer to the farmer for cattle 25 cents goes to purchase parts, which bring no return whatever to the abattoir.

Tests recently made show the yield of saleable parts and of waste material in an average steer of 1,000 pounds live weight to be as follows:

	Weight Lbs.
Dressed Carcass	540
Hide	70
Edible fat	40
Tongue	6
Liver	9
Heart	3½
Tail	1
Head Meat	5½
Sweetbreads and Weasand Meat	1
Casings	10
Tripe	10
Tankage (dry)	12
Oil and grease	6
Bones	18
Blood (dry)	9
Sinews	2

Including the manure, which weighs 75 lbs. and hardly pays for removal, the total waste amounts to 257 lbs., or just over one-quarter of the live weight of the animal.

At ten cents a pound live weight the wastage on a 1000-lb. steer is over $25.

Only by utilizing every particle of the by-products can monetary loss be avoided and only by keenest attention to these points can meat prices with increasing cost of manufacture, be kept down to the present retail level. Industrial and Development Council of Canadian Meat Packers, 186 King St. W., Toronto, Ont.

Great prices were paid for specimens of the famous breed of Gloucester Old Spot pigs when Mr. R. G. Heaton, Northaw House, England, sold his entire herd. Competition was keen, and 69 head averaged $385, the second highest average on record for any breed of pedigreed pigs. Mr. J. Putnam, Exeter, gave the top price, $1,575, for a young boar, and $1,050 for a sow.

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ANIMAL DISEASES ERADICATION BOARD

At a meeting held in Toronto on Thursday, May 27th, the final steps were taken in the organization of a body to be known as the "Animal Diseases Eradication Board". As its name implies, this Board has for its object the formulation and carrying out of plans for controlling diseases of live stock in Canada, it being the intention to pay particular attention at this time to tuberculosis of live stock, a disease which contributes, to a greater extent than is generally recognized, to the spread of tuberculosis in human beings, besides causing an enormous waste of food products by reason of the necessity for condemning, as unfit for human food, carcases or portions of carcases, of tuberculosis animals.

The Board is composed of twelve members, four from the live stock associations, four from the meat packers, and four from the Federal Department of Agriculture, and the headquarters of the Board will be at Ottawa. Co-operation with Provincial Governments, Railways, Banks, Press and public health bodies will be sought.

At the Toronto meeting, an Executive Committee of three members, one from each of the interests represented, was appointed to consider and make recmmendations to the full Board with reference to the details of a plan of campaign for controlling this disease most effectively, the broad outlines of the plan having been agreed upon by the Board. These details will deal with the methods for obtaining the necessary funds for the work, the executive organization, the areas to be covered, the methods by which the work can best be carried on and the administration of any fund that may be established for the purpose.

The objects in view will involve hearty co-operation between the packers, the live stock men, the Federal and Provincial Departments of Agriculture and the solid backing of all interested in the disease from the human as well as the live stock standpoints.

The preliminary meetings have indicated that there are good reasons to believe this co-operation will be secured. The plans are necessarily tentative but a great deal of progress has already been made, and after the representatives of the groups have had an opportunity to consult the executives and membership of the various associations, it is expected that a full plan will be developed and details announced.

CONTROLLING CABBAGE AND CAULIFLOWER MAGGOT

The reduction of Cabboge and Cauliflower by the maggot in New Jersey reaches as high as 20 per cent. of the yearly crop, which amounts to practically $45,000. The tar paper disk method has been used by some growers in this State, but it was found impracticable. In the first place it required quite a bit of labor to place the paper disk around the plant, and in cultivating these disks would be covered with ground. In the second place, during the early spring there is more or less wind, and in plowing uqite a few gardeners found that by working back and forth the plant had a tendency to become bruised or cut by the disk.

The most effective control practiced in New Jersey so far is that of preventing the fly frm laying its eggs by the use f a repellant of a mixture of water-gas tar and sand. To every bushel of clean sand, one quart of thin water-gas tar is used. This may be applied in two ways. However, the best way is to dip the stirring paddle into the tar and stir into the sand. In this way every grain of sand will be coated with the tar. As soon as the early plants are planted into the field, about a teaspoonful of this mixture is dropped near each plant, and preferably towards evening. Three or four applications of this tar and sand may be necessary at intervals of three to four days. The North Jersey and Long Island gardeners have found this the best and most practical repellant for the fly on both Cabbage and Cauliflower.

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with various methods of control for this pest and have found that the Poison-bait Treatment," as used by G. Sanders and H. H. Severin, in Wisconsin, gives the most satisfactory results.

Poison bait is made according to the following formula: sodium arsenite, one-fifth ounce; cheap molasses, one pint; water, one gallon.

The molasses acts as a bait and attracts the adult maggot flies and the sodium arsenite, which is a soluble poison, kills them. By poisoning a large number of the female flies, especially early in the season and when they are laying eggs, the per cent. of infestation of the Onion crop by maggot can be greatly decreased. Results of our experiments in Erie County showed, during last season, a gain of 16 to 17 per cent. in yield and the amount of infection was reduced 54 to 64 per cent. by systematic treatment.

The poison bait mixture should be placed in shallow tin cans at about ten row intervals over the field. A little chopped Onion added to the bait in each can will add greatly to its power of attraction. The mixture in the cans should be renewed after every heavy rain for its attraction and killing power depends largely on its freshness. It is essential to place poison bait in the field early in the season, i.e., as soon as the Onions are planted, and to continue treatment the whole growing season, for the Onion maggot is usually double or triple-brooded and will infest Onions throughout the entire growing season.—John R. Eyer.

THE PROFITABLE LITTER

The fundamental object in swine breeding is for the production of the greatest numbers of quickly growing pigs. Hog raising is purely a market proposition. We may keep a horse or a cow, even a dog, beyond its years of real usefulness for love or association's sake but with the hog our regard for him is purely mercenary. We have therefore come to regard prolificacy in the swine mother as of very great importance, so much so indeed that we do not always differentiate between numbers and profit for all experienced hog raisers know that it is easily possible for an over-zealous sow to numerically discount herself by producing a larger number of pigs than she can raise well. As a rule for the average sow it will be found that there is more ultimate profit in a litter of 10 pigs than in one of 12 and often more in 8 than in 10. The successful fruit grower thins his fruit to the ability of his tree and all growers of pigs may at least consider this as a suggestion to them.

GROWING MAMMOTH PUMPKINS

I wuld like to know what to do to grow the largest Pumpkin possible.—F. O.

I have not had any experience in growing Pumpkins of mammoth size. However, I should think you would proceed in about the following manner:

Remove the surface soil in the best garden loam that you have and dig out the subsoil for an additional depth of 8 or 10 inches. The holes thus prepared should be at least 3 feet in diameter. Additional good soil should then be placed in the hole and mixed very thoroughly with rotten manure. I should think it would be possible to mix in such soil a wheelbarrow load of well-decayed manure. I should also use a couple of quarts of poultry droppings, a quarter of a pound of acid phosphate, an ounce of nitrate of soda and a little muriate of potash, if obtainable. The entire mass should then be mixed most thoroughly and then firmed by the use of the feet. The Pumpkin seeds should be planted as early as you think it is possible to avoid frost. If you could prepare a square box, with glass over it, to place over the hills as a protection to the plants until they are well started, you would gain thereby. After the plants are well started you might secure additional growth by feeding them week after week with liquid manure.—R. L. Watts.

FOR SALE

Ten pure bred Yorkshire pigs. Price $10. unregistered. Apply to WENDELL WARD, West Bathurst, N. B.

DELAYED FERTILIZER APPLICATIONS

Lack of labor on the farm, unfavorable weather at planting time, congestion and strikes on railways and consequent delays to shipments, may prevent the full and proper amount of fertilizer being applied to the crop at time of planting.

A late application of fertilizer as a side-dressing to rowed crops, or as a top-dressing for other crops, is often quite as effective as when applied at planting or seeding time.

Certainly it is much better and wiser to make the delayed fertilizer application in this way than to attempt to grow a crop with no fertilizer at all, or with less than the usual quantity. Fertilizer conserves farm labor by making it more productive. The high problem is to apply the fertilizer with the least possible amount of labor, but at such time, and in such a way, as to make it most effective.

Milk producers supplying the City of Toronto have asked $2.60 for an 8-gallon can for their summer milk, which figures out at $3.25 per 100 pounds. In the city the dealers have increased the spread from 5½ to 6c per quart, and the consumers will get 14 pint tickets for $1.

MAXWELL

Has Won Its Following Through Its Quality

THE metals used in the Maxwell chassis compare favorably pound for pound with those in the best cars that the world has produced, according to metallurgists.

There is a real reason for this quality in a Maxwell.

The fundamental purpose of the Maxwell is to carry the same passenger load over the same roads and at the same speeds as larger and more expensive cars.

But it must perform this mission *in an extremely economical way.*

Therefore the Maxwell has to be light. But to make it strong as well as light only the very best of materials can be employed.

Hence, the quality metals.

And it is through the quality of its metals that Maxwell has developed its following.

This is a following that began five years ago with a foundation of 5,000 and now reaches a mark of 100,000 new Maxwell enthusiasts in 1920.

300,000 Maxwells now on the highways of two continents are a daily endorsement of the merit of this great car.

MAXWELL MOTOR CO., of Canada, Limited, Windsor, Ont.

Percherons & Belgians

30 Head

Stallions & Mares

FOR SALE

Come to Grenville and buy the kind with the big, round feet, clean, hardy, dry bone and joints, sloping pasterns and straight, flashy action. Buy the kind with the sloping shoulders, short back and long, level croup. Buy the modern Percheron or Belgian.

Our prices are very reasonable, and we will give up to three years time, to responsible parties.

All stallions government inspected.

J. E. ARNOLD & SONS

GRENVILLE, - - - - - - - - QUE.

Lawndale Stock Farm

Jerseys and Shorthorns (Pure Bred)

Our Present Offering in Jerseys is as follows:—2 splendid young bulls, both from R. O. P. mothers, 1 dropped in June 1919, the other in July, 1919. They are beauties and the right sort.

Write soon for information to

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

HOLSTEIN BULL CALVES FOR SALE

I am offering for sale 5 bull calves from a week to 18 months old, While the dams of these calves are not tested, the dam's dam and the sire's dam of each calf has a record, some as high as 32 lbs in 7 days. The sire of these calves has 14,000 lb. 2 year old daughter. They will he sold at a hargain prices if taken within a month.

ROBERT HICKS
Glenrane Farm, West Bathurst, N. B.

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, seil or exchange. The aderess must he counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on. as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue which will always he found on the editorial page of the proceeding issle. No hlack faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex N. B.

FOR SALE.—Pure bred Holstein hull calf, born April 27th. For particulars write H. MacINTYRE, Box 525, Campbellton, N. B.

WANTED. — White Wyandotte baby chicks from bred-to-lay strains and healthy stock only. BURTON ROSS, Taymouth, N. B.

POR IMMEDIATE SALE.—A number of pure pred Yorkshire pigs, hoth sexes, and well hred. Price $10.00 each. J. ARLINGTON CASSIDY, Welsford, N. B.

LADIES WANTED TO DO PLAIN and light sewing at home, whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars. NATIONAL MFG. CO., Montreal.

THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and other premises. Price $4.00 per 100 lbs. Apply by mail to "NAILS," care of Office Maritime Farmer, Sussex, N. B.

THE WOOL SITUATION

Speculation is rife these days as to the future of wool prices, everything pointing to lower values on all grades both East and West. It could hardly be expected that the high prices obtained during the past three or four years would continue indefinitely and the general opinion in the wool trade is that the break is at hand. Dealers are moving cautiously and in many cases buyers are being called in or advised to buy sparingly or at prices low enough to play safe. In short the trade as a whole is very dull and listless, there is absolutely nothing doing as compared with the activity shown other years at this season and those in closest touch with the situation are at a loss to know which way the wind bloweth.

Various reasons are advanced for this state of affairs chief amony which is the stock of last year's clip still on hand and the apparent impossibility of realizing on it for the moment. Another very potent factor is noted in the fact that all over the country Canada, United States, and Great Britain alike, there is a stringency and tightening of money. Loans are hard to get and then only at the very highest rate of interest. Conditions being so uncertain, men aer loathe to take a chance on future changes. This is, of course, simply one of the financial stringencies occuring from time to time and it will straighten out in the very near future as it has done in the past. Wool is undoubtedly needed and all grades will be in strong demand in the course of a few months.

In view of this financial condition this is, of all seasons, the time that the grower should consign his wool through the local Sheep Breeders' Association so that it can be held until such time as the market takes on a healthier tone. Consignment in this way simply means that the wool is graded by expert graders supplied by the Live Stock Branch, Ottawa, and is eventually sold co-operatively through the grower's selling agency, namely the Canadian Co-operative Wool Growers Limited.

This naturally brings up the question of comparing wool sold on a "graded" basis with that sold on a flat basis. When it is properly graded and sold by grade, each grower realizes full value not only on his flock but on his effort to work improvment and establish proper business methods in connection with his sheep enterprise. The marketing of all produce from the farm is rapidly reaching that place where it will be graded and sold accordingly and the man who pays attention to "grade" will undoubtedly reap the benefit.

The coarse wool man may argue that for the past two years he could realize more on his wool sold on the flat basis. This is perhaps true owing to the demand that has existed since the conclusion of the war for the finer grades. It is noteworthy, though, in this connection that back in 1916 and 1917, the demand for various grades was just the reverse. These were War years and fabrics made from the coarser wools were in stronger demand. Public opinion is likely to take a turn in that direction again at any time, in fact, right now there is an increasing tendency on the part of the people not to buy high priced goods made from the finer wools. In other words there is little room for a "grouch." In order to realize the full value of co-operation one must first recognize the underlying principle, that of sticking together and making trade lively by keeping up the competition. After all, it is not the result obtained by a co-operative enterprise during one years business but the sum total of results spread over a series of years that counts for most.

Waste nothing, not even the paper bags, wrapping paper and twine coming to the home from the store. They come handy in many ways. Start a ball of wrapping twine with the next purchase and you will always know where to go for string.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must he paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T. D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

"Carleton County Holstein Breeders' Club, R. W. Maxwell, Woodstock, Secretary."
F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B

Ayrshire Cattle

McIntyre Bros., Springbrook Farm, Sussex, N. B.
E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.
C. A. Archibald, Truro N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

YORKSHIRE PIGS

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
C. A. Archibald, Truro, N. S.
J. James Ross, Pictou, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

SUNNYSIDE STOCK FARM

Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

HIGHLAND LAKE HOLSTEINS

Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lh. hull in Canada.

We have young hulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. hutter in seven days; another whose two nearest dams are hoth 100-lb. cows; and one ready for service from a 41-lb. sire and an 18,000-lh. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yon e St. Radial) JEFFERSON, ONT

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for salo calves of both sexes, sired hy Dutchland Pieterje Count. a hull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Johona Lad, who was 101 A. R. O. daughters 4 over 32 lb., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice. come and see these calves or write for further particulars.

We will also book orders for young Yorkshire pigs for the next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars hefore placing your orders elsewhere

C. C. H. EATON, - - - CANARD, N. S.

COBEQUID FARM HOLSTEINS

We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows have in turn been hred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. hutter each in seven days. Am offering young bull calves of this remarkable combination of hreeding and will sell a heifer calf or two. Get your orders in quick, they won't he here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

Special Offering

Maple Green Farm Holsteins

On account of the great shortage in the supply of milk in our home town, we have decided (with regret) to dispose of our entire crop of Bull and heifer calves.

If taken inside of the next 30 days will price them away below their value.

The Dams of these calves are now running in the R. O. P., and the last official test conducted by the R. O. P. inspector showed an average test of 4.62% fat for the lot.

All are sired by our 32.32 lb. herd sire "King Korndyke Johanna", whose Dam is a full sister to Canada's Champion R. O. P. cow, "Jemima Johanna of Riverside". Milk in 365 days 30373; butter in 365 days, 1280 lbs.

Phone or write,

R, L. HICKS
DALHOUSIE JCT., - - - N. B.

ELMHURST STOCK FARM

Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S.

Shorthorn Cattle

High grade registered stock for sale

J. E. HETHERINGTON
CODYS, :: :: :- N.B.

Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages. Have some good cows to freshen soon. Am hooking orders for ram lambs for fall delivery. Write or phone for prices and description.

J. ROBIE MacDONALD,
Shubenacadie, - - Nova Scotia
Successor to J. MacDonald & Son

AYRSHIRE CATTLE AND OXFORD DOWN SHEEP

G. A. TAYLOR & SON
Salisbury, - - - N. B.

Present Offering—Two Ayrshire Bulls, 12 and 12½ months old. Their sire's dam is "Rose" with a 4 yr. record of 12,913 lbs. of milk and 485 lbs. fat. The dam of their sire's sire was "Milkmaid 4th". Prices right.

Gesner A. Taylor Austin C. Taylor

Elmwood Stock Farm

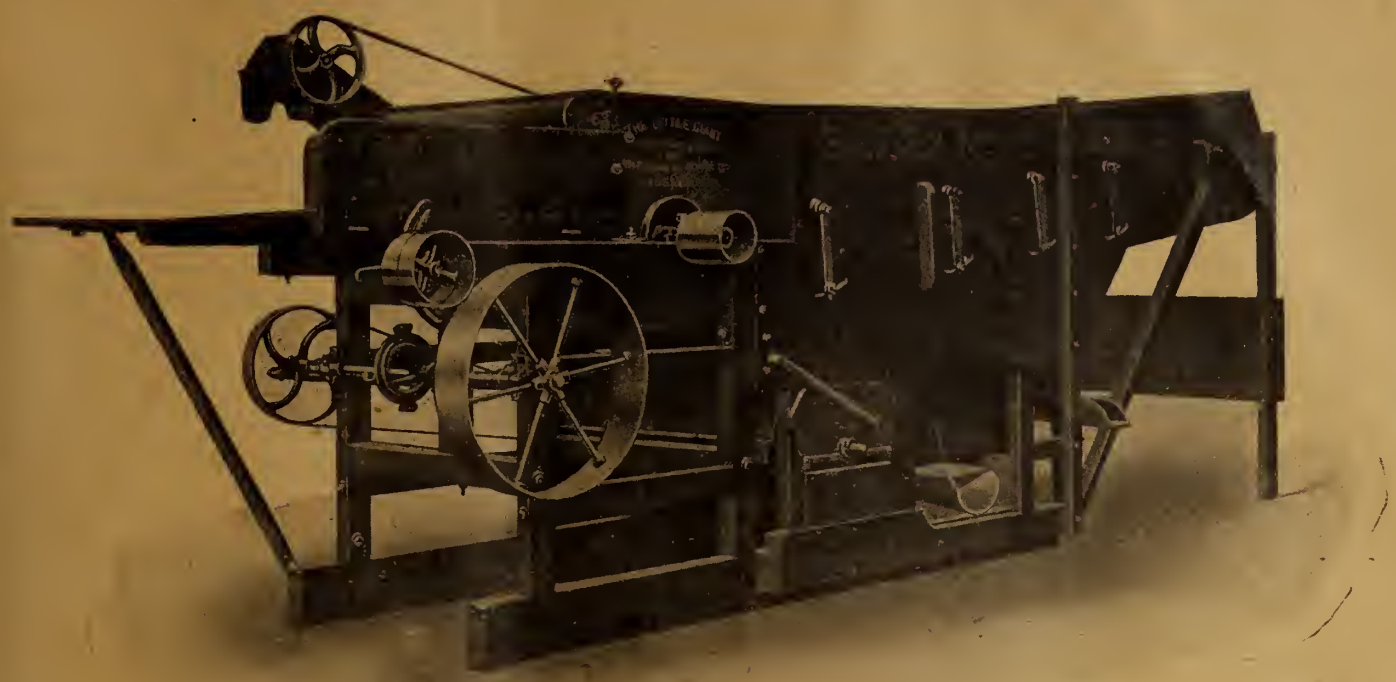
We have a few young bulls to offer, sired by Dutchland Colantha Sir Rag Apple, a son of Colantha Johanna Lad. His dam is a granddaughter of Pontiac Korndyke. Thus combining the hlood of two of the greatest hulls the world has ever seen.

The dams are daughters of Dutchland Pieterje Count. These calves are a nice straight growthy lot.

W. L. ETTER, Shubenacadie, Hants Co., N. S.

Butter Parchment at Farmer Office

THE INDEPENDENT FARMER OWNS HIS OWN THRESHER!



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Order your Little Giant early and be ready for a good season. A Guarantee of Satisfaction goes with every Sussex Little Giant. Ask for Special Catalogue.

WALLACE MACHINE WORKS, Limited, : Sussex, N. B.

Holstein Herd Averages 18812 lbs. Milk

A herd of 13 purebred Holsteins last year averaged 18812 lbs. milk and 638.57 lbs. fat.

Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in

HOLSTEIN CATTLE

send for booklets—they contain much valuable information.

Holstein-Friesian Association of Canada

W. A. CLEMONS, Secretary.

ST. GEORGE, - - ONTARIO

FOR SALE

We have to offer a nice bunch of Shorthorn bulls and heifers ages 1 to 3 years.

Also span 4 year old horses, span 5 year old horses span of brood mares and a choice driver

For further particulars apply to

FRANK C. FAWCETT

Upper Sackville - - N. B.

AYRSHIRES BULLS!

fit for service, bred from heavy producing stock.

FRED S. BLACK & SONS,
Springvale Farm,

AMHERST, - - - N. S.

Chester White Pigs for Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

COSSAR STOCK FARM

Lower Gagetown, N. B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

We are presently offering, one imported Clydesdale Stallion "Dunure Crag" sired by the famous breeding horse "Baron of Buchlyvie."

Also

One Canadian bred Clydesdale Stallion "Baron Cossar", rising 5 years old.

Further particulars on application.

G. C. Cossar, Proprietor. J. Meiklejohn, Agent.

FAIRVIEW FARM

Holstein and Yorkshire Swine

Calves of either sex, eight mos. of age and younger, from well bred and Tuberculin-tested Dams. Write for further particulars or come and see them.

Booking orders for Yorkshire Pigs for Spring delivery—from 1st Prize Sire and Dams at Fredericton Exhibition, Fall 1919—either sex, six weeks old. $10.00 each.

FOWLER BROS.,
WELSFORD, N. B.

W. E. B. TAIT

DORCHESTER, N. B.
Breeder of
DUAL PURPOSE SHORTHORNS
and
BRED-TO-LAY BARRED ROCKS

Eggs for Hatching from winners of P. E. I. Egg Laying Contest 1919, mated to Pedigreed Cockerels Imported from Oregon Agricultural College. Price $4.00 per 15.

Eggs for Hatching from high producing Pens, $2.50 per 15.

Pig Club Pigs For Sale

Last year we could not begin to fill the demand for our high class Registered Yorkshire Pigs. If you do not want to be disappointed this year, order now.

THE SOUTH TETAGOUCHE BOY BREEDERS CLUB.
Lyndsay MacIntosh, Secretary,
R. R. No. 1. WEST BATHURST, N. B.

Advertise in the Farmer

WISH-TON-WISH STOCK FARM

Have 4 good bulls fit for service, that are well grown and are extra choice individuals, and out of goid, big, heavy producing cows. Also 4 or 5 good bull calves from one to two months, as well as a few good heifers ready to breed, and some already bred to Sir Johanna Ormsby of Hickory, whose dam has a yearly official record of 22,159 lbs. milk asd 971.25 of butter in 365 days. For description and prices write, or come and see our herd.

HARDING BROS., Proprietors, WELSFORD, New Brunswick.

Firshade Farm Dual Purpose Shorthorns

P. R. L. FAIRWEATHER

Rothesay, N. B.

FOR SALE

Two yearling Gurnsey bulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

SARAH E. M. SMITH,

Woodwards Cove, Grand Manan, N. B.

AYRSHIRE CATTLE. KARAKULE-ARABI SHEEP

We are offering two Ayrshire Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

For particulars and prices write

THE EASTERN KARAKULE-ARABI SHEEP CO., LTD. WINDSOR, N. S.

A. T. McLEAN, . V. Sc.

Veterinary Surgeon and Dentist,
late of Can. Army Veterinary Corps.

Graduate of University of Toronto and Ontario Veterinary College, 1910.

Treatment of diseases of all domestic animals.

WEST MARKET ST., MONCTON, N. B.
'Phones, Office 979, Residence 1079

Springbrook Farm Ayrshires!

We have to offer one bull, 24 months, 1st prize at Woodstock, Fredericton and Chatham, 1919. Six choice bulls from 8 to 20 months, sired by the prize winning bulls "Morton Mains", Amanth Imp. and Cherrybank Cicero. Also females, all ages.

McINTYRE BROS.

SUSSEX CORNER, - - N. B.

GUERNSEYS!

For Sale—Registered stock. Male or female.

T. D. BLAIKIE,
Great Village, N. S.

Willow Glen Shorthorns!

Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

A. N. GRIFFIN,

New Mines - - - N. S.

Columbia Records

WHOLESOME LAUGHTER in the Home Banishes Gloom

FUN—real rollicking fun, equalling the best that the vaudeville or concert stage have to offer—is a tonic for the whole family circle. It adds the bright tonch which makes the country home a place to cherish: And, of course, there's the magnificent Columbia Record repertoire—great bands—great singers—great violinists—great comedians. If you were tempted to buy one of the many imitations of the Columbia, don't do it until you've seen the real thing itself—the product of a big, responsible pioneer house with more than a quarter century reputation for progress and quality.

Here Are Some Records which Will Entertain You—Real Fun Records

NEVER MO' and PURPOSTUS. Bert Williams. A1853, 10-inch $1.00.

I KEEP ON TODDLING ALONG and I'LL HAVE TO ASK MY MOTHER. Billy Williams. A2035, 10-inch $1.00.

NOBODY and MY LANDLADY. Bert Williams. A1289, 10-inch $1.00.

FRANK TINNEY'S First and Second Record. A1854, 10-inch $1.00.

MRS. DUGAN'S DISCOVERY, and CASEY AS A JUDGE, Michael Casey. A1940, 10-inch, $1.00.

I CERTAINLY WAS GOING SOME, and WOODMAN SPARE THAT TREE, Bert Williams. A1321, 10-inch $1.00.

COHEN ON THE TELEPHONE, Joe Hayman, and HAPPY THO' MARRIED, Fred Duprez. A1516, 10-inch $1.00.

WHERE DID ROBINSON CRUSOE GO WITH FRIDAY ON SATURDAY NIGHT? Al Jolson, and I'M GOING AWAY BACK HOME. Anna Chandler. A1976, 10-inch $1.00.

ALL ABOARD FOR THE COUNTRY FAIR, Harlan Porter and Knight, and SHE STOPPED TO POWDER HER NOSE, Harry C. Browne. A2252, 10-inch $1.00.

New Popular Records Which are Pleasing Millions:

YOU AIN'T HEARD NOTHING YET, (Jolson, Kehn and De Sylva.) Al Jolson, comedian. Orchestra accompaniment, and COME ON AND PLAY WITH ME, (Ruby). Billy Murray, tenor solo. Orchestra accompaniment.
A2836 10-inch $1.00

DARDANELLA, Fox-Trot, (Bernard and Black.) Prince's Dance Orchestra, and WILD FLOWER, Waltz, (Mary Earl.) Yerkes Jazarimba Orchestra.
A2851 10-inch $1.00

VESPRI SICILIANI, Siciliana, (Verdi.) Roha Ponselle, soprano solo. Orchestra accompaniment. 49686 12-inch Single Disc $1.50

THE MOON SHINES ON THE MOONSHINE, (Bowers.) Bert Williams, comedian. Orchestra accompaniment, and SOMEBODY, (Hanley.) Bert Williams, comedian. Orchestra accompaniment.
A2849 10-inch $1.00

The Columbia Grafonola should be in the place of honor in your family circle. Its many exclusive advantages; including the wonderful Columbia Tone Leaves—its supreme ability to re-create original tone for you, single it out as the one musical instrument you cannot do without.

Any Columbia Dealer gladly demonstrates the Grafonola and plays Columbia Records for you without obligation.

New Columbia Records out on the 10th and 20th of the month.

COLUMBIA GRAPHOPHONE COMPANY,
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Standard Models $37.50 to $360

The MARITIME FARMER AND CO-OPERATIVE DAIRYMAN

TRADEMARK REGISTERED

Published Fortnightly in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., JUNE 22, 1920 No 19.

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Maritime fences will stand the severest tests, because they are built throughout of extra heavy hard drawn No. 9 steel wire. The superior stretching power of No. 9 wire keeps the strands from snapping under heavy strains or hard frosts. Each fence is thoroughly galvanised and will sturdily resist the rust and rot of weather.

STANDS THE TEST OF MAN, BEAST, WEATHER and TIME

The strands and stays are firmly gripped at every join by our special time tried and tested never-slip lock. Even after years of hard service, Maritime wire fence retains its sagless shape and sightly appearance. All Maritime Fences are carefully inspected and rigidly tested before leaving the factory. When you buy it you know you have got something that is bull strong and hog tight, something that will withstand greater strain than it is ever likely to receive.

Before you buy fencing it will pay you to first learn what the Maritime has to offer in the way of real fence service.

For sale by agents and dealers in nearly every section.
If you don't know the local dealer, write to us direct.

The New Brunswick Wire Fence Co., Ltd.
MONCTON, N. B.

YOUR AUTO TIRES FOR 1920

If you are a subscriber to the Maritime Farmer, paid in advance, we will look after your Auto Tire Needs.

We also carry Tubes

Before you buy elsewhere write us.

Tell your friends about it too.

We carry 30 x 30 1/2 in. tires and tubes in stock.

This service is for Maritime Farmer Readers only.

We have helped hundreds in the past. Shall we help you?

Write for Prices.

THE MARITIME FARMER,

Sussex, N. B.

Subscription price $1 per year.

PURINA

There's a Purina Feed for Every Need

Does this interest the Farmer

It surely must—in a study of feeds it is essential that the feeder have a full understanding as to the palatability, bulk, laxativeness, succulence, etc., of feeds in general. The man who understands feeding and practices it daily, is more sure of success than the one who does not. In the manufacture of PURINA FEED, scientific research has given us the knowledge whereby it has been possible to produce properly balanced rations which, when fed according to the PURINA plan, makes for the greatest success.

Every ingredient that goes into PURINA FEEDS is scientifically compounded and absolutely adjusted to the digestive organs—because they are uniformly mixed, which is seldom if ever true of home made rations.

Are Your Sows Prepared to Raise Thrifty Pigs

Do you know whether your sows are properly nourished before and after the pigs are born? Are they getting the right elements in correct proportion for best results? Unless the diet is properly balanced, the sow's milk flow will be cut down, particularly in the rear udders. You need not have runts. A properly balanced ration will prevent them.

PURINA PIG CHOW

regulates the sow's system, and puts her in the best of trim for big production. It puts rich, red blood in her veins, the basis of an abundance of rich milk, sufficient for all the litter. It starts the pigs off right to make market-toppers.

PURINA O-MOLENE

A vigorous horse doing hard work, requires good digestion of all that he eats. PURINA O-MOLENE FEED is the perfectly balanced ration—the ingredients used in its manufacture being cracked corn, oats, Alfalfa, Molasses and one per cent Salt. PURINA O-MOLENE FEED is more easily assimilated by the horse and contains all the nutrients required. It produces better results than Oats, Corn and Oats or other mixed feeds. Much waste is occasioned through horses swallowing whole Oats to an extent of 15 to 18 per cent lessening of their digestive and consequent nutritious value. There is little or no waste when feeding PURINA O-MOLENE.

Purina Feeds are Sold in Checkered Bags Only

You can yield larger profits by using PURINA FEEDS. Thousands of successful feeders bless the day they started buying Checkerboard bags and following the "Purina" plan —and so will you. Don't put off. If your dealer cannot supply you with PURINA FEEDS, write directly to the Chisholm Milling Co., Toronto, and your wants will be promptly supplied.

Wholesale and Retail Distributors for Eastern Provinces

C. H. PETERS, SONS, Limited - - ST. JOHN, N. B.
J. B. SNOWBALL CO. - - - - CHATHAM, N. B.
CLEMENT & PEABODY - - FREDERICTON, N. B.
HANTS WHOLESALES - - - - WINDSOR, N. S.
R. McG. ARCHIBALD - - - - - - TRURO, N. S.
H. C. BALLEM & CO. - - - - SYDNEY, N. S.

Purina Poultry Feeds

No investment will bring larger profits than PURINA CHICKEN CHOWDER—it makes hens lay—it makes them pay. We are so sure about it, that we give a guarantee of "more eggs or money back" when fed the PURINA way. PURINA BABY CHICK FEED guarantee reads—"Double development or money back" if chicks do not develop twice as fast as when fed a grain ration. Always insist on getting the checkerboard bag.

Write us today for free copy Dairyman's Home Reading Course

64 page Poultry Book sent free on request

PURINA COW CHOW

PURINA COW CHOW is the outstanding dairy feed. Not only is the quality of the grain guarded, but the ingredients are accurately measured and mixed by machinery. It is balanced to produce extra milk in the milk pail. At the present milk prices, this extra milk means big extra profits. PURINA COW CHOW FEED which is a bulky ration containing 24 pounds of protein in every 100 pounds of feed. Every ingredient—linseed meal (old process), gluten feed from corn, hominy feed, cottonseed meal, ground alfalfa, molasses and 1 per cent. salt—is of recognized value.

Don't Kill the Calf

With the present profits on beef you cannot afford to butcher the calf, and with the high price of milk you cannot afford to raise the calf on milk. But you can raise the calf on PURINA CALF CHOW, the perfect milk substitute. Every ingredient is quickly and easily assimilated without scouring or burdening the delicate digestive organs of the calf.

THE CHISHOLM MILLING COMPANY LIMITED, TORONTO

Look for the Ru-ber-oid Trade Mark

You cannot afford to buy ready-roofing in a hap-hazzard manner. The questions of service and cost are too important. Your decision as to the grade which will best meet your requirements should be based on definite information.

Innumerable people ask for Ru-ber-oid, believing that the name stands for what they want in ready-roofing. In the course of a year, thousands of them do not get Ru-ber-oid *although they think they do.*

These people fail to get what they ask for because they do not know that the name Ru-ber-oid can be rightly applied to but *one* ready-roofing—that made by The Standard Paint Company, bearing the Ru-ber-oid Man on the out-side of the roll.

Ru-ber-oid is the peer of any roofing made. It has a proud record of service, covering more than a quarter of a century. On many a roof the limit of its endurance has not yet been found after more than twenty years of duty. Inborn quality, from the surface to the center, is what gives Ru-ber-oid its character.

Ru-ber-oid is expensive—judging by the cost of many ready-roofings. Its quality justifies its cost. It is made for the man who wants the best in ready roofing, who realizes that low price and high quality do not team together. If you are that kind of a man ask for Ru-ber-oid and *look for the Ru-ber-oid Man*, our trade mark.

THE STANDARD PAINT COMPANY
OF CANADA, LIMITED
52 Victoria Square, Montreal, Que.
WINNIPEG TORONTO VANCOUVER HIGHLANDS

MAKERS OF

RU-BER-OID ROOFING

There is but one Ru-ber-oid.
Look for the Man on the Label.

ASK YOUR RETAILER FOR GOODS BEARING THE ABOVE TRADEMARK

The Seal of the Prudent Housewife's Approval

THE Canadian housewife has for three generations been using products of the Dominion Textile Mills for sheetings, pillow-cases, towelling, underwear and summer garb. Fine cottons for intimate garments, or wear-resist fabrics, such as STEEL CLAD GALATEA *or* ROCKFAST DRILLS, *are all included under the Housemark of The Dominion Textile Co. Limited.*

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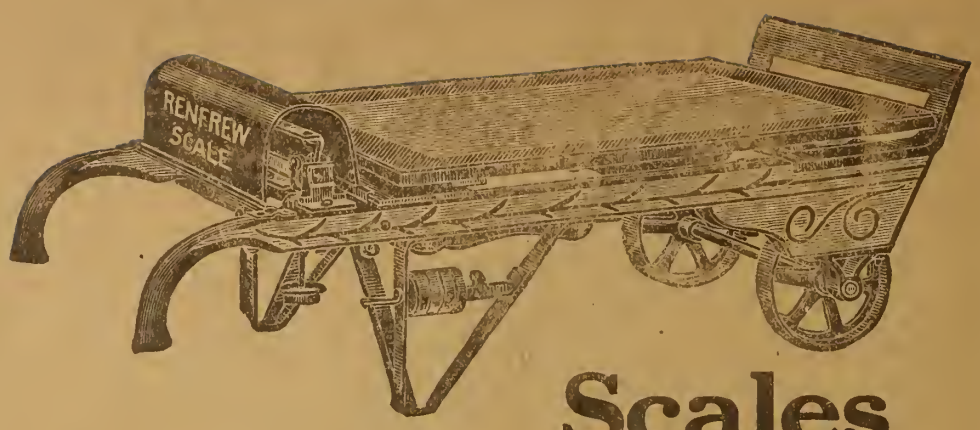

Scales That Save Money

WOULD you willingly hand over part of your fair profit to a man with whom you were doing business? Decidedly not. And yet thousands of farmers who do not own good, reliable scales are doing that every day of the year.

Recently we wrote to a number of men who own our famous

Renfrew TRUCK SCALE

We asked them to give us their candid opinion of its value. You will see by reading through the column at the right what just a few of them think. Note particularly what they say about its value as a money saver.

It is an ideal investment for the progressive Canadian farmer. It is a light, yet strong and powerfully built scale that will *weigh anything from a pound in weight to over a ton.* It is absolutely accurate. It can be wheeled around like a truck, saves a lot of heavy lifting, and takes up very little room when not in use. It is self-adjusting; that means that it will weigh accurately on uneven ground. The wheels are wide, thus making it possible to run the scale over soft or muddy ground.

Each Renfrew Handy Two-wheel Truck Scale is numbered, and before being shipped is thoroughly tested for accuracy and strength by a Government inspector. It is a Made-in-Canada product throughout. It has many other splendid features that are bound to interest you. Write to-day for our booklet.

The Renfrew Machinery Co., Limited

Head Office and Works: Renfrew, Ont.

Branches: Montreal, Que.; Sussex, N.B.; Milwaukee, Wis., U.S.A.

Other Lines: Renfrew Cream Separator, Renfrew Oil Engine, and Happy Farmer Tractor

What a few Renfrew Truck Scale Users Say:

Mr. D. B. Haskett, R. R. No. 5, London, Ont., writes that "on more occasions than I can keep track of," the Renfrew Truck Scale has saved him money. It will weigh anything "from a cow to a chicken".

In a deal in hay, Mr. Rufus Botting, Godfrey, Ont., reports that his Renfrew Truck Scale saved $25.00, in a grain deal $10.00, and in another in pigs, it saved $15.00. Altogether in the three deals he mentions, it saved him $50.00. In the 5½ years he has used it, his scale has proved entirely satisfactory.

Mr. T. Hust, R. R. No. 3, Pembroke, Ont., thinks a farmer should not be without one. His scale, on which he weighs all his farm produce, has saved him many market fees.

Mr. W. B. Scobie, R. R. No. 3, Prescott, Ont., has weighed the capacity on his Renfrew Scale, and further says he finds it very handy around his farm. He weighs "everything" on it, pigs, milk, sheep, cattle, etc., and recently saved $4.50 on a pork deal.

Mr. Wilfrid Quenneville, Desaulniers, District of Nipissing, Ont., reports that his Renfrew Truck Scale saves him money every time he is selling anything. The self-adjusting feature has been of value to him when weighing hay.

"The first fall I had them they saved me the price of the scales in wheat alone", writes Mr. Fred Laderoute, Westmeath, Ont. He thinks every farmer should have a Renfrew Scale, because "then the owner knows what he gets when he buys, and he doesn't lose anything when he sells". They give standard weight, and they are easy to move around.

On one shipment of hogs, John H. Johnson, R. R. No. 2, Croton, Ont., saved $10.00 and shortly afterwards, also thanks to his Renfrew Scale, he saved $15.00 on a cattle deal. He also believes every farmer should own a Renfrew Truck Scale.

"They are the handiest scale on the market", writes Mr. Alex. Backus, R. R. No. 1, Simcoe, Ont., who saved 3 bushels of wheat in one load, and 80 pounds on one lot of hogs, thanks to his Renfrew Scale.

Alfred Keller, Monk Road, Ont., reports that his Renfrew Scale has saved him money "in many ways too numerous to mention".

In weighing for market and in selling calves, Mrs. A. Parkinson, R. R. No. 8, London, Ont., tells us her Renfrew has saved her money. It weighs correctly, is easy to operate, and takes up very little room.

Mr. Kirby Newstead, R. R. No. 3, Atwood, Ont., weighed 2,500 pounds on his Renfrew Scale. He finds it absolutely satisfactory and says it has saved money for him many times.

"I think my scales more than paid for themselves in a very few days weighing out hay", writes Mr. Wm. J. Hough, R. R. No. 2, Prescott, Ont.

In selling grain, hogs, beef, hay, and poultry, Mr. W. H. Headley, McLennan, Ont., has saved money because of his Renfrew Scale.

Mr. Hugh Fitzgerald, R. R. No. 2, Jasper, Ont., has owned his Renfrew for ten years and in that time it has always given perfect satisfaction. "It has saved money every time it was used", reports Mr. Fitzgerald. "It saves time, takes up no room, and will last a life time".

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTESED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick. The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 25. SUSSEX, NEW BRUNSWICK, JUNE 22, 1920. Number 19.

Profiteering From the Already Overworked Farmer

Huge Reserves Have Been Piled Up by the Grain Growers Limited---New Brunswick United Farmers Stores Organized to Reduce Prices, Now Want the Earth.

The writer well recalls that when the United Farmer store movement was started in this province, perfervid orators raged and stormed about the overcharges which country stores were making to farmers. The average shop-keeper was denounced as a profiteer, a robber, a leach, a parasite(the last term was very popular and oft repeated) and a general outcast. These orators were provided with verbal ammunition (and it was always the same song) from which the audiences were informed just how many farmers and other people it required to maintain a store and thus support an army of these undesirable gentry.

The speakers went far beyond that and they told of the approach of the millennium, when United Farmer stores would dot the countryside and high prices would be no more. The stores were started in due time at various points, but the high prices are still with the farmer, and not only that, but farmers are now being urged not only to pay the prices charged by the "parasites" but to go one better, and pay still higher prices, which the United Farmer stores find it necessary to charge. So that the froth of which some of those worthy orators delivered themselves has already vanished into thin air and farmers are finding that "business is business" and that when losses come, they must share them as well as profits.

The Maritime Farmer has been taking a "real" interest in co-operation for some years. Close investigation of conditions showed that in some sections farmers were charged enormous profits on feeds, fertilizeris, seeds and other articles. In order to relieve this condition, co-operative organizations were formed in this province, notably the New Brunswick Agricultural Society United, with a view to supplying unmixed chemicals to agricultural societies. The experiment resulted in the saving of thousands of dollars to farmers.

Later the Maritime Farmer, at the request of farm organizations, bought feed and seed for them. Thousands of farmers benefited from this inovation and not only were prices reduced directly, but the effect in many sections was such that profits on feeds and seeds came tumbling down and in some instances, those who had been buying co-operatively were able to make arrangements with storekeepers for the handling of feed, which were highly advantageous to the buyers. It was good business and the farmer, by paying cash, and without investing a single cent of his capital was able to save a tidy sum each year.

It was a hard proposition to get supplies at first. For several years the Maritime Farmer had a hard, uphill fight to get the right to buy for farm organizations. However, that condition was overcome, and thanks to this paper's efforts, agricultural societies can today buy numbers of articles that were formerly not available to them. That service has cost the farmers of these provinces not one, single red cent. They were not asked to contribute money to a dozen and one different services We did the work for the benefit of our subscribers. Later a number of societies bought for themselves direct. The Maritime Farmer, when this transpired, did not abuse anybody. It encouraged them to carry on. At Petitcodiac, following a meeting addressed by a Maritime Farmer representative several years ago, a buying organization was started, and hundreds of dollrs were saved to the farmers of that section. Havelock and Corn Hill were also induced to take up the work, and they did so to advantage.

The idea of the Maritime Farmer was to stop excessive profiteering and permit farmers to get full benefit for their money. The business was practically all done by the farmers themselves. They paid their drafts, sold the goods under any arrangements they saw fit, but they did save money. All this had a very restraining effect in some sections. It proved that profiteering could be met and could be controlled. The Maritime Farmer, therefore, did much to put an end to what was in some sections, undesirable, to say the least. But the Maritime Farmer sees no difference in profiteering, whether it be carried on by a merchant or a number of farmers who have put their money into a business, the principal object of which is to make money, not to save it as was first announced. The Maritime Farmer only sees this difference that if it is wrong for a man who makes no pretense of virtue to soak customers, then it is worse for those who profess to be friends of those customers, to not only charge them the prices which were previously condemned as unjust, but to go one better and try to justify still further profiteering.

In its issue of June 2nd, the United Farmers' Guide is back to the task of trying to induce farmers to pay more for flour than they can buy it for elsewhere. The Guide complains that shop-keepers are selling flour at $14.75, while the United Farmers are buying the same grade at $15.79 per barrel. This, in the judgment of the Guide is not right. The store keeper, who offers flour one dollar and four cents per barrel cheaper than the United Farmers' store can buy it, is a conspirator. Formerly he was a "parasite." Now he has advanced one stage and is a person who practices the "meanest" trick of selling something below the price charged by the United Framer stores. Of course, at Sussex long after the price of flour had gone up, merchants sold any grade of hard wheat flour at fifteeen dollars per barrel. The price of western flour varies today from $14.75, quoted by the Guide, to the price the United Farmers are asking. The Maritime Farmer, by long distance, got quotations varying from $15.50. At the points at which these figures were gathered, there are no United Farmer stores. The Guide believes, however, that these merchants should advance the price of flour forthwith and ask the farmer to pay not $14.75, $15.00, $15.50 or $15.75 per barrel as the case may be, but $15.79 per barrel, plus any profit that the United Farmers may ask.

Last week farmers in Charlotte county bought and delivered flour for themselves at $15.80 per barrel. They paid $56.90 per ton for bran, $63.90 for shorts and $1.42 for oats. These prices are just what the the head office of the United Farmers at Woodstock would have to pay. Yet they are opposed to the Charlotte county farmers getting the same benefits on the market that they, the United Farmers' stores get. The proper thing for the Charlotte county farmers to do is to pay Woodstock a middleman's profit and then everything would be lovely.

The Maritime Farmer observed a paragraph or two back, that it not only dislikes profiteering, but it dislikes it most in these self-professed friends of the farmer. Shareholders in the United Farmers tell us they pay more for some lines at these stores than they do from privately owned concerns. Why is this? One of the big advantages claimed by the United Farmer stores is that they can buy so much cheaper, being so much heavier buyers, than the ordinary shopkeeper. If that is so, then why are they not able to meet competition? The reason why merchants undersell them in flour is that these same merchants bought when the market was right, and they are selling at a profit based on the old price. They were keen enough to see an approaching raise in the market and took advantage of it, although it required no master-mind to forsee this condition. It was impossible for grain growers to get raises in their wheat prices and not have flour and feed go up. Why, if Winnipeg was as sincerely interested in the farmers of the east as it professes to be, why was Woodstock not notified and advised to get in on the ground floor? So it would seem that the claimed advantage of being able to buy in large quantities is lost. so far as the United Farmers of Woodstock are concerned, in relation at least to their flour buying.

The Maritime Farmer has had the courage to point out a few of the shortcomings of these so-called co-operative companies and it is proposed to continue to do so. Take, for instance, the Grain Growers of Winnipeg. That concern, according to one of its principal officers, had assets two years ago, of $6,000,000. Its paid up capital is $2,500,000. That is to say, it has a surplus of three million five hundred thousand dollars, which it must have taken from the farmers of the west. And this despite the fact that the farmers of the west through the catalogue of the United Grain Growers are assured that increased business means greater benefits for the buyer. Not only has this great surplus been piled up, but in one year it is admitted that the Grain Growers' Association made a profit of $500,000 on a capital of $100,000. In explaining this Hon. T. A. Crerar contends that this was the ordinary profit earned by other concerns. Exactly. But firms making far less profits have been condemned in the most brutal way by the Grain Growers' Guide, for profiteering.

Apparently the Maritime Farmer and the United Farmers' Guide are very far apart in their ideas of what co-operation is. We believe that co-operation in its true sense does not admit of the Grain Growers piling up surpluses of three and a half million dollars, or of making profits of five hundred per cent. We do not care what others may be doing. That only makes the offence greater. We repeat that if it is wrong for non-farmers to rob farmers, then it is infinitely worse for farmers to rob their brother farmers. We have no patience with the defence that two wongs make a right.

The Maritime Farmer has never hesitated to criticise overcharging. It is doing that very thing now. It does not see any reason why a farmer should pay the United Farmers stores five dollars per ton more for feed than they can buy it elsewhere for. It sees no connection between the politics of any man in this country, and a duty on his part to pay well on to two dollars per barrel more for ffour than he has any need of doing. There are shareholders in the United Farmer stores, who profess to think that they have not derived all the benefits that they were promised, when they were induced to become subscribers. At least they were surely not led to believe that an investment that they must pay whatever Woodstock thinks is right.

Some reference was made in the Guide to a movement in Petitcodiac

(Continued on page 726)

Improving the New Brunswick Egg

By G. B. Wilson, Dominion Poultry Rep. for N. B.

Canada produces annually about one hundred and sixty-five million dozen of eggs. She exported during 1919, less than six million dozens. New Brunswick's hen population for 1919 was about 791,000 birds. Allowing an average egg producton of seven dozen per hen, we have an annual provncial production of 553,700 dozens of eggs. Add to that the value of our poultry meats and we have an industry of no mean proportions either considered individually or by comparison with our other agricultural productions. About 90 per cent. of our farmers raise poultry; hence eggs may be said to be a universal food; as well as a food of high nutritive value. Our output of eggs is steadily growing, but the demand is growing even faster than the supply. This demand is due to increased cost of meats, a preference for eggs as food and to a realization of the palatability and tre digestibility of one of the most nutritious foods on the market today.

Unfortunately many of the eggs produced do not reach the consumer as fit for food and many more that are fit for food are food of a much lower standard than nature meant them to be. We must remember that the hen presents her owner with an egg that is fresh, sweet and nutritious. It may be small, or dirty or thin shelled, which faults are at the door of her owner who disregards breed, feed and clean and sufficiently large laying quarters. The hen keeps pace with her breed and environment and almost invariably, even under the worst conditions gives her owner more than she receives. What becomes of the fruit of her clucking and endless scratching and unwearied searching for an egg-producing life? She goes singing to her nest and lays a perfect egg; but how many of her lay reach the consumer fresh and sound, and what part does marketing play in the sum total of the quality of her product.

The big problem in marketing is to get produce from the producer to the consumer and ocnserve that quality and flavor which is nature's contribution, guarantee the consumer that he gets what he buys and give the producer the remuneration that he right ly deserves.

Our Canadian egg regulations recognize four main grades of fresh eggs defined as follows:

Class 1.—Fresh. Eggs which have not been held under refrigeration at a temperature of 40° Fahrenheit or less except when in transit or subject to artificial preservation.

Grade (a)—Specials. Eggs of uniform size, weighing 25 ozs. to the dozen and over, or 47 lbs. net to the 30 dozen case; clean and free from stain, strong and sound in shell; air cell small, not over 3/16 of an inch in depth; white of egg to be firm and clear and yolk dimly visible. Maximum allowance at time of inspection ot to exceed 12 eggs per case undergrades below the grade stated.

Grade (b)—Extras. Eggs of good size, weighng at leaist 24 ozs. to the dozen, or 45 lbs. net to the 30-dozen case; clean; sound in shell; air cell less than 3/8 inch in depth; white of egg to be firm and yolk slightly visible; maximum allowance at time of inspection not to exceed 12 eggs per case undergrades below the grade stated.

Sub-Grade (1)—Pullet Extras. Eggs which have the quality of extras, but fall short in weight shall be known as pullet extras, providing they weigh at least 20 ozs. to the dozen, or 37½ lbs. net to the 30-dozen case; maximum allowance at time of inspection not to erceed 12 eggs per case undergrades below the grade stated.

Grade (c)—No. 1's or Firsts.—Eggs weighing at least 23 ozs. to the dozen, or 43 lbs, net to the 30-dozen case; reasonably clean; sound in shell; air cell elss than ½ inch in depth; white of distinctly visible but mabile; egg to be firm; yolk may be air cell stationary; maximum allowance at time of inspection not to exceed 12 eggs per case undergrades below the grade stated.

Grade (d), No. 2's or Seconds.—Eggs sound in shell; may contain weak watery eggs and eggs with heavy yolks, and all other eggs sound in shell and fit for food; maximum allowance at time of inspection not to exceed 12 eggs per case undergrades below grade stated.

Aside from these grades of marketable eggs we find eggs with blood rings, spot rings, black rots, mouldy eggs and blood spots which are unfit for food.

Effect of Dampness and Heat on Quality

Having now some idea of the grades of eggs on the markets, let us see what causes contribute to produce them. It has been said that climatic conditions have the greatest influence on the quality of the eggs coming to the markets. Too much rain means that the hens have muddy feet, hence the eggs may be soiled even when deposited in clean nests; but when laid hither and yon, in stolen or unkept nests, as so many farmers permit their birds to lay, the proportion of dirty eggs is greatly increased. Dampness, too, in duces a more rapid growth of the bacteria or fungi which are commonly present even in new-laid eggs, but which are in such small numbers that they can be disregarded unless conditions favorable to their multiplication arise.

Heat, however, is the most prolific source of trouble. Hot weather not only puts the hen out of condition, but it hastens all the evils that an egg is heir to after it is laid. Its flavor is lost sooner; evaporation is hastened, hence the shrunken egg comes more quickly; worst of all, the development of the embyro in the fertilized egg proceeds with a greater and greater steadiness and rapidity as the temperature rises, resulting in the "rots" and "spots" of commerce. It is the medium temperature of March, April and part of May that is responsible for the high proportion of fresh eggs on the spring markets, as well as the fact that, because the price is apt to fall, the producer ships his eggs quickly.

Germination

In order to preserve the desirable qualities which are found in the new-laid egg until it reaches the consumer the development of the chick must be reduced to a minimum. Germination of the fertile egg begins before it leaves the body of the hen and growth of the chick will continue if the temperature is greater than 70° F., though, of course, the rate of development is slowed if the temperature is below 103° F.

These facts are to be remembered when eggs are left in the sun or held in hot freight cars or stacked in hot rooms. The egg must be kept cool at every stage of its handling if it is to retain a maximum of freshness when it reaches the consumer. No amount of refrigeration or care will undo the damage done by a few hours of summer sun or a few days in a hot room. After deterioration has begun refrigeration is unable to completely check these processes.

Who Is Responsible

Usually the farmer gathers his eggs daily, or he may gather them at irregular intervals. Stolen nests often accumulate a large lay, over a period of some weeks, and may have been covered by brooding hens for a while, before the farmer happens to find them; but the chances are that vry sound-shelled eggs geos to market, regardless of the condition inside the shell. If the eggs are gathered with fair regularity, how are they kept while on the farm? Generally where the housewife can most conveniently get them for household use, not where the temperature is low and the air fresh. Neither does the farmer have any regular time for taking this stock of eggs to market. In the spring, when they are most plentiful and the market is falling, he is apt to go weekly or the egg peddler calls at the farm. When hot weather comes and the lay falls off he waits for a larger number or is too busy with "crops" to drive to town. Meanwhile shrinking and incubation are goin on rapidly, and, as a last insult to the hen which laid a perfectly fresh egg and the consumer who wants a perfectly fresh egg, he often goes to market with an umbrella over himself, but the basket of eggs is exposed to the summer sun, a heat which is often 80° F. and may be 10 degrees or more above that. In the autumn, with a still smaller lay and a rising market, he hold eggs for high winter prices. The conditions under which he keeps them are not conducive to good preservation, and the time is inordinately long.

The Country Merchant

The country merchant handles eggs as a by-product, taking them in exchange for merchandise. He makes his profits on the merchandise taken in trade, and sometimes on the eggs, frequently giving an inflated price for them to hold the trade of the desired customer. He, too, is more apt to be careless than careful of them while they are in his possesion, storing them in hot and damp quarters and holding for high prices when production is low.

The country merchant and peddler buy eggs "case count" rather than "loss off." Buying "case count" means that a uniform price is paid per dozen, irrespective of the suality of the eggs. Rots bring just as much as good eggs. Buying "loss off" means that the eggs are candled before payment is made and rotten and broken eggs are returned to the farmer.

The country merchant is usually not equipped with a cool dry room and a candling appliance so that he can handle eggs and pay according to grade or at least loss off. He simply packs the eggs in cases and ships to either a large city retail store or to a jobber. If to a retail stsre, the eggs are agains disposed of to the consuming public "case count.." If they are sent to a jobber, he sometimes sells "case count" but usually the eggs are candled and the bad eggs removed. The journey to the city store or to the jobber is sometimes by express and sometimes by freight. The temperature of cars is regulated by the atmosphere and is usually not conducive to improving the quality. At the express offices and freight sheds, the eggs are often exposed to the sun rays which again has its detrimental effects.

What About Price

Through all this journey many causes have contributed to lowering the quality of the eggs. But the consumer pays the bill. If the jobber removes the bad eggs, his selling price on the good eggs must make up for his loss in paying for unmarketable eggs. It costs the same money to collect, pack ship, grade and market a stale, dirty or otherwise low quality egg as it costs to perform a like service for a high grade egg, though the farmer must sell for a lower price. Deducting, therefore, the price of bad eggs and the decrease in price on low quality eggs, we have the much higher price that the consumer pays over and above the price the producer got for the same eggs.

The Remedy

To improve our New Brunswick eggs then considerable house cleaning in our present marketing system is necessary. That house cleaning must start back with the producer of eggs and continue until the egg is put into the consumer's hands. First the farmer should pay more attention to selection in his poultry that eggs may be larger, cleaner and more plentiful on the farm. The male bird should be removed from the flock as soon as the breeding season is over. The male bird is not necessary for the production of eggs. Hens will lay as many eggs if the male bird is not present. When males are present the eggs are fertile and therefore ready to devlop into chicks whn temperatures are favorable. Infertile eggs will grow stale and shrunken if held too long, or kept under bad conditions, but they do not form heavy yolks, blood rings or the great number of rots that come from the developing embryos and which cannot for such a large share of the total losses. The hens environment must be clean and sanitary and the eggs gathered frequently. Once gathered the eggs should be kept in a cool dry place. Eggs should never be washed because washing removes the protective coat, permits bacterial contamination and consequent "spot rots." Eggs should be marketed twice a week in warm weather, so as to get them to the consumer as soon as possible after they are laid.

But 'tis no use to ask for improved methods of handling on the part of the farmer if he is not paid for the quality he produces. The great trouble in our marketing system is lack of quality payment. Some system must be built up whereby the farmer can be given payment for the grade of eggs he produces and the consumer get the grade of eggs he pays for. Once quality payment is accomplsh-ed, the produced will look to the improvement of the quality of the output.

The solution of the situation is co-operative marketing. A candling station is needed, where the eggs can be shipped direct from the farm and be candled and graded. Each individual should have a report by the candler of the eggs he is selling, with a statement of why the eggs are low grade if it be such that they are. The candling statnon should be the egg exchange—the clearing house—from where the eggs could be distributed to the consuming public by grade and the consumer have some guarantee that he gets twelve quality eggs in a dozen and not be paying for the guess workw of the dealer, as he is at present.

New Brunswick is not self-supporting in her egg trade. Our marketing system is one factor that is responsible. If the producer has payment for quality more eggs will be produced and we will have stability of market with increased consumption of eggs. There should be no secrets in the egg business.

RAT EXTERMINATION URGENTLY NECESSARY

Various Methods of Killing Recommended are Very Effective in Conjunction when Concerted Campaign is Launched

The rat is a great nuisance, but not a necessary oue. He can be got rid of by concerted action and can be fought and kept within limits even by individual action. If means for the control of the pest are not taken, the rat's fecundity, combined with an increase of his food supply and hiding places as population becomes denser, will most certainly result in his becoming nothing less than a national menace. Indeed, he is that already and rats do an incalculable amount of damage wherever food is producer, stored or transported.

The various means at man's disposal for combatting this cunning and prolific rodent are:

.—The encouragemeut of the rat's natural enemies:

(1) Domestic animals, e. g., cats, terriers and ferrets.

(2) Wild animals, e. g., owls, hawks, snakes, weasels, etc.

As to cats, the ordinary pampered house pet is useless as a rat catcher, while a semi-wild cat is liable to be dangerous to game, poultry and small insectivorous birds. Nevertheless, the fact that the cat has been associated with man since the days of ancient Egypt shows that, on the whole, it has been found more beneficial than harmful. Terriers are commonly used by professional rat catchers and can be trained to be exceedingly expert. Female ferrets are used—the males being too large—to enter the holes of rats and either drive them forth or destroy them there.

It is strange that, though man harbours the cat, he should generally show such an antipathy to small wild carnivora. Few creatures are more beneficial to man than the owl. He preys principally on rats, mice, gophers, squirrels and other noxious rodents. The damage he does to poultry is negligible. Even the hawk, though he does take a chicken occasionally, does infinitely more good than harm. Only the Sharp-skinned and Cooper's hawks and the Goshawk are exceptions to this rule. The weasel and his congeners may indeed wreak sad havoc in a poultry-house, yet, if proper precautions are taken, they can be excluded and their bloodthirsty inclinations turned vermin. As to snakes, the common species found in Canada are al non-poisonous. They certainly destroy many field mice and, if given a chance, there is no reason why they should not be valuable allies against rats.

B.—Traps.

Rats are exceedingly cunning creatures and no trap has yet been devised which has been more than temporarily successful in any one locality. No doubt many rats can be caught with them by a skilful man, but, as a means of extermination, they are not to be seriously depended on.

C.—Poisons, e. g., arsenic, strychnine, squills, etc.

Mr. E. G. Boulenger, Curator of Reptiles, oological aGrdens, London, states that, to kill rats, he has obtained the most satisfactory results with squill poison, which, in small quantities necessary for rat desstruction, is harmless to domestic animals. It is best used by soaking bread in a solution of the poison mixed with milk. Barium carbonate, of which 1½ to 2 grains kill a rat, though 10 to 15 grains are harmless to a chicken and 100 grains to a dog, is next best. It should be mixed with tallow and smeared on bread as it makes the rats thirsty. It can be used effectively with squills. After it has been put down, bowls with squills and milk should be placed where the rat will go to drink.

Strychnine is too dangerous for general use. Phosphorous and arsenic are also very dangerous, and are less successful than squills and barium carbonate.

Since the war, the suggestion has been made that poison gas should be employed against rats. No doubt this would prove very effective in confined spaces such as cellars and the holds of ships.

D.—Bacterial cultures.

In Denmark, where a vigorous, national campaign has been wager against rats, a virus discovered by Dr. Neumann, of Aalborg,, has been found very effacious. Cultures of Nemann's bacillus are put up in tins under the name of "ratin." It is simple to use and has been found to be an attractive bait. Its harmlessness to domestic animals has been demonstrated. Among rats, however, except in isolated instances, it produces a virulent epidemic, with a very high mortality. Experiment with this culture in Scotland, Germany and India are also reported to have been satisfctry.—Cnservation.

Guide Should Tell the Truth

It Doesn't Pay to Misrepresent Things, Because the Farmers of the Maritime Provinces are Intelligent--They Read Once in a While and Cannot be Fooled All the Time

We publish in full an article from the columns of the United Farmers' Guide of the 2nd June issue. We ask our readers to read it carefully and then read a despatch from Winnipeg of the same date. Then let each reader form his or her own opinion as to the reliability of the Moncton edition of the Winnipeg Grain Growers's Guide. We hardly blame the Moncton branch for getting excited. The fact is that the Maritime Farmer has been letting rather too much light in on that wheat transaction. To find every other part of Canada pulling down thousands of dollars in wheat price increases, and the Maritime Province farmers ignored, is not just what the United Farmers' Guide would have conveyed to the farmers of the east. All that is required of them is that they vote Winnipeg. And so this little ladylike effusion resulted:

THE SUSSEX ANNANIAS

(United Farmers' Guide)

In the last issue of the Maritime Farmer, which might probably be more appropriately named the Sussex Annanias—with apologies to Annanias—returns with blood in its eye to the attack upon the organized farmers and the United Farmers' Guide. Apparently the editor of the Annanias has been taking some strong stimulant. But that editor is a modest fellow. He most modestly admits that he has scared the editor of the Grain Growers' Guide from his purpose—but forgets to say how or when. He unmasks several other deep plots that have been laid only in his own muddled brain. Truy the editor of the Sussex Annanias is a great exposer—chiefly of his own inability to be true to an editor's greatest obligation, namely to give his readers the truth.

The great editor who broods over Sussex finds that the unpatriotic graingrowers are eating Washington apples. He would have them all deported or sentenced to some terrible punishment. He conveniently overlooks the fact that Washington and California apples are today being sold all over New Brunswick after paying 90 cents a barrel duty to come into Canada. We would urge this ptariotic Annanias to investigate this matter before going further afield.

The Sussex Annanias still declares that the western grain growers are seeking to have a price fixed upon the 1920 wheat crop—despite the fact that there is not a single word of truth in the statement. Just for information on this subject we quote a telegram which we sent to Sir George Foster and his reply thereto.

May 25, 1920.

Sir George Foster, M.P.,
Minister of Trade and Commerce,
Ottawa, Ont.

Please advise by wire collect if the organized grain growers of western Canada either by delegation or otherwise have requested the Dominion government for a fixed price on the nineteen twenty wheat crop. If so when was the request made.

United Farmers' Guide.

Ottawa, Ont. 26th, 1920.

United Farmers' Guide,
Moncton, N. B.

Organized Grain Growers western Canada have not made formal request on Dominion Government for fixed price nineteen twenty wheat crop.

G. E. FOSTER.

Sir George Foster states truthfully that no such request has been made to the government in any way. This should settle the matter for any person whose mind is capable of normal functioning.

We trust that the readers of the United Farmers Guide will pardon us for not devoting any more space to our demented friend at Sussex. He can turn out falsehoods faster than we can answer them. But we have offered him $1,000 spot cash if he can prove his false statements. Money talks. He can't prove them and that is the reason why he dare not accept our challenge. Like every other Annanias when unmasked he resorts to noise and slander, but carefully avoids any chance of being made to eat his words.

We would suggest to our friend Annanias that he should not worry about the control of the United Farmers Guide. He should worry more about the bug or mania or whatever it is that at present controls his mind. He will find that his readers are not such simple minded dupes as he thinks them. They are seeing through his falsehoods. They are watching him play the part of choreboy to the Big Interests who are trying to wreck the organized farmers movement. They will get his measure. The organized farmers movement in the Maritime Provinces cannot be stemmed any more than it was in the other provinces of Canada. The farmers of Cauada have been fed up for years on falsehood and flattery and they have determined on a change.

The richest gem of all is the offer of the Sussex Annanias to place his journal at the disposal of a Maritime Farmers' organization. He has just wakened up to the fact that the Maritime farmers are organizing in conjunction with their fellow farmers in other provinces. He is now trying to get under cover and join the farmers on the band wagon that is leading to success. There is no room for traitors.

Finally the Sussex Annanias accuses the United aFrmers' Guide of Bolshevism, Radicalism and supporting the non-Partizan League. The fact is that the United Farmers' Guide has never supported any of them. But that makes no difference to Annanias. We are willing to pursue our steady course and leave the Maritime farmers to judge whether the United Farmers' Guide or Annanias serves them most faithfully.

ASK CONTINUANCE OF WHEAT CONTROL

Resolution by Executive of Canadian Council of Agriculture

Winnipeg, June 2.—(By Canadian Press.)—Asserting that the Canadian Wheat Board cannot exercise control over the 1920 crop unless its authority is renewed at the present session of Parliament, the executive of the Canadian Council of Agriculture tonight telegraphed the Dominion Government urging the necessity of the steps being taken to have the Government control the wheat crop at least another year.

The resolution of the executive committee, as forwarded to Ottawa, recalls a resolution of the Council of Agriculture adopted last Jauuary favoring Government control of the wheat crop of 1920-21, provided that "controlled buying should be continued on the part of overseas importers of Canadian wheat." The new resolution points out that the conventions of Alberta, Saskatchewan and Manitoba organized farmers subsequently approved of this resolution and asserts that "there is no indication of the lifting of the government control of buying on the part of countries importing Canadian wheat so as to affect the marketing of the next crop."

The resolution then continued:

"Whereas the present Canadian Wheat Board exists under and in virtue of the provisions of the War Measures Act, fortified by special act of Parliament, and cannot exercise its power over wheat grown in Canada in 1920 unless its existence is continued for another year by an act of Parliament at the present session,

"Therefore the executive committee of the Canadian Council of Agriculture would strongly urge the Government, before prorogation of the present session of Parliament, to take the necessary steps to have the powers of the Canadian Wheat Board continued for another year."

Many rumors were heard around the Grain Exchange today in regard to the control of coarse grains by Government as well as wheat.

The Winnipeg Free Press says:—"President J. E. Botterell, when asked concerning control of coarse said: 'We have had many communications from our secretary, Dr. Magill, in regard to certain amendments to the Grain Act. The last wire received from Dr. Magill indicates a great deal of agitation on the part of certain members of Parliament for continued control, and Dr. Magill states that, in his opinion, if control is confirmed, it will be made to include coarse grains as well as wheat; in short, it means nationalization of trade in all cereals.' "

An average of $1,023 was realized at an Aberdeen-Angus sale held by Glen C. Forgy in Indiana a few weeks ago, 44 head selling for $43,925. Three thousand six hundred dollars was paid for Krivinia of Alta, with calf at foot. Enchantress 26th brought: $2,800; Hoosier Violet Blackcap, calved Oct. 2, 1916, $2,650; Blackberry 21st, calved Sept. 9, 1915, for $2,550, and Ephemera Erica 3rd B., calved May 17, 1915, $2,700.

Gleanings of Agricultural Progress in New Brunswick

SUMMER CAMP FOR TEACHERS RURAL SCIENCE SCHOOL, SUSSEX, JULY 14th TO AUGUST 11th

This year for the first time in the history of the Rural Science School teachers will have an opportunity of living in camp and enjoying a recreation which would otherwise be impossible.

Financial assitance is given to those who take the course, also to any district that will take up school gardening under a duly qualified teacher.

Permission has been granted by the military authorities to use the Camp Grounds at Sussex, one of the bungalows and a certain number of bell tents. These will be fitted with cots, two or three to each tent. Every tent will be set on a board floor. The camp is but five minutes walk from the Agricultural Building.

Camping Optional

Living in camp is optional, and students must state clearly whether they wish to live in camp or desire us to send a list of boarding places to them. Students should avail themselves of the opportunity of living together in camp not only because it will be more economical, but because of the social life it affords. There will be no room rent, only the cost of food and cooking. Expense wil be divided according to the number actually in camp. Each student or member of the camp will have to provide his own blankets and pillow.

The free life of the open field and woodland appeals to every lover of nature. The facilities for studying the forest trees, ornamental trees and shrubs and life in the pools and running streams are but a few moments removed from the site of the camp. The fresh air, the sunshine and a chance to relax should be greatly appreciated by every teacher who has been confined to the school room for so many months.

The management of the camp will be left largely in the hands of the students. Committies will be formed to see that certain necessary activities of the camp are carried into effect. There will be few rules, but these must be strictly observed. A chaperon will be chosen.

The dining room will be established in one of the bungalows, near which all the tents will be set up. The camp will be supplied with water and electricity from thet own system.

Many games will be indulged in, as baseball, tennis, volley ball and others. The river, which is one of the sources of the Kennebecasis, affords excellent facilities for bathing, fishing, etc. Instruction in swimming, etc., will be given on request.

Only a limited number can be accommodated in camp. Apply now.

For particulars write Director of Elementary Agriculture, Sussex.

Rural Science Courses

The courses given are designed to give informtaion that will assist the teachers in carrying out the teaching of Nature Study and Elementary Agriculture as prescribed by the Board of Education of this province. Natrue Study and Elementary Agriculture is obligatory in all our schools in grades up to and including Grade VIII. of Graded Schools, and in all grades including Grade V. of Ungraded Schools. Apparently this fact is not recognized by some teachers. The Summer School affords an opportunity for teachers to familiarize themselves with this work. Better informed teachers is the biggest factor in the plan for the improvement of nature courses and for placing on a permanent basis every phase of the work. The qualification of the teacher is far more important than any text book.

The Science Camp

The four main courses given at the Summer School are: (1) Nature Study, touching ornamental, forest trees and shrubs, beneficial and injurious insects, textiles, etc. (2) Farm Physics, Principles underlying farm practices, road building, etc. (3) Gardening and horticulture in general. (4) Course in Cereal Husbandry and plant phisiology to take the place of Chemistry Course. Every effort is being made to make the courses as practical as possible.

Financial assistance is given to those who attend the Rural Science School. School gardens are maintained only by teachers who have taken special instruction in gardening and agriculture at the Summer School for teachers.

The Grant

For those who successfully complete one year at the Summer School, put in and maintain a garden at their school, the government offers a special grant of thirty dollars. To those taking the two summer courses a grant of fifty dollars will be paid.

The Bonus

Besides this a bonus of twenty dollars is granted to all teachers who will take either a one year or a two year course and will teach Nature Study and Agriculture with School Gardening the year subsequent to their attendance at the Summer School.

Railway Fare

Railway fare will be refunded to all teachers who attend the Rural Science School.

Assistance to School District

Where school gardens are established and properly maintained a grant of fifty dollars per year is given by the Department of Agriculture for the first year and thirty dollars for subsequent years.

Trustees and ratepayes of the rural districts should take advantage of this.

POULTRY CULLING DEMONSTRATIONS

The Poultry Division of the Department of Agriculture will devote considerable time during the present summer to culling work among farm flocks for the purpose of demonstrating the methods for selection and elimination of the poor laying birds from the flocks. Every flock of any size has poor producing individuals. In many flocks from 50 to 75 percent of the birds do not pay their way, but consume about as much food as a heavy layer. Such birds make very inferior breeders. They will in most cases transmit the low producing trait to their offspring. In a few cases last year 75 percent or more of the birds were discarded without decreasing the egg production in the least.

Blank forms similar to the following have been sent to farmers in several sections, and it is hoped that time will permit a demonstration with the flock of each farmer who returns same satisfactorily filled out.

POULTRY DIVISION

Are you willing to have your flock culled? .....
How many hens are in your flock....
What variety or varieties do you keep? .....
If not pure bred, state what blood predominates .....
Are you willing to put the unprofitable hens on the market immediately they are culled?.....
How many chickens do you expect to raise this year?.....
If you do not keep pure bred poultry would you like to start with hatching eggs or day-old chicks of heavy laying strains at reasonable prices next spring?.....
Would you favorably consider joining an egg circle if one were formed in your section?.....

A. C. McCULLOCH,
Poultry Superintendent

THE NEW BRUNSWICK RED CLOVER SEED CROP

Expansion in the red clover seed growing industry, the latest infant industry in the agriculture of the Province, is confidently looked for. Five years ago the total quantity produced of home grown seed, did not exceed one thousand pounds annually, while from the clover hap crop of 1919 there were threshed by one machine alone, owned and operated by the Department of Agriculture, over thirty thousand pounds. A considerable quantity of hay yet remaining to be threshed will make the yield of threshed seed nearly forty thousand pounds.

The policies of the Department of Agriculture, adopted for the improvement of soils and profitable crop production, favor and encourage the inclusion of the red clover seed crop as a cash crop from the farm.

The propaganda of the Department comprises a policy for supplying ground limestone, an essential fertilizer for the clover plant; the operation of a clover huller to thrash the ripened hay; a bonus toward the purchase of clover hulling machines by Agricultural Societies and a standing field crop competition for the clover crop, in which generous cash prizes are awarded for clean fields that are threshed for the seed.

One machine cannot do more than a small fraction of the threshing that is to be done in the future, and to aid the industry a bonus toward the purchase of machines by Agricultural Societies has been authorized by the Minister of Agriculture in accordance with which the following suggestions are made:

1. That the Agricultural Societies take up with their Municipal Councils the question of making an appropriation of $1,000 of fifty per cent of the cost of the outfit.
2. That the Agricultural Societies in any one County agrees to the payment of a further twenty-five per cent of the cost of $500.00; such payment to be made by authorizing the Department to retain out of their grant, on a pro rata membership basis, an amount necessary to make up this $500.00; the payment to be spread over a two year period.
3. That the Department of Agriculture will pay twenty-five per cent of the cost of this outfit or $500.00, which makes up the balance or full amount.

A clover threshing outfit, with the power necessary to drive it, can be bought for $2000.00. The makers of these machines have appraised us that an advance in the present quotations will be made shortly. Societies are urged to take prompt action in this matter.

COMBINED STANDING CROP AND CLEANED SEED COMPETITIONS FOR THE CLOVER SEED CROP

With the objects of extending the clover seed growing industry in this province, of improving the quality of the clover seed produced and of aiding the grower in marketing his crop, the Provincial Department of Agriculture and the Federal Seed Branch jointly offer to conduct a competition, with prize money of two hundred dollars. There must be fifteen entries, each of which produce 10 bushels of seed, or approximately five acres of crop.

The prizes will be based: 35 per cent on the awards of the judge for the Standing Seed Crop and sixty-five percent on the awards of the judge of the Cleaned Seed; the latter to be judged either in the sack on the premises of the competitor, or at a warehouse or Seed Fair to which the growers bring the specified quantity of seed by March of the following year.

The seed will be officially graded in accordance with existing commercial standards by an officer of the Seed Branch, who will return his awards to the Provincial Department of Agriculture, which will determine the final awards and issue the prize money.

The awards on the Standing Crop will be based upon the scores given the fields by the inspector who will judeg the crop from the standpoint of its suitability for seed purposes considering; purity of the variety, freedom from weeds, freedom from disease or insect injury, uniformity of maturity and probable yield.

The field inspection will be given when about three fourths of the heads have become brown. Notice must be given to the Department by the grower when this stage in the growth of the crop is attained to enable the inspector to time his arrival. He will advise any grower upon the method of harvesting and of the assistance offered by the Department to thresh the hay.

A number of growers who have threshed between 10 and 40 bushels of

(Continued on page 726)

Notes From the Nova Scotia Agricultural College

CLOVER SEED GROWING: NOW IS THE TIME

In 1919, farmers in Inverness, Antionish, Pictou, Colchester, Kings, Annapolis, Lunenburg and Halifax Counties grew several thousand pounds of clover seed. Thus they not only saved themselves from a cash outlay of 65c to 90c per lb. for their own seed this Spring, but, what is more important, they had, at small expense, ample supplies, so that they could use this soil-enriching seed generously.

On the other hand, many farmers who had to buy, cut down their orders because of the high cost involved. They thus lose the most valuable fodder crop they could grow, and their farms lose the increased fertility which clover growing always imparts to the soil.

The best way to grow clover seed is to cut the first crop of clover about June 20th to 25th. The second crop will thus get a good early start, and will in all likelihood provide a good crop of seed to be harvested in October. Sometimes a satisfactory crop of seed may be obtained by allowing the first growth of clover to thoroughly ripen, but it will not be as clean and generally not as heavy as the yield fom the second growth. The farmer who cuts his clover so early in the season will get a fair amount of fodder and when he has added to this the straw from the second crop, he will get almost as much fodder for feed purposes as if he had cut his crop in the ordinary way and he will have his valuable clover seed to the good.

A farmer in Antigonish County, Nova Scotia, cut one half acre of his clover on June 25th, 1919; he harvested from this half acre in the fall 215 pounds of clover seed of prime quality. Some of this he sold at eighty-five cents per lb. or at the rate of $365 per acre. Half the yield he obtained would have been a very profitable return for his work. Many other farmers in Nova Scotia could do as well as this man.

In respect to threshing this clover, write the Department of Agriculture, who annually operate one clover thresher in various parts of the Province, and who have bonused two other clover threshers, one in Kings County and one in Pictou County. The Department is also trying out a small easily portable machine, which will handle the clover after it has been put through an ordinary grain threshing mill.

Thousands of dollars could be saved by farmers in Nova Scotia, and thousands of dollars added to the fertility of the soils of Nova Scotia, if many more would copy the example of the foregoing Antigonish farmer.

NEW CREAMERY FOR CAPE BRETON

A few years ago the Government of Nova Scotia established a creamery at Baddeck and another at Margaree, in Cape Breton. Both of these Creameries have given such a good account of themselves that it has been decided to erect a third at Hawkesbury, Inverness County.

The new creamery will handle farmers' cream from points along the Inverness Railway to Inverness, along the C. N. R., to within striking distance of Sydney, and along the C. B. and St. Peters railway. By this it will be seen that there is no more strategic point for a creamery in Eastern Nova Scotia, and big things are expected.

Dairy Superintendent McKay is now on the ground laying plans. He has selected as field man to work up the business in this part of the country, Mr. D. W. Murray, of Scotsburn, N. S. Mr. Murray ws formerly president of the Nova Scotia Dairymens' Association, and is one of a group of men who made Scotsburn the most famous creamery in Eastern Canada.

EDITOR OF FARMERS' ADVOCATE VISITS NOVA SCOTIA

The longest established Agricultural paper in Canada is the Farmers' Advocte, published at London, Ont. Its senior editor, Mr. F. J. Porter, formerly of Lakeville, N. S., recently paid a visit to his old home, and spent a day at his Alma Mater. Mr. Porter is a graduate of the Nova Scotia Agricultural College.

In this connection it is worthy of note that the senior editor of Farm and Dairy, the leading Dairy periodical of Canada, published at Peterborough, Ont., Mr. F. E. Ellis, is also a graduate of the Truro institution. These are only two out of many graduates of the N. S. A. C., who have made good, and are now occupying responsible positions among the leaders in their line of work.

POTATO SPRAYING SEASON ALMOST HERE

The enormous loss from rot last year was very largely responsible for the extreme shortage of potatoes in Nova Scotia this Spring, a loss which could have been, to say the least, greatly reduced if farmers had taken the precaution to spray with Bordeaux Mixture from three to five times during the season.

There is no reason why this should not be done this year Moreover, there is every indication of a strong market at the close of the present season. The American Agriculturist reports that there is not a single State, hardly a single County, where the acreage under potatoes will be as large as last year, on account of shortage of farm labour and high prices for seed.

Spraying should begin when the plants are four or five inches high, which will be from the first of July in some parts of the Province to the first of August in others. The indications are that many more farmers will spray this year than last. Yet it is surprising how many farmers are not informed regarding the materials to be used, and who do not lay plans far enough in advance to secure these materials. Potato growers who are not posted on this question should write without delay to the N. S. Dept. of Agriculture, Truro, N. S., or to any Dominion Experimental Station, where they will get prompt information.

POTATO GROWING CONTEST IN WESTERN N. S.

A large number of entries have been received for the Potato Growing Contest, jointly arranged by the N. S. Dept. of Agriculture and the Dominion Atlantic Railway, for Western Annapolis, Digby and Yarmouth Counties. The principal condition required in this contest is that the fields entered must be sprayed with Bordeaux Mixture, or dusted with Bordeaux dust, at least four times during the season.

In order to make the campaign for increased spraying as successful as possible, the Entomological Branch, Dominion Dept. of Agriculture, will place one of their field men in the district of Clare, Digby Co., and the N. S. Dept. of Agriculture will place Mr. Murray MacConnell of Yarmouth, a former student at the Agricultural College, in Yarmouth County. The services of these men will be available not only to those who have entered the competition, but also to all who are interested in the important matter of preventing potato rot .

While these field men are instructed to visit as many farms as possible, they may easily overlook some who would be glad to have their assistance. A line dropped to the Agricultural College, Truro, or to Mr. George Saunders, Dominion Field Entomologist, Annapolis Royal, will ensure a call from one or the other at any point within reasonable distance.

BEE EXPERT FOR NOVA SCOTIA

An inspector for the Province of Nova Scotia, under the "Foul Brood Act, 1916," has recently been appointed in the person of Mr. Anthony Birch, B.S.A. Mr. Birch will assist in the administration of this Act, which has for its purpose the treatment and eradication of this sérious disease of bees. He is a graduate of MacDonald College, where he specialized in apiculture and allied subjects. He has also spent a season as assistant to the Dominion Apiarist, Ottawa.

The bee population of Nova Scotia concentrates in the Cornwallis Valley district, and this disease is practically confined to this region For the present, therefor, Mr Birch will make his headquarters at Wolfville. From there a determined effort will be put forth to reach and treat all cases of Foul Brood early in the season.

At the same time any bee grower in other parts of the Province, or any person who contemplates taking up this industry, will do well to apply to the College at Truro for the advice or services of Mr Birch. It is hoped that in time his activities will thus reach out to the whole bee growing interests of Nova Scotia.

NOT THE "ARMY WORM"

Numerous enquiries have recently reached the Agricultural College, especially from North Colchester and Cumberland Counties, regarding an invasion of caterpillars, erroneously supposed to be the "Army Worm." They are really the "Forest Tent Caterpillar." This is a large hairy caterpillar, about two inches long when full grown, with a row of green coloured spots down the middle of the back. Probably by the time this article reaches its readers, these will have disappeared, to reappear in different form later on.

When numerous, the Forest Tent Caterpillar will strip whole trees, then descend in a body and move on to other trees. The caterpillars are mature in about a month after hatching, and spin their cocoons in curled leaves or other sheltered locations. After remaining in this state for about three weeks, the adults will emerge as small brown moths. with two dark bands across the front wings.

Orchards which are regularly sprayed have little to fear from this pest, but where special measures are necessary, spraying with arsenate of lead should be resorted to. A strength of 2 libs. of the paste form to 40 gallons of water, or 1 lb. of the dry form to the same quantity of water, is sufficient to kill the newly hatched caterpillars. When they are half-grown or more the strength should be doubled. To prevent possible injury to the foliage from this strong spray, an equal quantity of water-slaked lime should be added to the mixture To protect uninfested trees from migrating caterpillars, banding with tree tanglefoot is the accepted remedy.

SUCCESS VIA THE N. S. A. C.

The next regular session of the Nova Scotia Agricultural College will commence on November 3rd, 1920. Last year's attendance was the largest in the history of the institution and everything points to yet larger numbers next session.

It is now time for farmers' sons and others to make plans for next winter. At no previous time could the College make a stronger appeal to the young agriculturists of the Maritime Provinces to take a course than at the present time.

The major portion of past graduates are now farming in various parts of Eastern Canada, and giving a good account of themselves. A considerable number, however, have fitted themselves for various professional situations as managers of Experimental farms, teachers in Agricultural Colleges, Editors of agricultural papers, County agricultural representatives, Inspectors under insect control Acts, etc. In fact, this very year, there were opportunities of good appointments for several more strong men than were available. The type of man required for most of these position is the man who has had a thorough grounding in the practice of farming, and who, in addition to this, has taken a complete Agricultural course.

Now is the time to write to the Principal of the Agricultural College for a calendar, in which will eb found information as to qualifications for entrance, cost of course and the studies to be taken up.

DEATH TO THE SCRUB BULL

Twenty Agricultural Societies in Nova Scotia have had their obundaries defined and approved by the Governor in Council, and now come under "The Scrub Bull Act, 1919". The provisions of this Act make it illegal for any party within the boundaries of an Agricultural Society to permit a scrub bull to be used for public service or to run at large.

The following is a copy of posters which are to be displayed in public places within the bounds of such Societies, to serve as a warning to scrub bull owners.

NOTICE TO OWNERS OF SCRUB BULLS

Scrub Sire Act

Chapter 28 of the Acts of 1919 Amended in Chapter 80 of the Acts of 1920

The boundaries of the..... Agricultural Society have been approved by the Governor-in-Council and on and after.....offenders of the above law are liable to prosecution.

Summary of Act

No owner or keeper of a scrub bull shall permit such bull to serve a cow within the boundaries of an Agricultural Society except a cow owned by himself.

Owners or keepers of Scrub Bulls within said boundaries must keep such bulls under full control at all times.

Special permits may be issued by the President or Secretary of the Society authorizing the keeper of a Scrub Bull to serve a cow in cases where it is impossible to obtain the services of a pure bred bull. Any services permitted without such authorization are illegal.

Copies of the Act and copies of the boundaries may be obtained from the Secretary of the Society.

By Order

DEPARTMENT OF AGRICULTURE,
Province of Nova Scotia

This marks a long step forward in the campaign for improved live stock in Nova Scotia. It is hoped that ere long practically all Agricultural Societies will have their boundaries defined and thus come under the provisions of the Act.

An amendment to the Act was passed in 1920 under which Live Stock Improvement Associations organized by the Live Stock Branch of the Federal Department may also enjoy the benefits of the Act.

THE MARITIME FARMER

And Co-operative Dairyman
Registered Trade Mark

Fortnightly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

Subscription price $1.00 per year. This paper is sent to subscribers unless a definite order for discontinuance is given,

The date after your name on the little green label on front page, is in every case the time to which your subscription is paid.

OUR GUARANTEE—With each subscriber to the MARITIME FARMER, we positively guarantee, while his subscription lasts, that no advertisement is allowed in our columns unless we beiieve that any subscriber can safely do business with the advertiser, and we agree to make good any loss which any such subscriber may sustain by trusting any such advertiser who may prove to be a deliberate swindler; but we do not undertake to adjust trifling differences between subscribers and responsible advertisers. To take advantage of this guarantee, written compiaint must be made to the publisher within one week from the date of any unsatisfactory transaction, with proof of the swindle and loss, and within one month from the date when the advertisement appeared, and the subscriber must prove that in writing to the advertiser he said:—"I saw" your adv. in the MARITIME FARMER.

RATES FOR CASUAL ADVERTISEMENTS.
Contract rates on application.
Address letters and make all checks, money orders, postal notes, etc., payable to

THE MARITIME PUBLISHING CO. or
R. D. Robinson Publishing Co., Limited
Sussex, N. B.

NOTICE TO ADVERTISERS.—Changes of ads. should reach this office one week before date of issue, in order to insure insertion.

RECEIPTS FOR FARMER SUBSCRIPTIONS

The Maritime Farmer, instead of giving you one receipt in the year for a paid subscription, sends you 24, or one every two weeks. You will find it on the GREEN COLORED LABEL on which your address appears. The date printed thereon is that on which your subscription terminates. If on payment of your subscription the date is not changed within two weeks, please notify us. No other receipt will be sent.

DATES OF ISSUE.

June	8—22
July	6—20
August	3—17—31
September	14—28
October	12—26
November	9—23
December	7—21

JUNE 22, 1920

THE INFORMATION IS HERE

Elsewhere we publish an article from the United Farmer's Guide. It is headed "The Sussex Annanias." We particularly request every reader of this paper to read every word of it. It is a unique production. Among other things asked for is information as to how the Maritime Farmer scared the editor of the Grain Grower's Guide. We gave it in our last issue, but in order that the Moncton edition of the Winnipeg paper may have it again, we repeat; That in our issue of April 13th last, we published an article calling attention to an attempt in the part of the Grain Grower's Guide to blackmail the manufacturers of this country and force them to contribute funds to carry on what the Grain Grower's termed: "Its work in support of the policy of the organized farmers of western Canada." The writer of a series of articles, along these lines, was Mr. George F. Chipman, editor of the Grain Grower's Guide and managing editor of the United Farmers Guide. It was pure and unadulterated blackmail. Blackmail is a rather nasty practise. There are many men in the prisons of this country, who have tried it. Of course, as our laws are for rich and poor alike, the fellow who tries blackmailing to feed his family, usually gets caught. Big fellows, like the Grain Grower's Guide, however, needing neither raiment or food, usually get away with it. However, the scheme of Mr. Chipman was so absolutely rotten, that once it was exposed, the Grain Grower's Guide and its editor closed up like oysters. No more funds are being demanded of the manufacturers, (or should we say the big interests), by Mr. Chipman in support of the Grain Grower's Guide, in "its work in support of the policy of the organized farmers of Western Canada! ! Somebody stopped Mr. Chipman cold. We are rather inclined to think that possibly it was Mr. Crerar. Anyway, Mr. Chipman's little Italian way of doing things is no more. Is this a full answer to the United Farmer's Guide query? If the information is not full enough, we shall be glad to enlarge.

WHY THE SURPRISE?

The United Farmer's Guide is surprised that this paper should make an offer to support organized farmers of the East, so long as Winnipeg has nothing to say, and that the farmers get together in their own interests. Why the surprise? The Maritime Farmer had the opportunity of changing its name to the United Farmer's Guide, nearly a year ago. It was wooed but not won. The gallant "Young Lochinvar" came out of the west, and the Maritime Farmer could have been off the "old Maid's list" long ago. But somehow or other, we didn't like the look of the thing. We decided to maintain our independence and we think that we are filling a place in the interests of eastern agriculture. We have been abused, but what disappointed lover is there, who does not discover sooner or later that the girl who rejected him, "has a temper"; or "her nose is not what it should be" or "her mouth is two sizes and a half larger than normal". Why they all do it, and the Maritime Farmer is getting some of the dose. There is this about it, however, that we have said our little say in a way that people understand, and beyond the abuse of those who "are directly profiting" from the maintenance of a system, which we are mentioning elsewhere in this issue, we have little to complain of. Scores of letters come to us, endorsing our stand and asking us to stick to our guns. So that really, we feel that we represent a very wide section of the farmers of the Maritime Provinces, and that we are not waking up to any advantage to be gained by doing what we conceive to be our simple duty. So why the surprise? Let us remind the Guide that but for the Maritime Farmer's refusal, it might never have been heard of.

THE EGG TRADE

Elsewhere in this issue we publish a letter from Mr. G. R. Wilson, Dominion Poultry Representative, for New Brunswick, in which some excellent advise is given regarding the marketing of eggs. Too little time and care are bestowed on our eggs. They get to market, sometime, some way. They are depreciated in value before they reach storage centres. Mr. Wilson suggests a candling station. The idea is one that has been tried and proved in Prince Edward Island. Of course, as Mr. Wilson points out, New Brunswick has hardly reached the stage when this can be attempted with the hope of commercial success. The supply must be increased and a proper system devised for collecting. May the Maritime Farmer suggest that any proposition of this kind should be taken up either by or under the supervision of the Department of Agriculture, Fredericton. There should be "no secrets in the egg business" as Mr. Wilson says, and if we are to have co-operation in egg marketing, then the farmer should get the last cent out of it. There would be no need for "reserves" under government supervision. An annual statement could be published in which every last secret of the transaction could be thrown open to the public. Mr. Wilson is right. The dealers, too, would be much better pleased if eggs could be bought from a central candling station. But the most desirable feature is that any cooperative work should be done for the full benefit of all. There must be "no secrets" in the egg business.

BRINGING IN AMERICAN APPLES

The United Farmer's Guide says, referring to the editor of the Maritime Farmer: "He conveniently overlooks the fact that Washington and California apples are being sold all over New Brunswick after paying 90 cents a barrel duty to come into Canada."

It's a mistake. We haven't overlooked it. We couldn't overlook it if we tried. Twelve shops in Sussex alone have their front windows filled with United States apples, which they are selling as high as 84 cents per dozen. And yet the Grain Growers, of Winnipeg, are anxious to abolish the duty of 90 cents per barrel on these foreign apples and have still more of them dumped into our markets. This is a fact, isn't it? That's what the platform of the Canadian Council of Agriculture demands, isn't it? The Maritime Farmer would keep the markets of Canada, so far as possible, for the farmers of Canada, particularly the fruit markets. The United Farmer's Guide is in favor of wiping out the duty and the introduction of a further supply of United States grown apples. We would like to see the fruit growers of Nova Scotia and New Brunswick gettings the eighty-four cents per dozen for their apples.

LOOK AFTER THE WEEDS

The Maritime Farmer has time and again callel the attention of its readers to the alarming prevalence of weeds in Eastern Canada, and for the urgent need for concerted action on the part of the farmers, looking towards weed control. Everybody will admit that weels cause an enormous aggregate loss every year, and that they make farming increasingly difficult on account of the extra trouble involved in keeping them in subjection.

It is clear that the system of farming in vogue in most districts must be modified if ever the weeds are to be controlled. The haphazard method of growing crops without any approach to a system of rotation will never subdue weeds. The growing of hay for years on the same land, for example, allows ox-eye-daisy and couch grass to develop and spread without hindrance, and it is no wonder that these weeds have taken such strong hold of many of our farms. Moreover, the small attention that has been given by most farmers to the growing of root crops, such as corn, turnips, mangels, is responsible to some extent for the persistence of most of the weeds, for without these crops there is no way of cleaning the land, outside of costly summer fallows.

In a four-year rotation, such as grain—clover—grass—roots, the farmer is able to give his arable land a thorough cleaning every four years, and at the same time is able to get a handsome return from the land.

* * *

Woman, as a consumer, has a further duty than that of being a wise buyer. She must also be a conscientious buyer. She must realize her responsibility toward the labor and capital which has produced the goods which she buys, and in her capacity as a consumer and as a voter she must lend intelligent aid to the improvement of labor and economic conditions.

* * *

Pure-breds pay when given the proper opportunity. A pure-bred sire is "the biggest half of the herd" remember.

WHY SHOULD TIMOTHY AND CLOVER BE CUT?

So many factors and conditions on the farm may influence the time at which hay should be cut that a discussion of the subject may seem almost valueless. There is much need for information on the subject, however, and it is of so great importance that an analysis of the factors underlying it should prove of interest and value to the readers of the Maritime Farmer.

Yield, digestibility, palatability, ease of curing, losses in curing, and the influcnce the time of cutting on the aftergrowth must all be taken into consideiation in settling the time when the hay should be cut. The relative importance of each will, of course, vary widely with conditions such as weather, labor, the class of animals to which it is to be fed, etc. By far the most common hay crops in Maritime Canada are Timothy, Clover, or a mixture of the two. The present article will therefore be confined to a discussion of these two crops as affected by the time of cutting.

With Timothy the total yield of dry matter increases rapidly up to the time that the seed is formed, after which there is gradual decrease until the plant is ripe. The total digestible amount of the important food constituents is, however, a better indication of the value of the feed. The digestible protein, and carbohydrates are greatest at the time of full bloom, while the greatest amount of digestible fat is present when the seed has reached the dough stages. After reaching this stage the digestibility decreases very rapidly.

As regards palatability, this is the greatest in the early stages of the crop, and decreases gradually until the time of seed formation, after which there is a rapid decrease until the plant is thoroughly ripe. From the standpoint of total digestible nutrients and palatability Timothy should be cut immediately after full bloom.

Red Clover differs from Timothy in that with it the total yield of dry matter increases until maturity. The total amount of digestible protein and other food substances is, however, greatest at the time of full bloom. Little difficulty is ever experienced due to lack of palatability until the crop is well past the full bloom stage if it is well cured. This full bloom stage would thus seem to be the best time to cut Red Clover.

With Timothy and other grasses there is little difficulty in curing as a rule, and there is little loss due to the leaves or other parts of the plant breaking off. Some injury may be caused by leaching and bleaching but the losess therefrom are probably little different in early and late cut hay. With Red Clover, however, the situation is entirely different. Unless it is well cured there is apt to be much loss due to the leaves dropping off and also due to weathering unless good methods are followed.

Clover leaves are easily broken off in curing no matter when cut. As the plants reach the mature stage the leaves become dry and brittle and break off much more easily; while the stems become woody. Since a large part of the food value of clover is in the protein of the leaves, if these are lost the value of the clover is seriously reduced. All efforts should be made to retain them. Comparatively early cutting is therefore desirable from this standpoint.

Weather conditions may influence the time of cutting greatly. Little difficulty is experienced in curing timothy at any stage on account of its lateness in ripening. With Red Clover there is more difficulty on account of the plant being more sappy and because the weather is more apt to be unsettled. There are, therefore occasional cases where Red Clover may need to be left until after it has passed the best stage for cutting. This is, however, done with serious loss to the total value of the crop.

Since it is not possible to cut, cure and harvest the whole hay crop at once, some must be cut before it has reached the best stage or else the remaining part of the crop cannot be cut until after it has well passed the proper stage. Where crops reaching the proper stage for cutting at different times are grown, as fo instance where early clover, late clover, timothy and clover, and timothy alone, are grown, this difficulty is largely obviated and each may be cut and harvested at the right time. Where only one or two crops are grown this even distribution of the cutting season cannot be made, but since both Timothy and Clover decrease in their yeld of digestible nutrients after reaching the full blooming stage, and decrease rapidly in digestibility and palatability, and since in the case of clover, late cutting is very apt to be accompanied by serious loss of leaves in curing, it is advisable to plan to cut earlier, rather than later, than the optimum time.

The possibility of delays due to wet weather and other unforseen circumstances serves to emphasize this point, for often a week or ten days delay is caused thereby, with the result that the crop passes the best stage for cutting with an accompanying serious loss.

Another factor of considerable importance is the influence of late cutting on the aftergrowth. When clover is cut at or before full bloom is growth starts quickly and there is either a fair second crop or considerable aftermath. When cut late the plant is slow in starting and very little aftermath is produced. Timothy differs from clover in that it will not rpoduce two crops. It will, however, give considerable aftermath when cut early. Where pasture is desired, where clover is needed to enrich the soil, or where a seed crop of clover is hoped for, early cutting is necessary.

It is the opinion of the writer after much observation that the hay crop of the province is cut from one to three weeks later than is most profiitable. In travelling through the country it is not uncommon to see fields of timothy almost ready for seed, and clover fields that will give little more growth after cutting. Such crops have passed the stage of highest feeding value, they have lost much of their palatability and digestibility, and in the case of clovers particularly, there is apt to be much loss in curing.

When timothy is being left for seed it is of course necessary to leave it until nearly ripe. Red Clover on the other hand must be cut early so that a good second crop will develop. While for hay it should be cut shortly after full bloom, for seed it must be cut at least one week earlier. A full crop of hay and a second crop of seed cannot be expected in Quebec. The loss of a quarter or even a half ton of hay due to early cutting is, however, very largely made up by the extra aftergrowth in any case, and where a crop of seed is produced the loss is paid for many times over. Red Clover is scarce and expensive. Hardy, home-grown seed is much superior to imoprted seed lacking in hardiness. tI has been amply proven that clover seed can be successfully produced in the province. Farmers should plan to gorw their own seed.

Let clover for seed be cut quite early, clover for hay next, followed by clover and timothy mixed, and that in turn by timothy alone. Let all be cut sufficiently early to insure the maximum yield of digestible nutrients and that the feed be readily eaten by the class of stock to which it is to be fed.

CANADIAN AYRSHIRE RECORD OF PERFORMANCE

Of the 35 Ayrshire cows and heifers that qualified in the Canadian Record of Performance we observe some very creditable records. "Eastcourt Merrymaid"—37542—owned by the Nova Scotia Agricultural College, Truro, N. S., heads the mature class with 11,895 lbs. milk, 480 lbs. fat. She is sired by "Wee MasGregor" from "McQuittiston Secretary" (imp.) the dam "Princess Belle" was sired by "Prince Barcheskie" (imp.) Her best month's production was 1882 lbs. milk and 75.28 lbs. fat in November, 1918, and 1866.4 lbs. milk and 74.66 lbs. fat in December of the same year. "Rosette"—27134—owned by the School of Agriculture of Oka, La Trappe, Que., came next with 10,532 lbs. milk and 412 lbs. fat, her best month was in April, 1919, with 1370.50 lbs. milk and 55.87 lbs. fat. "Clover Ridge Glennet"—40986—owned by William E. Dryden, Cowansville, Que., had 10,496 lbs. milk and 359 lbs. fat, her best month was in March, 1919, with 1541.8 lbs. milk and 52.11 lbs. fat. "Bertha"—45551—by "Howie's Crusader" and owned by Bert R. Brown, York, P. E. I., had a record of 10,327 lbs. milk and 462 lbs. fat, her best month was in May, 1919, with 1578.5 lbs. milk and 71.00 lbs. fat, for the three months commencing with May of that year, she gave 4667 lbs. milk and 197.35 lbs. fat. "Beauty", owned by Gilbert McMillan, Huntingdon, Que., gave 10,320 lbs. milk and 390 lbs. fat, the following month she gave 1387.3 lbs. milk and 56.88 lbs. fat. The record this month is broken by a four year old "Lone Pine Belel"—49501—owned by Edwin Reid, Rollo Bay, P. E. I., with the production of 12,545 lbs. milk and 523 lbs. fat, her best month was in March, 1919, with 1505 lbs. milk and 60.20 lbs. fat, for the four months commencing with March she gave 5643.25 lbs. milk and 226.73 lbs. fat. "Glenhurst Pessara 2nd"—44511—owned by James Sorley & Sons, Ottawa, Ont., was next with 10,038 lbs. milk and 399 lbs. fat, her best months record was 1192 lbs. milk and 46.85 lbs. fat. In the three year old "Dairy Queen"—J56253—owned by John E. Turner & Sons, Orillia, Ont., heads the list with 10,102 lbs. milk and 453 lbs. fat. There were fewer two year olds than usual reported. "Milkmaid of Orkney 2nl"—59772—owned by Harmon MacPherson, Norwich, Ont., heads the list with 10412 lbs. milk and 446 lbs. fat, her best month was 1202.25 lbs. milk and 446 lbs. fat. There was great uniformity in the production of this heifer throughout the year.

USE MORE BEANS

(Experimental Farms Note)

The ripe bean is a form of food very much negletced in Canada. Lack of variety is one of the serious faults in our national diet. Many people seem inclined to use a very limited number of foods and, as far as possible, to make each day's meals resemble those of the day before; while, in other cases, the dull routine of a fixed seven-day cycle prevails. It is well-known that a varied diet is more wholesome than a restricted one, and, especially in these times when good food is scarce and high in price, it is really deplorable to note the neglect of some of the best Canadian-grown food materials, such as beans, peas, Indian-corn and barley, while an imported product, rice, remains quite popular in spite of its inferior quality as food and the commercial objection that Canadian money must be sent to some foreign country to pay for it.

Of all the neglectel foods, the bean is perhaps the most important. It contains a large percentage of protein (approximately double the amount found in cereals) and protein is the most expensive ingredient in the materials which we consume. The bean may fairly be said to rank first among the common foods of vegetable origin; peas are of almost equal value, but wheat and barley fall below. Oats also are distinctly inferior on the whole, though they contain much more fat than beans. While it is not true, as has sometimes been assumed, that vegetable protein, as found in beans, can entirely take the place of animal protein, as found in meats, eggs and milk, nevertheless the vegetable proteins have a high food value and the bean could, in many instances, be advantageously substituted for part of the meat ration. Considerable economy would be attained in this way, as beans are very cheap indeed in comparison with most animal products. It must be noted, however, that beans cannot be eaten freely by everyone. There are a few individuals for whom they seem quite unsuitable; but the vast majority of people would have better, cheaper and more enjoyable meals if beans were used more often. Matters of diet are so often settled by customs of the county rather than by intelligent thought that it is very hard to bring about changes, however desirable. Yet there seems no ogod reason why the regular use of beans should be limited almost to Massachusetts and a few other favoured localities. In these days when, owing to the high cost of living, many individuals are inclined to break away from some of the older and more expensive customs, the introduction of the bean as a regular article of diet offers an opportunity for the display of a little originality and the exercise of judicious economy at the same time.—Chas. E. Saunders, Dominion Cerealist.

CORN SMUT

(Experimental Farms Note)

The smut or corn is well known to farmers. The smut masses which usually appear as swollen outgrowths may be found on the ears, stem or leaves. These outgrowths are sometimes quite large and make the smut very conspicuous. They are at first covered by a thin membrane, which soon breaks away and exposes the black mass of spores. The mass soon becomes powdery and the myriads of spores which each mass contains are readily blown about by the wind. It is these spores that spread the disease during the growing season and carry the smut over the winter to the next crop.

In many of the smuits, as the smuts of oats and the stinking smut or bunt of wheat, the spores get on the seed and when the seed is planted begin growing with it and attack the young seedlings. Treatment with a solution of formaldehyde is effective in killing the spores on the seed and preventing infection of the young plants. In the cases of the loose smut of wheat and the loose smut of barley the spores are blown about at blossoming time and grow into the very young seed. The hot water treatment of the seed is used to kill the smut inside the seed. In the case of corn smut seed treatment of any kind has been found to be of no use, as the smut spores live over in the soil or in manure rather than in or on the seed. So the only way to control the corn smut is to prevent the smut spores getting into the soil or the manure. Not only lo the spores live in the manure pile for some time, but they may actually increase rapidly in number if the conditions are favourable.

Corn smut is found in all parts of Canada where corn is grown, but is more common in [illegible]da. Generally it is not very prevalent and the losses are not gdeat. Where it is common, measures should be taken to prevent its spread. The smut masses should be cut out during the growing season. They should be removed before they have broken open and spread their spores. They should not be left lying where they may reach manure or refuse and be carried back to the soil, but they should be gathered and burned. Rotation of crops is also valuable in preventing corn smut. The smut does not live long in the soil and will not attack any other crop, so time sould be given for the smut to die out in the soil before another crop of corn is planted. Seed treatment has not been found to be of any use in corn smut.—W. P. Fraser, Plant Pathologist.

HORTICULTURE.

APPLE SCAB DEVELOPING RAPIDLY

by G E. Saunders

During the past two days there has been a most unexpected and rapid development of apple scab on the leaves. This is a direct result of the rain on June 6th, which gave a period of moisture long enough to cause apple scab infection.

So far no infection of the fruit has been found, but the infection on the leaves is in some cases very serious, and unless prompt measures are taken, it will spread to the fruit as soon as there is a sufficiently long period of moisture.

Growers may rest assured that there are enough spores on the apple fruit now to cause a serious infection as soon as a long enough period of moisture comes to cause the spores to grow.

Growers are advised to spray or dust thoroughly at once, in order to prevent the fruit from becoming infected.

We are fortunate in having a most excellent set of apples, and a prospect of excellent prices for No. 1 and No. 2, while the No. 3's, canners, and evaporators do not promise such prices as last year.

THE FOURTH SPRAY

Two weeks after the blossoms fall. The material for this spray should be either 2-10-40 or 3-10-40 Bordeaux and 1 lb. of arsenate of lime to 40 gallons of water.

Very slight if any russetting will result from this spray and 3-10-40 may be used with safety and will give much better scab control.

The pests controlled by this spray are Apple Scab, "Pit Rot," Tussock Moth, Fall Webworm, Red Humped caterpiller, Yellow Necked caterpiller, Inky Spot and storage rots.

During the past season it was demonstrated that approximately three times as much storage rot would develop on sulphur sprayed apples as on those that received Bordeaux for the last spray.

Some years ago it was demonstrated that Inky Spot would develop in storage on sulphur sprayed apples but did not develop on those sprayed with Bordeaux.

This spray is especially valuable in protecting the fruit against late infections of apple scab and in the control of "Pit Rot." It is the most important factor in producing a large crop the following season by protecting the leaves from apples scab and so causing them to be retained until late in the fall and so producing a strong bud which is essential to a large crop the following year.—By G. E. Sanders.

NOT ENOUGH INSECTICIDES ORDERED TO PROTECT THE POTATO CROP OF NEW BRUNSWICK

During the past month it has been learned from various insecticide salesmen, that only a portion of the normal requirements of poisons have been ordered for the potato districts of New Brunswick. The reason given by the dealers is, "The farmers say that the cold has killed off the potato beetles, and there will be no need of using poison this year."

Invsetigation during the past two weeks in New Brunswick go to show that potato beetles are fully as numerous and as lively as ever. Ae report from Fredericton, May 31, 1920, states, "A large number of potato bettles on the wing."

In view of this fact there seems but little doubt thta unless orders are placed at once for more insecticides that there will be an acute shortage of poisons when spraying time comes. On account of the extreme high cost of growing potatoes at the present time, the grower must get the maximum crop in order to clear expenses, and also in view of the possible shortage facing us, it is in the interest of all to have potatoes produce the maximum this year. If potato beetles are not controlled the maximum crop cannot be produced.

It would seem good business for dealers to lay in larger stocks of poisons at once, in view of the probable shortage and its consequences.

Any of the common poisons may be ordered, arsenate of lime being preferred by the writer. Instructions for using all of the poisons will be issued later in these columns or may be obtained in writing A. G. Turney, Provincial Horticulturist, Fredericton, N. B., for a spray calendar.—By G. E. Sanders.

NEW VARIETIES OF WHEAT

Each province is shown by a series of articles in The Agricultural Gazette of Canada for May to have taken an important part in extending wheat cultivation. In Ontario a new variety of fall wheat called O.A.C. No. 104 has been produced by crossing Dawson's Golden Chaff with Bulgarian. This variety has beaten all other sorts in the province during a number of years. The Manitoba Agricultural College has devoted its work on wheat particularly to the classification of new strains and varieties, the making of variety tests, and, by hybridizing, the selection of pure lines and the production of better strains. A scheme for making available to all parts of the country varieties of the best kinds has been undertaken by the Ontario Agricultural College. The Field Husbandry Department is producing and selling to acredited growers and the provincial demonstration farms, seed of pure strain. The crop will be purchased back, properly cleaned, and again sold to farmers in the various agricultural societies throughout the province.

CONSERVING MOISTURE IN ORCHARD AND GARDEN

(Experimental Farms Note)

There are some parts of Canada where the rainfall is so light that it is impossible to grow crops successfully without irrigation, whereas at the other extreme there are districts where the rainfall is so heavy that it is impossible to grow many kinds of crops, because it is too wet; but in most places in Canada, while there is usually enough rainfall to grow a great variety of fruits and vegetables successfully, unless the moisture is prevented from evaporating from the soil, the fruits and vegetables will suffer badly in some seasons.

In orchards, if there is a lack of moisture just after blooming, the set of fruit will be materially reduced as there will be heavy dropping, hence the importance of beginning cultivation as early as possible, and at this season of the year. when there may be a severe drought, cultivation should be very thorough, the surface soil being kept loose by frequent stirring, and thus preventing to a large extent the evaporation of moisture. If moisture is conserved in the early part of the season it will be available for the crop when it is nearing maturity as, unless there is abundance of moisture at that time, the fruit will be small and the market value very much reduced. Hence, during the month of June much attention should be given to cultivation, as late in the month or at the beginning of July it will be necessary to stop cultivation in some places in order that seed for a cover crop be sown. In some parts it is necessary to cultivate until near the middle of July to insure sufficient moisture for the full development of the apple crop.

There are districts in Canada where the rainfall is so light that if the orchards are in sod there will not be enough moisture for the trees, and there are soils in districts where there is a moderate rainfall where there will not be enough moisture if the orchards are in sod.

The thorough cultivation of vegetables is even more important than for fruits. The root system of some vegetables is very shallow, and the plants will soon be affected unless the ground is kept cultivated. After each rain the surface soil should be loosened so as to conserve the moisture and let the air into the ground. Some vegetables, such as celery, require more moisture than others, and these are likely to suffer badly in a dry time. In districts where the rainfall is light and there are usually poor results in the average vegetable garden, very fine crops of vegetables are obtained by good gardeners who keep the surface soil loose practically all the time.—W. T. Macoun, Dominion Horticulturist.

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CLOVER HARVESTING AND SEED GROWING

Seeding

Clover seed may be grown in almost any part of Canada, and on almost any kind of soil. Although special machiery may be used in handling clover seed, it is not absolutely necessary.

The soils most suitable for clover seed are: Clay loam and Sandy loam. Clay loam, however, gives better results, as it gives a brighter and plumper seed.

Clover should follow a cultivated crop, such as corn, roots or potatoes or it should be sown on land which has been thoroughly prepared after harvesting the previous crop.

Clovers may be sown with barley, wheat or oats, barley being preferred, however, on account of its being an early ripener and less liable to lodge. The growing of clover will not lessen the yield of grain per acre and will and will be found a great benefit in smothering many weeds.

When seeding clover with barley 1¾ to 2 bushels of barley should be sown per acre, with wheat 1½ to 1¾ bushels per acre and with oats 2 to 2½ bushels per acre.

With the above quantities of grain should be sown Common Red Clover at the rate of 8 pounds, Timothy, 6 6 pounds, Orchard Grass 6 pounds and Alsike 2 pounds. If the soil is rich in plant food, the total may be cut to 4 pounds less.—

Harvesting

Harvesting is one of the most particular points in clover seed growing. The first crop of hay must be

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Sydney Mines	June 23
Antigonish	June 24
Pictou	June 25
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Spring Hill	June 28
Dorchester, N. B.	June 29
Sussex	June 30
St. John	July 1

cut before July 1, to give second crop of the same year time to mature the seed. As to the time for harvesting the second crop for seed, no special date can be cet, as so much depends on the season. As a rule clover should be cut when the majority of the heads are well browned. It is a good plant to go over the field and rub a head here and there. If the seed will shell in the palm of the hand. it should be cut. If the seed is soft and not properly filled, it should stand even at the loss of a few ripe heads.

In cutting, while the mower with a table, the selfrake rasper and the self-binder may be used, the binder has been found to be the best machine for this purpose. When cutting with the binder, the cord should be removed and the spring slackened so as to allow the clover a free course to the ground. The clover, in dropping to the ground, will not shell and will be light, so that the wind and sun can easily dry it out, the windrow will be out of the way of the horses and machine and can easily be gathered with the barley fork.

The length of time which the clover should remain in the windrow depends on the weather and on the condition in which the clover is cut. It sometimes should be allowed to remain two or three weeks. The fodder ,however, should not be allowed to become black, as it would then be useless for feed. Just as soon as the forage will keep in the mow it should be gathered in. The seed can then be threshed almost any time.—John Fixer, Supervisor Division of Illustration Stations.

"HINTS ON FLAX HARVESTING"

Flax when grown for fibre is always pulled and not cut as wheat, oats or linseed flax. The exact time to uproot or pull the crop so as to secure the greatest financial return from the fibre and seed combined varies according to the conditions of labor and climate. It is not possible, however, to have all the seeds fully matured and yet product a first grade fibre. When growing the crop for fibre the seeds should be considered a secondary product.

The best yield of both fibre and seed may be obtained if the crop is pulled exactly in the middle of the period between the flowering and final ripening. When the stem is yellow and the leaves have fallen off, the crop may be considered as ready for harvesting. The easiest way for unskilled flax producers to determine when the flax is ripe or ready for pulling, is to select a few seed bolls, crack them between the fingers and if the seed faills out easily without adhering to the shell, it is then ripe.

Pulling.—It is of great importance to keep the tips of the roots well butted when pulling, as this renders the subsequent handling of the flax much easier. Any soil that may adhere to the roots should be shaken off. The bundles should be tied loosely, should be uniform in size and of about eight inches in diameter. About as much flax as can be conveniently caught between the hands should be pulled at a time, grasping it just below the seed bolls with the right hand, thumb downwards, left hand still lower and in the same position.

With unskilled labor great care should be taken to avoid pulling off the sedd bolls, as this is likely to occur if the flax becomes entangled. Each handful as pulled should be laid flat on the ground and more flax placed on the top, until there is sufficient to for ma bundle or sheaf. Short fiar should, if at all possible, be kept separate from the long, otherwise it is detrimental to it when undergoing the scutching process.—R. J. Hutchinson, Fibre Specialist.

CORROSIVE SUBLIMATE FOR CABBAGE MAGGOTS

In a recent number of Market Growers Journal, Prof. Arthur Gibson, of the Canadian Department of Agricultule, recommended the use of corrosive sublimate for control of Cabbage maggots. In this article the method of application was omitted. Mr. Gibson writes as follows in regard to this treatment:

"We have found the corrosive sublimate an excellent remedy in Ontario and I have no hesitation in recommending its use under your conditions. The method of application is simply to pour about one half a cupful of the liquid around the stem of each plant at the times mentioned in the article.

"Under commercial conditions we applied the liquid from a watering can, the spout of which was closed up so as to allow only a small stream to flow. In this way a small quantity of the liquid may be poured over the plants very quickly and a whole plantation covered in a comparatively short time."

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AGENTS WANTED

COST OF PRODUCING MILK

A great deal has been written and published, especially during the last year or two, in regard to the cost of milk production in various parts of the United States and Canada.

As might be expected, there is considerable variation in the figures from various sections of the country and between different farms in the same locality, for no two farmers have the same conditions, whether these be favorable or unfavorable. for example, it is evident that the man who is operating a farm where there is an abundance of cheap pasturefi and at the same time enough tillble land to provide corn and hay for roughage, can produce milk more cheaply than the dairyman located on high priced land, where good but cheap pastures are lacking.

At the risk of repeating information which may already be in the posession of the reader, I wish to give briefly the results of a few of these inquiries. The following paragraph which is clipped from "Canadian Farm" of Nov. 19th, 1919 will go to show that investigations into the cost of producing milk have, in most cases at least, been conducted by impartial seekers after the truth.

"The Producer Vindicated"

"An interesting legal case has just been concluded in Chicago that throws considerable light upon who is responsible for the high cost of living. In 1917 the State officials of Illinois started an investigation into the cost of mlik supplied the city of Chicago. The State Attorney issued an indictment against the Milk Producers' Association controlling the supply. The office of the Association was raided and all of the records and correspondence of the Association seized by the State Attorney. Eight officials of the producers' organization were put on trial for conspiracy in unduly advancing the prices of milk. After many preliminary hearings and demands for bills of particulars, five of which were given by the state, the case started on Sept. 16, 1919, before a jury of city workers. The prosecuting attorney was extremely bitter in his prosecution, leaving no stone unturned to have the defendants proven guilty. Yet in spite of this and on the judgment of a jury of city consumers who would likely be prejudiced against the producers if they had any prejudice in the matter, all the defendants were declared innocent and free from any desire to raise prices for milk above what were considered fair and reasonable, allowing for cost of production and a fair profit on investment and labor. This, so far as we know, the first attempt to hang the guilt of the cost of living upon the shoulders of the farmer, has proven a distinct failure. Seekers for the responsibility for high prices will have to look elsewhere for the guilty party."

In 1912 Professor Warren of Cornell University, who is a recognized authority on farm management, conducted a survey in Deleware Co., New York, a hilly district where the land is quite similar to that of the Eastern Townships of Quebec. In this survey 174 farms and 5,308 cows were considered. The cost of producing 100 pounds of milk at that time and place was shown to be $2.60. The feed and bedding cost with cornmeal at $31.79 per ton, clover hay at $18.00 per ton, and other things in proportion, was $82.50 per cow and labor cost $22.45 per cow. Only one herd in eleven showed a profit above all expenses, and the average cow failed by $32.14 to pay expenses. On these same farms under the more favorable dairy conditions of 1913 the average cow was kept with a loss of $12.50. Dr. Warren has, after several years of very careful and extensive study of the matter, originated a formula for determining the approximate cost of producing milk in any locality.

According to the Rochester milk investigation, under the direction of Dr. Charles E. North, farmers in the Rochester territory have been losing an average of 85 cents per 100 pounds or one and one-eighth cents per quart on all milk produced for the year ending May 1st, 1919. These results are particularly interesting because the survey was conducted by a city committee for the purpose of reducing if possible the cost of milk to the consumer. Only about 6% of the cows in this survey gave over 9,000 pounds of milk per year. The average cost of production was $4.19 per 100 pounds or nine cents per quart, while the average price received was $3.35 per hundred pounds, or seven and and two-tents per quart.

By applying Dr. Warren's figures for Montreal, Professor Barton, of Macdonald College estimated that the cost of producing milk for the present winter (1919-20) would be about $3.52 per hundred pounds, and the highest cost for the winter $3.84 per hundred. It is interesting to note how closely these figures agree with those of Professor Leitch of the Ontario Agricultural College, who estimates the cost in Dundas Co., Ont., with prevailing prices of feed and labor, at $3.9 per hundred pounds.

In the month of December 1918 The Dairy Record Association of Summerest Co., New Jersey, where 376 cows were on record, estimote the feed and labor cose alone to be $3.81 per 100 pounds of milk. When interest on investment, depreciation, etc., are added the production cost is placed at $4.03.

Now I think we have given enough evidence to prove to our city friends, and others who carry the impression that farmers are more oo less a class of pofiteers that the dairyman at least is not mking undue profits from his business. If he were, there would not be 24,000 habitable farm houses unoccupied on the great dairy state of New York, and three men moving to the city for every one moving to the country. We speak of the high

(Continued on page 724)

It Pays to Feed Empire Feeds!

Cattlemen, farmers and dairymen have learned that it is profitable to buy stock feeds by proteins and that the feed containing the proper amount of proteins is the feed that brings results.

Another consideration steps in, however, and that is, that beyond a certain point, protein ingredients may be present in too great quantity for the animal to use, and there is waste.

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SCOUR IN CATTLE

Scour, scourings, skitters, flux, purgings, diarrhoea, or purgation, are terms applied to a too liquid state of the faeces of animals. The alteration in consistence may vary from a little softer than normal to almost as thin as water. There may be, and often are, other changes in the character of the faeces, such as variations in color, smell and quantity. The color may be much paler than normal on account of an admixture of white mucus from the bowel wall; or it may be darker if blood has exuded from the intestinal lining.

The passoge of blood-stained dung is usually termed dystentery or bloody flux. The characteristic smell is often replaced by a very foetid one, and this arises from 'gas liberated by abnormal processes at work in the faeces. An increase in the liquid composition arises from extra juices being poured into the bowel from its lining membrane.

Scour is thus an external sign that there is something wrong with the working of the alimentary canal chiefly the stomach and intestines. To say that an animal has diarrhoea does not solve the problem, for it is the cause of the diarrhoea that has to be found. The reason scouring attracts the farmers attention is that it is so easily seen, and the evidence remains wherever the animal has been. Other symptoms such as alteration in the breathing, pulse and temperature, would probably be found if looked for; and the stock-owner may then have to distinguish between scour and fever, both of which may of course which may exist in the case of inflammation of the bowels. Scouring is nevertheless an important symptom, because it is prominent in a number of curable conditions, and also because it occurs in several contagious diseases. Neglect of the presence of scour may thus cause the spread of infectious diseases, the loss of flesh, milk, or even stock.

In order to understand the ox's digestive apparatus it is only necessary to remember a few of the most mportanti features in connection with the structure and functions of the digestive tract. The mouth leads by way of the throat to the gullet, and this opens into enormous first stomach paunch, or rumen, which has in an adult cow a capacity of about forty gallons. The net or second stomaach leads from the first into the third stomach also called the bible or book on account of its numerous leaves between which the food is squeezed. All these structures are lined by a hard membrane, somewhat like the superficial layers of one's hand; but on entering the fourth or true stomach it changes to a soft lining roughly resembling the inside of the human mouth; and continues as such throughout the remainder of the tract.

The small intestine—about 120 feet in length—leads from the fourth stomach to the large intestine, which it joins near the open end of the blind gut. After a coiled course of about 30 feet the large bowel terminates at the vent or anus. The essential work of the alimntary canal is the taking in, breaking down, rendering soluble, and then absorbing all the digestible constituents of the food.

All unused and unacted upon portions are then passed out as dung. On its course the food is subjected to the actions of a number of secretions; in the mouth by the saliva in the process of chewing the cud; in the stomach by its juices; in the small intestine by a juice from this organ's own walls; by the bile from the liver; and by the pancreatic fluid from the pancreas or sweet bread. All these are important chemical processes, and for their proper fulfillment requires suitable foods, proper surroundings and adequate rest.

Improper foods and methods of feeding influence the activities of the bowels in a great number of ways. If, young pail-fed calves are suddenly placed on a hard and dry diet, the digestive aparatus is quickly called upon to do an increased amount of work. Should it fail in breaking down and softening the new food the indigested material irritates the smooth lining of the bowel, more fluid is poured out—as a rough tooth causes the mouth to water—and diarrhoea results. The remedy in such a case is obvious—the change must be carried out gradually.

During the first twelve months of their lives the vital processes of the calves are subjected to all kinds of changes, and this accounts for the prevalence of scour among them. The best of housing conditions and food are therefore necessary to prevent such changes from seriously upsetting the various bodily functions. In early life, with a diet of milk or its substitutes, there is little use for the rumen or paunch and this is accordingly small. With increasing age and harder food the rumen gradually assumes the great size of the adult.—

In level section of the country it is not a simple matter to provide a dry and firm barnyard during the spring and wet weather. Whee drainage is good a little planning will make a good barnyard, but where the lay of the land is level it means work and the outlay of some money to obtain a neat and attractive yard under all sorts of conditions. There is nothing much more annoying than to see cattle wade through mud and manure to their knees in order to reach the barn. The person who has to put up with such a yard is working under irritating conditions.

Not only does the poorly drained and muddy barnyard handicap and irritate a person, but it is unsanitary and makes the production of clean milk a much harder task. Men become used to certain conditions, that is, they do not fully comprehend the drawbacks of working under adverse circumstances, else they would improve them.

What can be done with a muddy barnyard? There are several ways of overcoming this condition. It may be drained if it is possible to lay tile for carrying the water away. Then some of the soil may be hauled away and replaced with good gravel to the depth of at least a foot. Soft coal ashes are also a good material. Where drainage is not possible and gravel or soft coal ashes cannot easily be obtained, the cheapest and most effective way of providing against a muddy barnyard is to cover it with concrete. The surface of the concrete should be left rough, as this will provide against slipping. We recognize that it is considerable work and will cost some money to make a firm, clean barnyard, but the time and money expended are well worth their cost.—Hoard's Dairyman.

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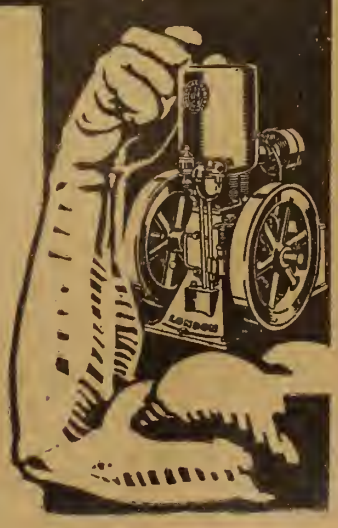

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THUMPS IN SWINE

An abnormal condition in swine, technically called "Spasm of the diaphragm," commonly called "Thumps" is usually caused by high feeding and want of exercise. It is seldom, if ever, noticed in swine, that, although they may be highly fed, are allowed a reasonable amount of green feed or its substitutes, and also allowed to take plenty of exercise. While really a disorder of the nerovus system, it is caused by disorder of the digestive system, which causes irritation to the stomach and bowels. It is commonly seen in young pigs that are kept in premises of limited space, and highly fed. It consists in a spasmodic or jerking contraction and relaxation of the diaphragm. The diaphragm is a fn-shaped muscle which separates the abdominal cavity from the chest or thoracic cavity.

The condition was for a long time believed to be a diseased condition of the heart, but this was a mistake. If the hand be placed over the heart, just at the elbow of the left fore leg, and the heart beats counted at the same time that the jerking contractions of the diaphragm are noted, it will be seen that there is no relation between the two. The direct cause of thumps is an irritation of the nerve that supplies the motive power to the liaphragm which is the same nerve that largely supplies the stomach, hence the most common cause is digestive derangement. Inflammation of the stomach and bowels is sometimes complicated by the development of thumps, but overloading the somach and lack of exercise are the most common causes. Diseases of the lungs or heart also may cause the trouble.

Symptoms.—The most prominent symptom is the jerking movement of the body. At each contraction of the diaphragm there is a bulging outwards of the flanks and a drawing inwards of the ribs. Sometimes at each thump there is a peculiar sound made, somewhat resembling the noise produced by hiccough in man. The symptoms are more or less marked, according to the severity of the attack, and are usually worse after a meal when the stomach is full. The thumping, in some cases, is forcible enough to cause the body to sway forwards and backwards. The thumping is usually irregular, but in rare cases may be regular and occu at the same time as the heart-beat, in which cases a mistake in diagnosis might be made. She course of the disease is variable. A recovery may take place in a few days, or the trouble may continue for weeks. In cases of long standing the animal loses flesh, and becomes run down and stunted.

Treatment. — Preventive treatment consists largely in giving young pigs plenty of room in which to exercise; light, airy quarters, with plenty of sunshine and laxative feed. Curative treatment consists in the administration of laxatives, as one-half to two ounces of Epsom salts or raw linseed oil, feeding lightly on laxative feed, and supplying a range where there will be plenty of room to exercise. If the spasms or jerking be excessive it can be controlled by administering five to fifteen drops of tincture of belladonna, according to the size of the patient. This should be diluted in a dessertspoonful of water and carefully administered, and may be repeated every two hours, as long as neecssary.

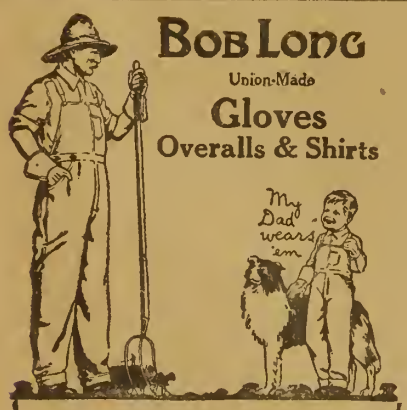
Eversion of the Rectum in Swine

Eversion of the rectum in swine is caused by either of two opposite conditions, that is, either constipation or diarrhoea. In the former case the rectum protrudes as the result of excessive straining in the endeavor to expel the contents of the impacted bowels; and in the latter case from excessive straining due to intestinal irritation.

Symptoms.—A portion of the rectum or its mucous membrane is noticed protruding out of the anus. In some cases it is noticeable only when the animal strains, and returns soon after straining ceases. In more severe cases the protrusion remains as a round, red ro purple-colored mass, which gradually becomes larger and darker. Later it may become dry and show cracks on its surface. It may be itchy and cause the patient to rub against any convenient object. If not treated it finally decomposes and may slough off.

Treatment.—As treatment is often unsatisfactory, the bowels should be in a normal condition by proper feeding and environment. When the condition is due to constipation, all the faeces that can be reached with the finger should be removed and the rectum injected with raw linseed oil. Wash the tumor with warm water and then apply strong alum water (as much powdered alum as warm water will dissolve) and carefully force back into position. Give the patient a laxative of one to four ounces of raw linseed oil (according to size) and feed lightly on easily-digested, laxative feed. Repeat the removal of the contents of the rectum every few hours, and after the removal inject about four tablespoonfuls of the alum water.

If diarrhoea be the cause of the trouble, the local treatment of the protrusion should be as above, but feed on dry, chopped grain and give one-half to two teaspoonfuls each of laudanum and powdered catechu in a little new milk every three or four hours until diarrhoea ceases. In either case it is sometimes necessary, in order to prevent re-eversion, to put a stitch of silk or catgut through the lips of the annus, or arrange a truss to cause pressure upon it. In such cases, of course, it is necessary to remove the obtruction each time the contents of the rectum are removed, except when it is escaping in fluid form.—Whip, in Farmers' Advocate.



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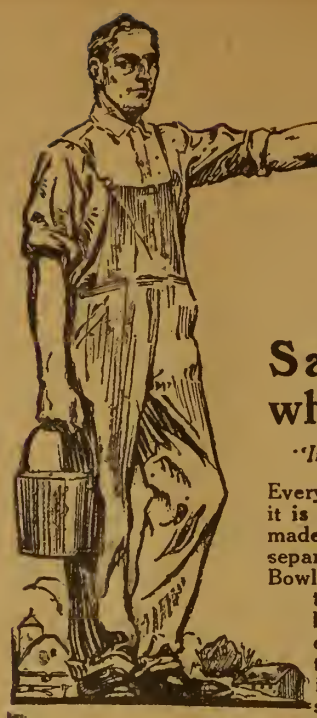

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This book may be worth thousands of dollars to you. It is the complete story of the "Cause and Control of Lightning," written by a man who spent many years studying, experimenting and accumulating data. This book is interesting to anyone and particularly valuable to the property owner. Write for your copy, it is FREE.

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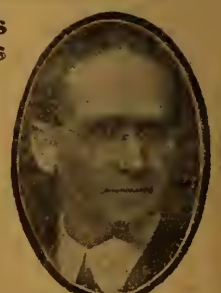
Lightning Rods Prevent Losses

Are distinctive, woven in ribbon-like form, one inch in width, with 36% greater carrying capacity. You owe it to yourself and your family to investigate Shinn-Flat before another lightning season opens. At least send right now for Prof. Day's book.



Prof. W. H. Day

SHINN MFG. CO. OF CANADA, LIMITED

Manufacturers of Shinn-Flat Lightning Rods

"The Kind That Are Guaranteed"

120 Woolwich St. GUELPH, ONT.

Live stock exchanges in Winnipeg, Toronto and Montreal especially encourage de-horning. Practically all the American native cattle, with which Canadian farmers in the west have to compete, have the advantage of being thus treated. They bring a larger return in dollars and cents.

In a circular by the Dominion Government, farmers are told that they will benefit for the following reasons:

1,—Better appearance of the cattle.

2,—Quieter, subdued nature of cattle, enabling fattening at less cost,

3.—More cattle can be shipped in one car by rail, saving freight cost.

But it is when the animal is finally brought to slaughter that the value of de-horning is proved. Over 70,000 pounds of meat a year are actually reported at inspected Canadian packing plants alone as wasted through bruises in the flesh. Most of the bruises are caused by the animal's horns while in transit from the farm to the market and the abattoir.

That total represents the parts of meat utterly thrown away. There is a further and even greater loss.

When a piece of meat is removed from a quarter of beef because of a bruise, the rest of the quarter or part of it has often to be sold at a cent and one-half or two cents a pound less —not because the meat is poor, but because that part has lost in appearance and sale value.

Probably one in every five cattle bought on Canadian stock yards suffers from injury which could be prevented were de-horning commonly practised.

The packers' buyer necessarily takes the loss into account and the farmer who sells cattle takes the risk and a lower price.

A united effort is now being made by the Dominion and Provincial Departments of Agriculture, the live stock exchanges throughout Canada and the meat packers collectively, to get a better knowledge diffused among Canadian farmers of the real importance of de-horning.—The Industrial and Development Council of Canadian Meat Packers.

IMPORTANCE OF THE SMALL HERD

The breder of cattle who owns only a few cows is an essential part of the forces that are carrying forward the interest of pure bred live stock. In many cases, however, he needs to understand more clearly his importance and to realize that the improvement of the breed he has selected is in his keeping and of others like him. While it is true that the sires of great reputation, and prize winners generally, are found in large herds, yet the lage herds ae comparatively few in number; an overwhelming majority of the good breeding cows are owned in small herds. The man with a small herd ought to exalt his calling and especially ought he to recognize his responsibility in upholding the quality of the breed he has chosen. The advantages are far from lying altogether with the one who owns an extensive herd. The principles of breeding, the history of the breed, the experience of master breeders are alike eccessible to all. Herd management, methods of feeding and plans for developing the calf are not limited by the number of breeding cows owned. Sources of information open to the extensive breeder are not denied to the small one. The man with 100 cows in his home pasture probably cannot learn more at the International than the man with ten. And while the bull in the big herd has an extensive opportunity to impress his excellence, yet the problems of mating may be essentially met with the sire in the small herd. The limiting factor usually is not the number of animals in the herd; it is apt to be found in the whole-hearted application by the man of his best energies to the task in hand. The tendency to undervalue his opportunity and to underestimate his contribution to the sum of the breed improvement and live stock excellence is apt to lead a man to carelessness, which causes him to fail to his best attainments.

IMPORTATIONS OF LIVE STOCK FROM THE UNITED KINGDOM

Upon inquiry of the Steamship Companies, it has been learned that importers are likely to experience considerable difficulty in securing transportation for stock from the United Kingdom to Canada during the coming summer. This is due to the heavy passenger and freight movement, space for which has been booked well in advance, and to the fact that few ships are available for the carriage of live stock and many of these can only be equipped at considerabe expense. Small shippers are likely to suffer most, in view of the fact that accommodation will probably be refused at all unless a minimum of business is offered. £250 has been suggested as the minimum which will be required.

The Steamship Companies indicated their desire and intention to meet the situation in the most practical way possible and the suggestion was made that, so far as possible, shippers should co-operate in making application for space by planning to assemble their purchases for shipment on a particular boat at a given date. Such an arrangement, it was intimated, would greatly facilitate business and justify the Steamship Companies in meeting the needs of the shippers. The Live Stock Branch will endeavor to facilitate any arrangement of this kind and will oe glad to receive letters from importers advising of their requirements. It is suggested, however, apart altogether from any assistance the Government may provide, that importers will do well to arrange for their shipment, in so far as possible, in accordance with the plan as above outlined.

HOW TO DEAL WITH CONTAGIOUS ABORTION

1. In purchasing pregnant cattle, make careful enquiries in order to ascertain if the herd from which they are being obtained is free from abortive disease.

2. If doubt exists as to their freedom from this disease, keep the newly obtained females separate until they calve.

3. As soon as a cow aborts remove her to a separate stable.

4. Thoroughly clean and whitewash the stalls in the stable. The bedding and litter removed from the stalls should be burned, together with the aborted fetus and the afterbirth.

5. Wash off the hind parts of all the exposed pregnant cows with an antiseptic solution.

6. Cleanse the genital passage of the aborting animal with mild, warm antiseptics. This should be repeated daily until the neck of the womb closes. If the washing of the womb is not desirable, make use of antiseptic powders in capsules.

7. Do not allow cows with retained after-births to remain in stalls adjacent to other pregnant cows.

8. Keep aborting cows separate from the others so long as they are discarging. Wash their hind parts before allowing them to return to the herd.

9. Allow a period of at least one or two months to elapse before returning aborting cows to the bull.

10. Wash the end and inside of the bull's sheath after sirvice of doubtful cows and before service of healthy cows.

11. Do not allow the bull to serve the aborting cows which have a discharge from the vulva.

12. Obtain the advice and guidance of a qualified veterinary surgeon as to the use of vaccines or bacterins, combined with the sanitary measures recommended.

13. If calves become affected with White Scours, immediately separate the sick ones from the healthy. Consult a reputable veterinary surgeon for special treatment and as to the use of special serums and bacterins in conjunction with sanitary measures.

14. In the case of valuable cows becoming barren the servimes of a skilled veterinarian should be obtained for the purpose of treating the womb and ovaries.

Antiseptic Preparations

For washing womb during retention of after-birth—1% solution of lysol or 0.1% solution of potassium permanganate. Use lukewarm. For flushing womb after expulsion or removal of after-birth—1% Lugol's solution of iodine, followed by a solution of 2 oz. each dairy galt and baking soda to a pail of lukewarm water.

For washing hind parts, including tails, hips and udders of aborting and exposed pregnant cows—2% solution of lysol or creolin.

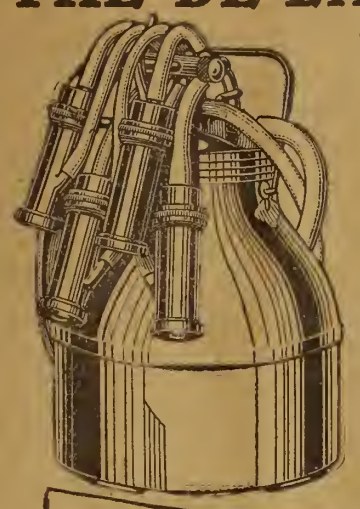
For washing sheath of bull—1% lysol or 3% borax. Capsule powder for disinfecting womb—½ oz. iodoform, ½ oz. boracic acid in gelatin capsule.

There will be no lamentation when the last scrub bull has been removed from Canadian herds.

When leading the bull to water or service keep an eye on him no matter how quiet he may appear. It is in the unguarded moment that he is most likely to strike.

THE DE LAVAL MILKER

What users say



The De Laval Milker was easily installed and the cows took very kindly to the change from hand milking to mechanical milking—all but one, so I sold her.

I milked 15 cows in from 30 to 35 minutes. It would take two men an hour to milk the fifteen cows without a machine. If I had to go back to hand milking at the present time, when it is so hard to get good hired help, I would sell the dairy at once.

A. E. BAIRD,
Valparaiso, Ind.

I was the first farmer in this part of New York State to put in the De Laval, and I bought it without seeing it or knowing anything about the way it operated; but I knew The De Laval Separator Company.

With the De Laval my wife and I milked 37 cows in 59 minutes with the three units and had only a few pounds of strippings.

The Udder Pulsator, with the alternate action and the master control on the Pulsator Pump, is certainly a great idea.

(Signed)
JAMES S. MORROW,
Richville, New York.

The De Laval Milker we purchased in August, 1917, has given us complete satisfaction. During this time it has never failed us.

We have a herd of 50 head of purebred Jerseys. Through indifferent hand milking, the udders of some of these were a little out of shape, but since milking these cows with the De Laval Milker, the teats and udders have improved and all trace of garget has disappeared.

The machine is simple, substantial, reliable and easy to operate. It is being operated by Mrs. Brook, the wife of the foreman.

WALKER'S DAIRY,
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Write to nearest De Laval office for Milker
Catalog mentioning number of cows milked

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COWS GIVE MORE MILK and are in better health when given

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Promotes appetite, aids digestion, prevents disease, removes Worms, cures Colic, Constipation, Diarrhœa, etc.

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2

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Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable.

Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.75 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Toronto, Ont.

THE HORSE

THE PREVENTIVE AND CURATIVE TREATMENT OF JOINT-ILL

Joint-ill annually exacts a heavy toll from the foal crop in this Dominion. It is more severe some seasons than others, and is often quite prevalent in some districts and absent from others. The theory upon which the veterinary profession base treatment is that the germ gains entrance through some raw surface, particularly the navel, at time of birth or shortly after. It locates in the joints, multiplies rapidly and gives rise to characteristic symptoms. It was once thought that the disease could be contracted before birth, and was therefore congenial, but modern science does not recognize this as a fact. However, the horsemen at several famous British studs still cling to the belief that preventive measures against pre-birth contraction of the disease are worth while, as the following excerpt from the Live-Stock Journal will indicate:

"A simple treatment adopted at the Carlton Stud of Messrs. James Forshaw and Sons, as a safeguard against joint-ill will save breeders many troubles with their foals. The treatment was adopted by the late James Forshaw, and has been consistently carried out ever since. When the foal is twelve hours old an injection is given of about a pint of warm water (about the temperature of milk when freshly drawn from the cow), to which a little soap has been added. The quantity of soap required is so small that it is sufficient to rub a little on the hands and wash it off into the water to be injected by an enema or rubber ball syringe, the latter being preferred. The whole of the liquid is slowly injected into the rectum. Even if there are signs of looseness or purging after this treatment the dose must be repeated in twenty-four hours.

"The reasons for the process are thus explained. Examination of the young foal often revealed the presence of hard dung, which in many cases could not be discharged until dissolved by the soap solution. This obstruction retarded the cleansing process, and the system became poisoned. A second injection is given because even though the foal may have shows signs of looseness small hard balls of dung have been found in the passage, and great importance is attached to thorough cleansing of the bowels. Without venturing any opinions as to the cause and cures of joint-ill which are matters for the scientists who are engaged on research work, the fact remains that at Carlton there has not been a case of joint-ill for twenty years, and it also important to know that the farmers in the districts surrounding the stud who have adopted the practice, have also had a remarkable immunity from this trouble.

"Another simple form of preventive treatment is adopted in Messrs. H. and H. Ainscough's old-established Burscough Shire Stud, in which there are at present fifteen out of sixteen mares in foal. A few days before foaling time iodide of potassium (five grames to each meal) is mixed night and morning with the mare's feed, and this quantity is given every second or third day. For three or four days after foaling the same doseis applied daily, and then every alternate day until the foal is eight or ten days old, after which time outbreaks of joint-ill are rare. In numerous cases on farms in the district a timely dose of iodide of potassium given to the dam—the foal gets the benefit through the mother's milk—had the desired result."

Preventive Treatment

If we accept the theory that infection occurs at or subsequent to birth, then it is obvious that measures should be taken to prevent the entrance of the germ into the system.

All dust, cobwebs, etc., should be swept out of the stable, and the stall in wihch the prospective foal is to be born, should be thoroughly and regularly cleaned, and it is good practice to scatter slaked lime on the floor each morning before providing fresh bedding. It is good practice to give the stall a thorough coat of hot lime wash with about 5 per cent. carbolic acid, or, if whitewash be objectionable give it a thorough scrubbing with hot water containing 5 per cent. of the acid. It is also good practcei to wash the extenral genital organs, tail and hind quarters of the mare occasionally with an antiseptic and germicide, as a 5 per cent. solution of one of the coal-tar antiseptics or carbolic acid. When the mare is to foal on grass, of course, all these precautions cannot be taken, but there is little danger of the germ existing on grass, but it may be found in sand or clay devoid of grass. The most essential preventive measures that can be observed in all cases is local attention to the navel as soon as possible after birth, and several times daily afterwards until it dries up and is thoroughly healed. The breeder should have on nand a supply of a strong antiseptic and germicide when his mare is about to foal, This may be a 10 per cent. solution of carbolic acid or one of the coal-tar antiseptics, tincture of iodine, or a solution of corosive sublimate 30 to 40 grains to a pint of water. Whatever is used should be applied as soon as possible after birth and every few hours until the navel opening is healed.

Symptoms of Joint-Ill

The symptoms may become apparent soon after the infection enters the system. From a few hours to a few days, and in rare cases a few weeks after birth, the foal is noticed to be dull, lies a great deal, and maniests lameness o stiffness in one or more lirbs.. An examination usually reveals a swelling, heat and tenderness of one or more joints, often in the hocks or knees, but it may be the stifle, hip, elbow, shoulder, fetlock or pastern. Any joint or joints may be affected. The trouble is often thought to have been caused by the dam treading upon the foal, or by injury or other ways. The symptoms increase in intensity, sometimes quickly, in others more slowly. The swellings increase in size and soreness, the patient become weaker, less able to move, and lies most of the time. If helped to his feet he goes lame and sore, but in some cases will nurse fairly well, but soon lies down again. As the symptoms increase in intensity the general debility also increasl es, and the desire for or the ability to take nourishment diminishes. The joint or joints involved become puffy, and if they burst or are lanced a

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but you can clean them off promptly with

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and you work the horse same time. Does not blister or remove the hair $2.50 per bottle, delivered. Will tell you more if you write. Book 4 R free. ABSORBINE, JR., the antiseptic liniment for mankind, reduces Varicose Veins, Ruptured Muscles or Ligaments. Enlarged Glands, Wens Cysts. Allays pain quickly. Price $1.25 a bottle at druggists or delivered.

W. F. YOUNG Inc., 124 Lymans Bldg., Montreal, Can.

Absorbne and Absorbine Jr. are made in Canada

LOUDEN

Horse Stable Fittings

SAVE EXPENSIVE FEED

WHY continue to use that old wood manger and feed box from which your horses are constantly pulling expensive hay, oats and other feed on the floor and wasting it?

Some horses are worse than others. But watch your horses feeding, and you will find that they all waste feed.

Louden's Mangers, Oat Bowls and Hay Racks are made entirely of the best iron and steel and are designed to prevent wasting of feed. Test Louden Stable Fittings with your horses. You will find there are no conditions so difficult, Louden's cannot meet them.

In Louden Mangers and Oat Bowls there are no dark corners to collect dirt and breed disease germs. They are smooth, sanitary, and solidly built to last a lifetime.

Louden's Steel Stall P sts are perfectly smooth and unbreakable. The beautifully finished Louden Steel Stall Guards not only improve the appearance of the stable, but also permit of a free circulation of light and air—two important factors in maintaining health. They also prevent horses fighting over the stall partitions.

Taking into consideration the prevailing high prices of lumber and the feed-saving, healthful, permanent features of Louden Steel Stable Fittings, you will save money by installing Louden equipment.

Louden Stable Fittings also prevent any possibility of injury to valuable horses. Many animals have been badly injured and disfigured by poorly and improperly constructed stalls.

The Louden Catalogue contains valuable information on Horse Stable Fittings. Write for it.

If you are unable to decide on plans for your new barn or would like assistance in remodelling your old one, our Architectural Department will assist you. Our Barn Plan Book is free. Shall we send it with the Catalogue?

The Louden Machinery Co. of Canada,
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HEAD OFFICE: 648 Crimea Street, Guelph, Ont.
Branches at Winnipeg, Man., St. John, N.B. 4

IMPERIAL HARNESS

IMPERIAL BRAND HARNESS is guaranteed free from all defects in workmanship and materials. You are certain of satisfaction when you buy a set of harness made by Trees & Company.

No. 640. Team Harness, is especially designed for farm work such as ploughing, seeding and general hauling. Exceptionally good value at a very low price. Blind Bridles with side check; lines one inch; high top hames; traces, steel chain, leather covered; pads with hook and terrets; backstrap with trace carriers riveted on top. White metal or japanned mounts, less collars. Price $57.00

Sold by the Harness Trade throughout the Dominion. If your dealer will not get Imperial Harness for you, write direct to us for Catalogue and prices.

SAMUEL TREES & CO., LIMITED. Established 1866.
Manufacturers of Harness and Dealers in Automobile Accessories.
42 WELLINGTON ST. EAST, TORONTO

muddy-colored liquid escapes. In many cases the articular cartilages of the joint become destroyed. In these cases manipulation of the joint reveals a grating sound, caused by the ends of the bones rubbing against each other. When this stage has been reached it is a humane act to destroy the patient, as, though it may be possible in some cases to preserve life by careful nursing and attention, the animal will always be a cripple.

Curative Treatment

When a foal once contracts joint-ill its chances for complete recovery are not good, but success sometimes crowns one's efforts when treatment is persevered in. We cannot do better under this head than to reproduce the treatment recommended previously in these columns by Whip, which is as follows:

Curative treatment is often effective when given early. The use of serums and anti-toxins especially prepared for the purpose, and which can be administered only by a veterinarian, has been reasonably successful both as a preventive and cure, hence it is wise for a breeder to employ a veterinarian as soon as possible after the first symptoms are noticed. Even amateur treatment may occasion ally be successful.. It consists in bathing the joints long and often with hot water, and after bathing rubbing well with a camphorated liniment as made of ½ oz. tincture of iodine, 2 drams gum camphor, 4 oz. extract of wich hazel and alcohol to make a pint. The faol should be given 5 to 10 grains (according to class and size) of iodide of potassium in a little dam's milk three times daily, and it should be helped to nurse at least every hour if not able to nurse without help. The mare should be well fed on milk-producing feed, as bran, rolled oats, good hay, raw roots or grass if procurable, and should be given 1 to 1½ drams iodide of potassium 3 times daily. Such treatment may be successful in arresting the ravages of the germ and destroying those present. When the disease has reached that stage where abcesses are formed they should be lanced, and cavities flushed out well thre times daily with a 5 per cent. solution of carbolic acid. When the articular cartilages have been destroyed and the bones can be heard grating against each other, the patient should be destroyed.

FITTING THE HORSE COLLAR

Much trouble results on the average farm each year from sore shoulders on horses caused by the improper fitting of collars and improper adjustment of hames. The collar should fit the shoulder so that in length there is just room for the flat of one's hand between the collar and the neck at the bottom. In width the collar should fit snugly against the sides of the neck, from a point three inches above the shoulder joint to a point about half-way up to the top of the neck. The upper one-third to one-half of the collar should be wide neough to allow one to pass the thick of the hand between the collar and the side of the neck. If the upper part of the neck is thick a "Quarter-Sweaney" or "Half-Sweaney" collar shoulr be user, so as not to pinch the neck. A collar too wide at the top will produce a sore neck, on account of side motion of the collar as the rorse walks.

Sweat pads should be avoded, as they hold the heat and sweat and produce a tender shoulder, often causing a galled condition.

The hames should be adjusted so as to hold the collar snugly against the sides of the neck, and so as to bring the line of draft at right angles to the face of the shoulder as nearly as possible.

The collar should be kept clean by washing with a damp cloth each night when it is removed from the shoulder.

Washing the shoulder each evening with cold salt water will nelp to toughen the skin and prevent galls.—J. S. Montgomery, Univ. Farm, St. Paul, Minn.

HORSE AILMENTS

of many kinds
quickly remedied with

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EGYPTIAN LINIMENT

The best all-round liniment for the stable as well as for household use. Cures thrush, sprains, bruises. STOPS BLEEDING INSTANTLY AND PREVENTS BLOOD POISONING. Keep it handy.

Price 35c.
At all Dealers and Druggists.

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DOUGLAS & CO., NAPANEE, Ont.

HOW TO FEED WORK HORSE

I have a team of horses that weigh 2,600 pounds. They are workng hard every day drawing sand and stone. How much hay and oats will they require per day, and what will it cost to feed them with hay at $35 per ton and oat sat $1.30 per bushel?—Sub.

The exact quantity that should be fed a team can only be determined by the severity of the labor performed and the individual digestive capacity of the animals; horses differ in this relation to feed and energy spent. If the work is exceedingly heavy, the grain in the ration should be increased and the hay diminished, whereas, if the work s light, the grain should be diminished and the hay increased. The morning meal should be comparatively light, consisting mostly of grain. It should not possess much bulk. The mid-day ration should not be large. The heavy feedng should come at nght, after the day's work is over and when the horse has ample time to masticate and digest his food.

The quantity of hay and oats required per day for a team weighing 2,600 pounds will average, for hay, 28 to 30 pounds per day per team, and for oats 24 to 26 pounds per day per team. A great deal will depend upon the quality of the hay. Timothy hay that has been badly harvested or left till over-ripe has no feedng value at all—n fact, t is not at all a suitable feed for horses, beng too fibrous, and, if given in excessive quantities, will prove dangerous to the health. The cost per day for hay at $35 per ton would me about $2, and for oats $1.10 per day. It would be advisable to add a few pounds per day of bran t othe grain ration and this would increase the cost.

To get the best out of your feed through horse labor, by giving them power of endurcnae and at the same tme comfort at work, much of the successes will depend upon regularity in feeding. A very good practice to follow is to give one-fourth of the daily allowance at least one hour before going to work. It should be in a condition to be easily and rapidly consumed, so as to be well out of the way when the team is taken from the stable again. After beng watered the horses are ready for the forenoon work. If the work is exhaustive, they should be fed after five hours of labor. When they come to the stable at mid-day they should get a drink of fresh, cool water, and then another quarter of the daily feed ration. If possible they should get one hour to consume the noon-day meal. The horses will be greatly refreshed by removing the harness. Water again before going to work. At evening, after watering and thorough cleaning and drying, the team will be ready for the remainder of the daily ration. —Otawa Valley Journal.

MARE HAS BOTS

"Having noticed yesterday that a mare, five years old and in good health seemingly, passed a fairly large bot, I am afraid she has the bots. Kindly prescribe a treatment. The mare, although in good condi- and working every day, is rather rough in her coat and has a terrible appette. I am convniced she has what I believe to be the symptoms of bots."—A. G.

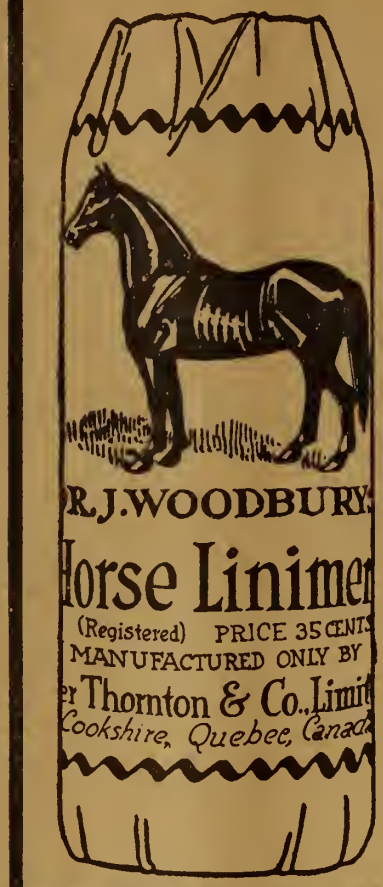
All horses that were exposed to the bot fly last summer have bots. During the spring the bots let go their hold on the membrane of the stomach and pass from the body in the feces. Some of them burrow in earth or manure and develop into flies to bother the horse the coming summer. They usually pass, as you have stated and do not interfere with the health of the animal. The only occasions on which they interfere with health is when they let go of the stomach in large numbers, form into a ball, and acclude the passage into the intestines. This seldom occurs and when it does it causes violent symptoms, soon followed by death. So long as the bots continue to be expelled per rectum you have no cause for alarm. No treatment has been discovered to hasten this process.

WORMS IN HORSES

Kindly give me a recipe for worms for horses.—W. S. M.

Reply: There are two kinds of worms in horses, one living in the intestines proper, and the other living almost exclusively in the anus. The former are not unlike the common earth worm in size; the latter is much smaller, and resembles in size and color a piece of white thread an inch or so long. Give your horse a purge and watch the feces for the variety of worm found. For the intestinal worm give internally oil of turpentine, two ounces; oil of male fern, one drachm; linseed oil, half a pint. Give on an empty stomach after a purge .

If the thread worm, inject up the rectum every other day for a week the following mixture: common salt, half an ounce; carbolic acid, half a drachm; water, one pint.



Every Farmer and Horseman Should Have This Liniment

It means many a dollar saved in time and work; because it quickly makes lame, crippled horses sound as a dollar. No matter what the trouble—whether it is an old Strain, or Sore—a Spavin, Cracked Hoof, Curb or Splint—a fresh Cut or Bruise—an Enlargement or Bunch—you can get rid of it right off by treating the animal with

Dr. J. Woodbury's HORSE LINIMENT AND CONDITION POWDERS

Used internally, the Liniment is a sure acting remedy for Colic, Kidney Trouble, Coughs, Colds and Heaves; while the Powders tone up the general system and help the horse to improve.

Hawkshaw, N.B.

"You may put me on your list of users of Dr. J. Woodbury's Horse Liniment. I have found them to be the best on the market and am never without your Liniment and Condition Powders in my stable."

G. E. CRONKHITE, Horseman.

Your Druggist or General Store will have these reliable remedies. Get a package of each, so you will have the right thing in case of sickness or accident to your stock.

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GENUINE DIAMONDS
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POULTRY.

THE PRESERVING OF EGGS IN THE HOME

(By W. A. Brown, Live Stock Branch, Otawa)

Eggs are a perishable food product, and while their production is distributed throughout the year with much greater uniformity than many other products, yet it is a fact that new-laid eggs are usually scarce and high in price betweenth months of October and February and plentiful and comparatively low in price in the spring and early summer months.

The cost of preserving eggs by artificial refrigeration is considerable, and while it is not believed that any liquid preservatives will give better results than those obtained in a well built and carefully managed cold storages, yet it is conceded that there are times when those consumers, who will go to the trouble and take the necessary precautions, will find it to their advantage to preserve a reasonable quantity for home use.

Methods of Home Preservation, Recommended

As the result of much technical investigation and years of practical test it has been found that the best results can be obained from the use of water-glass and lime-water. While the lime water method is undoubtedly less expensive and just as efficient, yet popular opinion seems to be constantly growing in favor of water-glass.

The Use of Water-Glass

Water-glass is a solution of silicate of soda, and may be obtained from practicall all druggists. A 10 per cent. solution is generally used, that is one part of water-glass is fixed with nine parts of water.

The water should first be boiled in order to destroy all vegetable or animal substances contained therein. The two substances are then thoroughly mixed, and the solution allowed to stand until it becomes quite cold before using.

Lime Water Method

Previous to the advent of artificial refrigeration, lime-water was used commercially to a large extent. Some large dealers still use it to supplement cold storage, and many people use it as a home preservative. Although authorities differ somewhat as to the relative amounts of lime and water to be used, the proportions of 2 pounds of lime to 5 gallons of water are generally recommended. It is important, however, that the water take into solution as much lime as it is capable of holding. A quantity of fine salt in proportions of about 1 pint to the above is also frequently added. The mixture should be kept well stirred for a few hours, and then allowed to settle. The supernatant liquid is then drawn off, and poured over the eggs. In order that the solution may be kept saturated and of uniform strength throoughout it is customary to add a little lime from time to time, or better, to keep a cloth covered with lime just touching the surface.

Containers

Any receptacle that is impervious to, and does not corrode in, water is suitable for holdink the eggs. Glazed earthenware crocks, galvanized tubs or buckets, or wooden tubs or kegs are most frequently used. In the case of wooden receptacles it is desirable to let them stand filld with water for several days, and then to scald them and cleanse them thoroughly before using. For home consumption it is best to have a number of small containers holding not more than five or six dozen each. Covers should be placed over all containers and these, when filled, should be stored in a cool, dry place in the cellar.

The Selection of Egsg for Preservation

Best results are obtained from eggs which are put down in April and May. At this time, eggs are not only abundant and cheaper in price than later, but they are also fuller, stronger bodied, and of all-round better quality than those available durnig the hot weather. An important and safe precaution is to candle all eggs. This is not a difficult or complicated process, for fortunately an eggs is semi-transparent when held before a light in a darkened room and permits, if carefully rotated of even minor defects being seen.

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48

FIGHTING LICE AND MITES

Many people wonder why their fowls do not lay better during the summer months. I am oftentimes asked to explain why certain flocks do not pay and it is rather astonishing to find what meagre efforts are put forth to control some of the worst pests invading the poultry premises.

There are many poultrymen, farmers and farmers' wives who rarely or never think of spraying their poultry houses or, more especially, disinfecting the roosts and roosting quarters. I have seen poultry houses in different parts of the country literally infested with thousands of lice and little red mites. The lice bother the hens practically all of the time and

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even in well cared-for flocks there may be a few lice present. On the other hand, where lice are allowed to increase in large numbers they bother the hens all of the time and affect egg production. The little red mites stay in the poultry house around the roosting quarters during the day time but at night they sap the vitaliy of the hens and this usually affects egg laying.

There are different kinds of lice and mites and in warm weather they breed very rapidly, so that every one who has even a few fowls should make evey effort to keep them under control.

Provide the hens with a dust bath where they can dust themselves at will. This will help to keep the lice in check. Disinfect the poultry houses and particularly the roosts and roosting quarters every week during hot weather. There is no way to keep the lice and mites in check except through perseverance. We find a 10% solution of any of the good commercial disinfectants to be quite effective. This can be sprayed throughout the house soaking the roosting quarters thoroughly. Coal oil does a certain amount of good but where the houses are disinfected once or twice every week there really should not be any trouble from these pests. Where a small flock of birds are badly infested it wil doubtless pay to disinfect the birds individually with dusting powder. Take each bird in the left hand, hold the head downward and sift the dusting powder well into the feathers, then with the right hand rub it thoroughly around the joints. A good lice powder may be made of 3 parts of gasoline and 1 part of 90% to 95% carbolic acid: mix together and add to this enough plaster of Paris to take up the moisture. It usually takes about 4 parts of plaster of Paris to 1 part of the liquid and while being mixed they should be thoroughly stirred. This powder is applied in the same way as described above. Good egg production during the summer months can only be secured where the poultry premises are clean and sanitary and where the fowls are comparatively free of lice and mites.—M. A. Jull.

Poultry manure is undoubtedly the richest manure produced on the farm. In common with all other manures it has not a fixed composition, but the fact that the liquid and solid excreta are voded together as a moist mass insures against the loss of drainage of urine, unavoidable to some degree with larger domestic animals and explains in parts its high nitrogen content. Another reason for its richness in nitrogen and phosphoric acid may be foud in the character of the feed used. This is especially true with respect to laying stock, to which it is customary to feed meat scraps, green bone and similar products with high percentages of nitrogen and phosphoric acid. —Shutt.

Poultry manure being essentially nitrogenous, is particularly valuable for garden and leafy crops generally.

The poultry keeper who does things in the usual way often makes a fair profit but it is the poultry keeper who carefully attends to the little things that makes he greatest success.

If you are in the poultry business for the eggs there are in it, then get the laying kind or in other words spot the non-layers, soup them and take better care of the balance.

Poultry must have grit and in the winter when they are housed more or less of the time, they should be supplied with grit.

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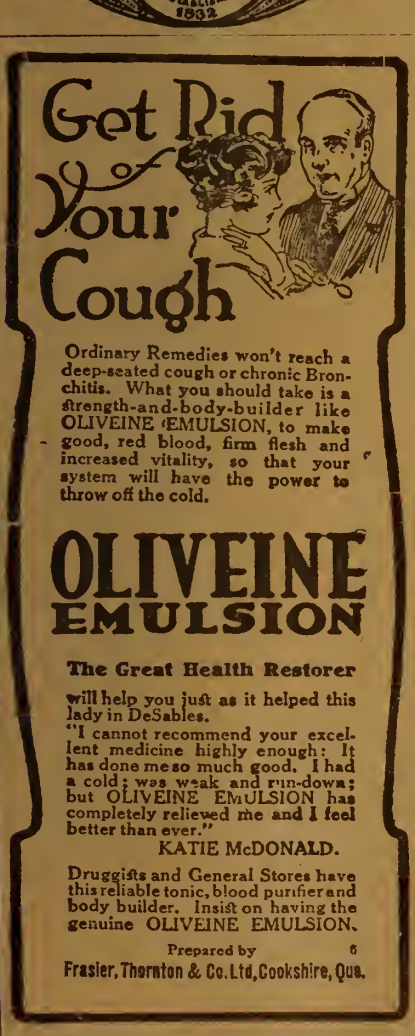
It is by paying special attention to the putting of the product up in an attractive form that the profit is increased.

The profit or loss on the poultry plant—more than in any other department on the farm—depends on attention to details.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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Shbjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N. B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

No earthly duty is more important, more beautiful, or more sacred than that of home-making. It is greater than any commercial pursuit, nobler than all other professions, and more enduring than the arts.—Anon.

EDWARD'S FIRST BABY

(By Claudia Cranston)

AS SOON as he came into my sitting room that evening, I knew he was going to ask me one of those momentous questions the second generation of my family is always bringing to me. And, having lived through almost every question myself, and lived through them over again through my children, I sat complacently and waited.

Edward's brown hair curled damply above his temples, just as his grandfather's had at his age, and the way he dragged his grandfthear's chair across the old rag carpet and sat gazing into the crackling fire—with the selfsame shrug of shoulder, the selfsame wrinkle up and down between his brows—made me forget for a moment the roll of the years. But my eyes fell on my hands at my knitting, wrinkled, stiffened a little at the joints with a thousand tasks, and thin so my wedding-ring—my wedding ring that was such a snug fit—is quite loose now.

And I thought that when the finger got thin enough for the ring to slip from it, then I should know my work had slipped from me. And, some way, the ring seemed a little looser tonight, and I thought how sweetly the grass blew in the breeze out there where Edward's grandfather lay, how erstful beside him, the spot laid out for me.

And then a sudden upshooting of the flame in the fire-place caught and glowed on the wedding-ring on Edward's finger, as he raised his hand to push those damp curls back. And I remembered his dear little son just three months old, my own great-grandchild, my own dear Edward's Edward's son, and his first pair of socks not even knitted, and his first tooth not even cut, and I said to myself, "Dear me, see all there is yet to be done before you go."

AND it was then Edward asked me the question. "Grandrother," he said, and laughed, but I knew from the way he repeated the word "Grandmother," the second time, that this was no chance pleasantry at my expense, but a set speech studied out beforehand. "Grandmother, how much time can a man spend away from his family, and still retain one hundred per cent. affection?

I kept right on knitting, until I turned the difficult place in the shoulder of Emily's sweater. Then I stopped, laid down my knitting carefully on my lap, as I always do, with the knobs of the needles towards me.

Then I asked Edward what he always did when he was angry.

"Why, you know," he said suprised, "what father does, what grandfather always did, 'count ten before you speak, sleep over it before you write.' "

"Well," I said, "I have counted ten, and I do not feel any better about your question. I judge I had better sleep over it. Young people are so—"

I caught myself up suddenly. I was going to say "so irreverent." but he did not look irreverent. He looked troubled. And it came to me, and frightened me, that, perhaps, I had better pray over it, instead of merely sleep over it. There had never been anything "like that" in our family. Affection, fondness and fidelity to family life had been one of the natural qualities of us all so far.

Edward's wife was a pretty, sweet young girl, who had made a comfortable home for him we had all enjoyed. She used to give such good dinners to the family, she used to make their little sitting-room seem so cozy in the evening, she used to—

And suddenly I realized that I was using the past tense quite a bit for a couple in only their second married year. And I remembered that there had not been a family dinner at Edward's house in, well in a long time, and that I had not really been there in the evening in, well in a long time.

AND there sat Edward, his lips drooped in those identical little petulant lines I used to kiss out of his grandfather's lips, or scold out, or "silence" out. So, for the moment, I decided upon silence. I told Edward I was tired, and thought I had better go to bed, and gently sent him home.

After he left, I raked down the fire and bedded the coals, a sort of sacrament to me since he had gone whose last task it had been. I never let any one else do it, not once. Then I went upstairs to my room and sat for a long time looking out at the window at the line of hills, set with their heads together like litle haycocks in the moonlight.

I had thought I knew every inch of Edward Third's soul, as I had known the soul of my own Edward the First, he whose regal mind to both of us a kingdom was. I had thought I knew my grandson's thoughts just as well as I knew every line of his face, every gesture of those capable hands. And yet, here was something alien to our whole clan cropping out in the third generation.

Mull the thing about in my mind as I might, no light came to me. Indeed, the more I thought back, the deeper the situation grew, for I remembered significant things now—a word dropped by Emily about Edward going so often on business trips to Atlanta, a casual mention by Edward's wife that she did not wait dinner because she was never sure whether Edward would be home or not, a bit of a popular song I had heard one of the neighbor boys sing only last week, as Edward, wearing a new suit and carrying a cane, took the train for the city on a business trip.

At the time, I had thought only what bad taste young people had nowadays. Now, my cheeks burned at the remembrance of the words. And I wondered if the young people really did show some reflection of their thoughts and lives in their songs. Certainly, when I was young, we never sang such words as those. Certainly, in the fragrant days of my youth, the sweet old songs had meant something to me—and to Edward.

THEN as I turned from the window, I tried to laugh at the whole weird panorama, though I felt my hand tremble against my damp cheek, and I undressed in the white moonlight, with the words of my husband's favorite song, "In the Gloaming, Oh, My Darling," weaving faintly through my troubled thought, like church bells far away.

I was scarcely asleep when I was awakened by pounding on my bedroom door; not knocking, but pounding. And when I had thrown on my eiderdown bathrobe and opened the door, there was Edward.

"The baby is dying," he said, "and we want wou to come. Maybe you can do something."

Was I dreaming? I stood and blinked.

"He is dying," Edward repeated, in such a strange, motionless, dry voice, I thought i mIght still be dreaming.

I dressed and went with him.

There ewere two doctors and a nurse, and Edward's wife, and her mother. The baby did seem to be dying, breathing in dreadful lurches, and purplish in the face.

"Started as croup," said old Doctor Bloomby, almost as old as I am, and our family physician. "Still croup, I say, thought it may have a new name nowadays."

We were talking in the sitting-room, for with two doctors and a nurse what was there for me to do?

"I believe he will pull through," I said, after going in the room again for a moment to look at him.

"May do it; probably will," Doctor Bloomby replied gruffly. "Fightin' stock, never say die." And we smiled at each other, remembering many's the croupy baby we had sat up with together until the first faint streak of dawn.

And so we wore away the hours of the night—the old doctor and I mostly together, the young doctor and the nurse working over the baby, Edward's wife and her mother relying some way upon each other, as mother and daughter do.

BUT Edward, where was he? Several times I went to the door of his room. And there he sat, in a chair in the middle of the room, a chair which did not belong there at all, a dining room chair I had seen him carrying aimlessly about early in the night. There he sat and stared before him, and spoke not a word when I made my pilgrimages to look in upon him.

In about half an hour a single piercing shriek from the baby rang through the still house like a shot, and was followed by the regular monotonous familiar cries of a sick child getting back the full play of his lungs after croup.

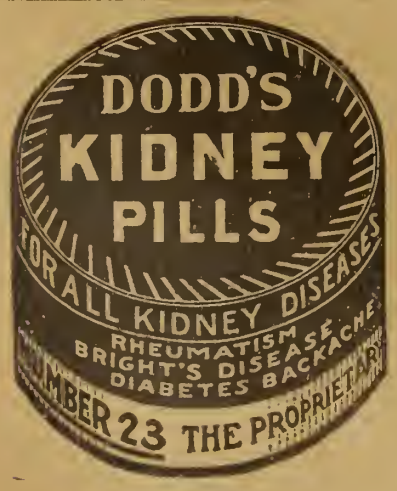
At the first cry, I heard a thump in Edward's room, like nothing but the sudden overturning of that dining-room chair. I surmised that he had dozed off to leep sitting there, and that cry had startled him.

Then it go to be four o'clock, and Edward's wife had not come out of the room, and no one offered her mother or me a bed to sleep in. And the crying had not ceased a moment. Finally, at four-thirty, I went to Edward's room. For all my weariness, my heart was full of thankfulness that his little son was saved, and words of tenderness and congratulation upon my lips.

As I went down the hall toward his room, I heard him walking up and down, up and down. And when I stood at the door, there was the dining-room chair still overturned in the middle of the floor, Edward as white as a sheet, his collar unfastened, his tie streaming down one side of his shirt like a crimson cut, his fingers run through his hair until it stood on end.

He came toward me and stepped close as I shrank back into the hall; the baby gave an extra loud yell, and Edward said distnctily, between clenched teeth, "I wish that baby would die!"

THE words of tenderness were frozen on my lips. Speechless I stood, and shook to my marrow



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bones. I wondered if this was the way so many old people died of apoplexy. But even through my blazing anger, I knew I had no intention of seeking my safe place beside Edward with the story on my lips that I had passed out in a fit of apoplectic anger with his grandson. And the mist before my eyes swam and cleared. And there stood Edward, the curls damper than ever on his forehead, his big eyes the deepest wells of misery I haev ever seen. Slowly the clenched look about his jaws relaxed, and his lips curled up, for all the world as I remembered them years ago when we disagreed about the cooky jar. And I gathered him close against me, and hid his face in my lace collar.

Spanking Doesn't Cure!

Don't think children can be cured of bed-wetting by spanking them. The trouble is constitutional, the child cannot help it. I will send **FREE** to any mother my successful home treatment, with full instructions. If your children trouble you in this way, send no money, but write me to-day. My treatment is highly recommended to adults troubled with urine difficulties by day or night. Write for free trial treatment.

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MINARD'S "KING OF PAIN" LINIMENT

Yarmouth, N.S. 8

"I just can't stand it, Grandmother. I—I hate him," he said into my collar.

And it was so funny. Whatever else we may not have in our family, we every one have a sense of humor, and this big six-foot boy blubbering invective against his tiny, red, crumpled three months' old son, struck us both form tears into giggles.

And why not? Hadn't we been up all night strained and haggard? Wasn't the baby all right now, but still yelling, his mother hung over his bassinet, unmindful of our hunger and deaf to our human needs?

And it was at that moment that I recevived my inspiration. Edward's question of "how much time can a man spend away from his family and still retain one hundred per cent. of affection" seemed the most logical thing in the world. I did not need to be told another thing, but tae flood gates open, he insisted upon telling me. And I followed him downstairs into the sitting room as he talked. And after talking on and on while I thought of something else, he finished: "And I'm not blaming anybody, but my life has been hell ever since he was born."

And I did not say a word, just patted his shoulders. I had my mind made up what I was going to do, and Edward was too young to know. I remembered now, clear as a bell, how the very same thing had happened when Edward's father was born, my first child. And I fairly chuckled to myself. I had realized the situation after a few months, and one of the very happiest of my married life had followed—every day, every evening of it full of eagerness and romance, until my heart quickened at Edward's step coming up the walk, and stopped almost at the look of wonder love in his eyes. It was all such fun, and such a joke on my dear Edward, for he never knew. It was one of the secrets, I thought, as I patted my grandson's big shoulder, that I could look forward to telling my own Edward when I went to him.

* * *

Her mother had gone home, and there sat Edward's wife beside the baby—white, old looking, her pretty yellow hair stringing about her ears. And there stood the nurse, crisp, starched, capable, and there yelled "him!"

By much persuasion we took Edward's wife—at least Edward's son's mother—away with us. In the sweet warm kitchen, her hand raised involuntarily to open the door I had closed softly behind hed. Then she stopped half way. The quiet came over her eyes like a veil, the meaning of the whole scene seemed to dawn upon her, and she sank down gratefully and ate, and ate.

Goodness knows when she had really eaten before. I raised by eyebrows at Edward and nodded for him to note it. And suddenly he reached across the table and squeezed the hand she held her fork with. She smiled sleepily, and patted him back.

I WAITED a day, so as to be quite rested up, and certain in my mind of what I was going to do. I knew if I went to Edward's wife with one bit of blame for her anywhere in me, she would match it with that much blame for Edward, or his father or mother, or me. It is a very delicate relationship, the second married year. But I knew if I went to her with love that blows like a sweet breeze, I would find her that same.

And Edward's wife understood everything I suggested. She agreed with me that Edward was young, and socially inclined, and pleasuer loving, and nervous of temperament, and more than usually sensitive to noise.

Then, she agreed that what Edward had married was the prettiest girl in the town, the girl with the most beaux, the brightest eyes, the smartest frocks.

Then I pushed her in front of the long mirror in her bedroom door—and let her see what she saw. Her hair never had been curly, though we had all thought so before Edward married her. And her lips had always been colorless though until after Edward married her we had all thought they were like cherries.

Then, as the shadows of evening came, and home coming time for Edward, we began to rustle among tissue papers in bureau drawers, in long-closed fragrant boxes, and over the dressing-table we arranged the "vanity mirror" which she confessed had hung askew for weeks. Then, along at the last, with my old shameless hands I held a rogue stick and a poyder puff while she applied them alternately.

When we were finished, she looked just as she did before Edward married her, curly hair, cherry lips and all. I hugged her myself, and I noticed in the "vanity mirror" how bright my own eyes were, and two red spots on my cheeks. And just then we heard Edward's car at the gate.

The color flung up into her face, as I knew it would, and her smooth, white throat throbbed above her chiffon bodice. "Oh, Grandmother," she questioned eagerly, "shall I get the baby, too?"

And for the first time, the very first time in my life, I was sacreligious; I said "For God's sake, no!"

As she went to the door I whispered: "Whatever you do, don't let on to Edward that you are doing anything particular.." And I pushed her out of the room.

I leaned over the staircase until I heard the staccato of her French heels meet the "plump, plump" of Edward's heavier shes half way down the hall. I could see black arms and white cuffs across her light waist in the back and when I peered into the living room a half-hour later there they were seated on the divan under the shaded lamp.

Oh, oh, I was having such fun with Edward! And I slipped out the back way, and went home.

And that was only the beginning. There were parties and dinners, and excursions of youg married folks to the city. And pretty dresses!

And often my old heart quickened when Edward heard his wife coming down stairs in the evening, and stopped almost at the wonderlove in his eyes.

WHEN CANNING FRUIT

When canning fruit place the jar in a small saucepan with a short strong handle. It can then be held against the edge of the vessel in which the fruit is boiling and will catch any fruit or juice that spills over the jar. It also prevents any risk of burning the hands.

EASY ON FUEL
BUILT TO LAST
ENTERPRISE
MONARCH STEEL RANGE
In thousands of homes the Enterprise Monarch is daily giving complete satisfaction as a reliable, convenient, and economical range. A stove that constantly makes good wherever used cannot fail to give you perfect service.
ASK FOR BOOKLET
19
THE ENTERPRISE FOUNDRY CO
SACKVILLE N.B.
SOLD BY LEADING DEALERS EVERYWHERE

Do Not Neglect The Bad Cold OF TO-DAY

IT MAY BE SERIOUS TO-MORROW

May Develop Into Bronchitis, Pneumonia and perhaps Consumption.

Miss Mary Prouse, R.R. No. 1, Cedardale, Ont,, writes:—"I had the Influenza in November last, and it left me with a terrible cough. I did not attend to it until it got so severe people warned me it was time to see about it. I went to the doctor and got some medicine. He told me it was a bad attack of bronchitis. I could not sleep, and would have to sit up nearly all night, it was so difficult for me to get my breath. The doctor's medicine did not seem to be helping me the least bit.

One of our neighbors came in one day, and told me about Dr. Wood's Norway Pine Syrup. I tried it and took two bottles. No person could believe how it helped me. I have recommended it to different people since, for I believe I have reasons for doing so.

Dr. Wood's Norway Pine Syrup has been on the market for the past 30 years, and stands out by itself as a remedy for all coughs and colds.

Be sure and get the real "Dr. Wood's" when you ask for it. Put up in a yellow wrapper; 3 pine trees the trade mark; price 25c. and 50c.

Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

AH, THESE WOMEN!

"A pretty how do you do, I should say. Just when things began to run in fairly decent shape, the country turns itself upside down, all for nothing."

Why Samuel, what on earth has come over you all of a sudden, and it on the Lord's Day, too? I don't think it did you much good to go to hear the "new minister" from the spirit you bring home, you might as well have stayed at home with me.

I guess it won't make much odds where I am or any of the rest of the men either, if the "new minister" stays here.

Why Samuel, how you talk. I hear he is just a wonder. Only yesterday one of the ladies told me she did hope he would settle here, he seemed so interested in all the folk in the community. I'm sorry I can't get out more.

It's too bad, I'm sure, that there wasn't something to keep the women on the road. I expect the most of them will be in "overalls" and the men in aprons, soon.

Now Sammie, dear—be sweet and do tell me about it, won't you? It's so awfully one sided, this way of talking.

I guess there'll be sides enough soon, perhaps too many. Why, Matilda, just as if the men couldn't run things. Who ever heard of the like, "Women Voting" and holding meetings, and the new minister upholding it too.

What was his text.

Oh, text, I don't remember—something about thinking alike, or being of one mind or some such thing, but when he got started it was—Cooperation—"Cooperation". If the text had been sick with the "small-pox" the sermon never would have caught it, for all he talked about was women and girls voting and forming some organizations, and holding meetings, and—why Matilda, you'd be shocked or then your not Sam Murphies wife.

Why Sammie dear, crooned Mrs. Murphy. "What a splendid thing that would be. It would be such a variety for we women folk, it does get kind of dreary just working in a kitchen year after year, with nothing to think of but hard work.

Now, what on earth does a woman know about voting or farming either. Good gracious wife, it's all foolishness and worse.

And why should a woman know nothing about voting, I wonder?

How would she? Sure, she never goes to a political meeting or reads the papers. Whoever heard of two or three women even talking about the laws of the country, or elections, or farming, or anything of the sort. To my mind a woman's place is in the house.

Why Samuel, you'd be simply furious if I told you that a man's place was in the "barn", yet it would be just as reasonable as to say my place is in the house. If you can do your barn work in good shape and go to a political meeting, why can't I do my house work and go with you, or why can't you stay with the twins and let me go. I wish you'd consent to let me go to church next Sunday, for you have really aroused my curiosity. Now, that would be learning to co-operate, and you really cannot imagine how you'd enjoy our sweet twin boys, so promise me, and now let us forget about it today—and when tomorrow comes I'll tell you whether I have ever thought about politics or not, and maybe you won't think that all women are asleep.

Say, Matilda, look coming down the lane—that's the parson, I vow, and here it is Tuesday and that agent coming with my seeder. How in hatch can I waste time to sit down in the house.

Why, Sammie dear, you just take the time, same as I did when Jean Miles came for me to fit her dress. Sure, I had to let her wait, for you insisted upon me dropping all that fodder corn before it rained. Now be good, he won't stay—and perhaps the agent may be miles and miles away.

Afer an hour of pleasant visiting, Rev. J. P. Smith went on his way, and the Murphies resume their Sunday attitude, with the exception of a few points in favor of Mrs. Murphies' argument.

Why Sam, it's just great, he thinks that it is the duty of all farmers wives to organize into clubs and study and help—to make the lives of the country people especially, more pleasant and more worth the while.

Well wife, where is there one woman who would know how to vote, even if she did study.

Why, Samuel, all women have minds of their own.

Yes, I guess that's so all right, and most of them couldn't be jarred with a cannon.

You have just guessed right, and to my mind, when women begin to vote they won't at least let a $5.00 note change their minds, as many men do, and that is half the reason that we have had so much wrong voting—so many men who are ready to say "What odds is it who I vote for, it don't effect me. Whoever or whatever party gives me the most money, that's the side I'll go on." Now, I can safely vouche for the majority of women, that no candidate, no matter how flattering, will be able to induce them to vote against their conscience, and that they will strive to learn which really is the side of politics that will do most toward making the country better. I rather like the new minister's view of the matter, and like Martha Jones, hope he may move his family here.

There comes the agent with my seeder, Matilda.

Thank goodness for that. Now I can give the time I use every year in gardening (without any credit for it) in meeting with other men's wives, and in studying the best and wisest ways to assist my husband in his work, both by learning the right way to vote and by voting that way. Not because someone else voted that way, but because I fully believe it to be the clean and right way. Men have voted since the world began, and are today displeased with many results. Better allow the women at least a few years to Cooperate, perhaps we may ask at least a trial of 25 years, which will be only a drop in the bucket compared with the time you men have been voting, and I fancy I hear you say: Well wife, I guess the old world would be pretty blue without the women, and I think it would be equally blue without the men—so much will we find in true Cooperation.

FARM WOMAN, N. B.

Poisoned By Gas While In a Well

FRANK CARLSON FOUND RELIEF IN DODD'S KIDNEY PILLS

Saskatchewan Man Who Suffered All Summer Claims That His New Lease of Health is Due to Dodd's Kidney Pills.

Livelong, Sask., June 22nd. (Special.)—Most enthusiastic about the benefit he has received from using Dodd's Kidney Pills is Mr. Frank Carlson, a well known and highly respected resident of this place.

"I was gassed in a well on my farm 25 feet deep," Mr. Carlson says. "I was nearly dead. I was treated for a whole summer for my trouble, but did not get better.

"Then I read in a little almanac about Dodd's Kidney Pills. I had no idea they might benefit me, but was willing to try anything. To my surprise the improvement in my general health was so great, and my kidneys were so much better, that I feel like advising everybody to use Dodd's Kidney Pills. I would not be without them."

Dodd's Kidney Pills are a kidney remedy. They strengthen the kidneys and enable them to do their full work of straining the impurities out of the blood.

Ask your neighbors if Dodd's Kidney Pills are not the sovereign remedy for sick kidneys.

SHORT COURSES IN HOUSEHOLD SCIENCE

FOR "TEEN AGE" GIRLS

JULY 6-16, 1920

TUITION FREE

Practical instruction in Cookery and Canning. Students will lodge in private homes and will prepare and serve their meals at the College, under the supervision of instructors.

Recreation entertainment will be provided, including sing-songs, Folk dancing and Tennis. Only a limited number of Students can be accommodated.

So make application IMMEDIATELY to

MISS HELEN J. MACDOUGALL,
Superintendent Women's Institute,
Agricultural College,
Truro, N. S.

RAW FRUIT DESSERTS

The tart rhubarb appears just at that season when the appetite craves a change. Rhubrb is an excellent spring tonic. It comes from a plant which is closely allied to dock and sorrel. In its native soil, the central regions of Asia, it attains a wonderful growth, developing stalks six or eight feet high. From the roots of this variety are prepared many of our most valuable drugs.

Rhubarb appears very early in the market. The dwarf varieties are the more tender. Stalks grown in hothouses are not tough and stringy, as sometimes is the case with rhubarb grown in gardens.

Rhurbarb possesses the faculty of harmonizing with other fruits in any

LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.

A MESSAGE TO WOMEN!!

Mrs. M. Summers, Box 09 Windsor, Ont.

combination. The acid juice congeals readily in making rhubarb jelly; and n combn: tion with peach, orange, quince, strawberry and currant juices it assists these latter to jelly without changing their flavors. The juice of the rhubarb can be brought to the boiling point, sealed and put away to use in combination with the latter fruits, not yet in season.

Molded Rice and Rhubarb

20 medium-sized stalks green rhubarb.
1 quart water.
1½ cupfuls light brown sugar.
1 cupful rice.

Cut rhubarb in smal pieces and boil nutil soft Remove from fire and drain as dry as possible; mash and add brown sugar. Boil rice until soft in water. Mix rhubarb and rice, beating thoroughly. Mold in slightly buttered cups and place on ice until cold. Take from olds just before serving and serve with hard sauce.

Rhubarb with Raisins

2 pints rhubarb cut in inch pieces.
1 cupful raisins.
¾ cupful sugar.

Put ruhbarb in a saucepan over a fire until the juice runs freely. Do not let it at any time boil hard. Add the raisins and let this boil until the rhubarb is nearly reduced to a pulp; then add sugar. Boil up, remove from fire, and put aside to cool. Serve cold with cream.

Rrubarb and Banana Dessert

..1 pound rhubarb.
1 cupful sugar.
1½ tablespoonful gelatin.

Steam the rhubarb, which has been cut in pieces, with the sugar and one-half culpful water; when thoroughly cooked add gelatin which has been soaked in onefourth cupful cold water for half an hour.

1 cupful banana pulp.
Juice of half a lemon.
½ cupful orange juice.
½ cupful sugar.
1½ tablespoonfuls gelatin.
1 cupful whipped cream.

To the banana pulp add lemon and orange juice, sugar and gelatin soaked in cold water, as above directed. When begining to set, fold in the whipped cream. Put a layer of the rhubarb jelly in a mold, then a layer of the banana cream, alternating until the mold is filled. Place in the ice box to harden. When ready to serve, unmold and garnish with whipped cream flavored with banana.

Cherry Cup

Seed one quart of sweet cnerries. Put one pineapple through the food chopper. Combine the fruits with one-half cupful sugar, and chill. When ready to serve, pour over the fruit one-fourth cupful lemon juice and one-half cupful orange juice mixl ed with one-half cupful sugar. Serve in small glasses. Walnut meats and marshmallows may be added; or cream, sweetened and whipped until stiff, may be heaped on top.

A Dainty Strawberry Dessert

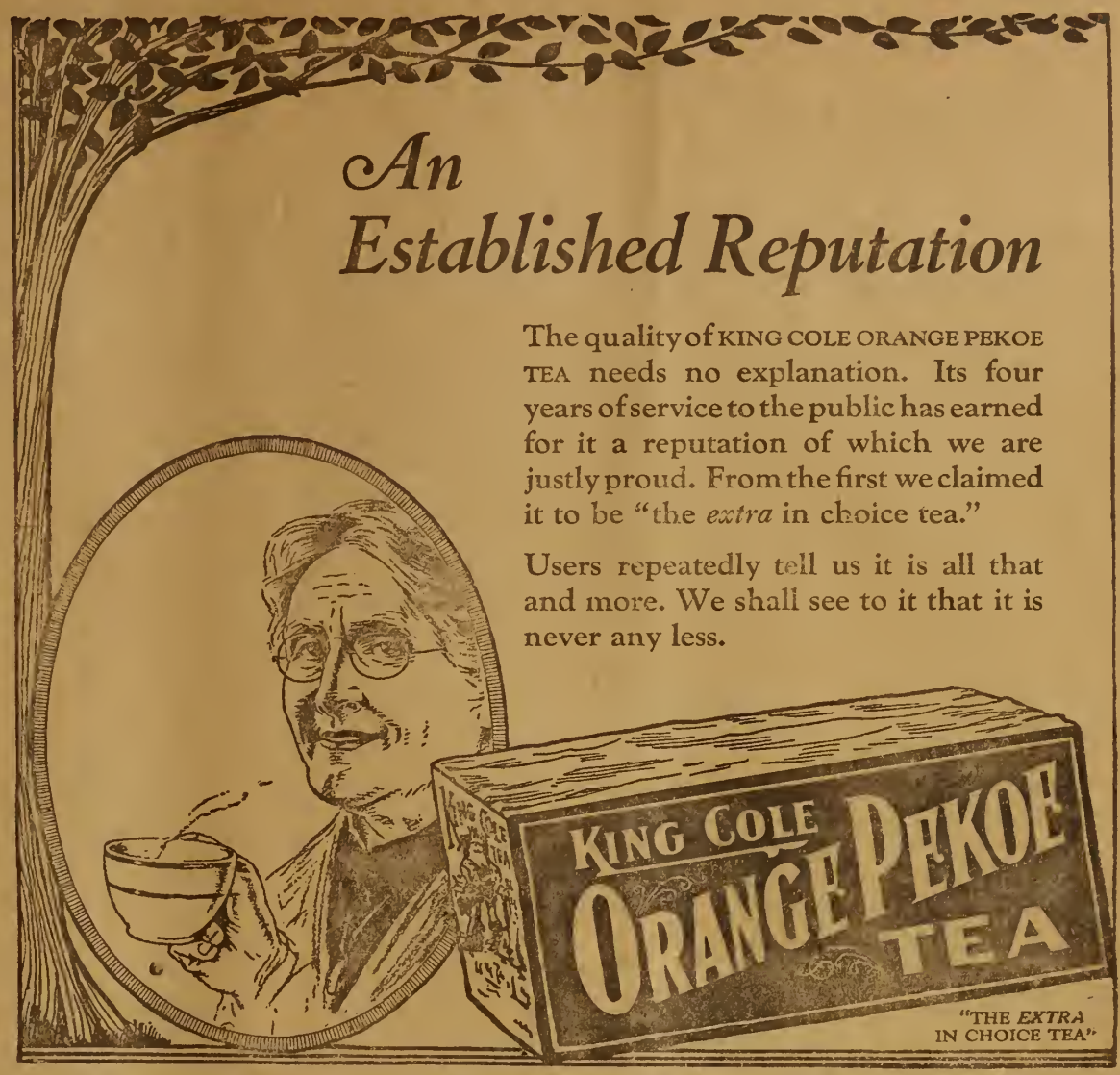
1 cupful ripe strawberries.
1 cupful sugar.
2 egg whites.
Stale cake.

Mash the berries and stir in the sugar. Beat the whites of the eggs stiff; then put in the berries and sugar and whip stiff. Put a layer of stale cake in the bottom ot a dish and pour the strawberry fluff over it. In about an hour the cake will be permeated and softened with the juices while the fluff on top is firmer than before. If you desire to make the dish more ornamental, drop spoonfuls of whipped cream on the meringue, putting a strawberry and a bit of green angelica or real strawberry leaves on each.

Strawberry Blanc Mange

1 quart milk.
¼ cupful sugar.
1 cupful strawberry juice.
4 tablespoonfuls cornstarch.

Heat milk to boiling poit; add sugar, strawberry juice, and cornstarch which as been rubbed smooth in a little cold milk. Cook until thick, and pour into wet molds. When firm turn out and garnish with whole strawberries and serve with sweetened whipped cream.


An
Established Reputation
The quality of KING COLE ORANGE PEKOE TEA needs no explanation. Its four years of service to the public has earned for it a reputation of which we are justly proud. From the first we claimed it to be "the extra in choice tea."
Users repeatedly tell us it is all that and more. We shall see to it that it is never any less.
KING COLE
ORANGE PEKOE
TEA
"THE EXTRA IN CHOICE TEA"

At the Yarmouth Y. M. C. A. Boys' Camp, held at Tusket Falls in August, I found MINARD'S LINIMENT most beneficial for sun burn, an immediate relief for colic and toothache.

ALFRED STOKES,
General Secretary.

A GOOD FARM ICE BOX

Have the tinscmith make from galvanized iron a box six feet long, two feet wide, and two feet deep, inserting a half-inch drain pipe at one end. Set this on the back porch, where it can be shaded. Build about this a larger box, leaving a space of six inches between the inner and the outer box. Generously support the bottom so that the weight of the ice will not cause the inner box to sag. Fill the space between the two boxes with sawdust or chopped hay or straw. Put on a close-fitting double cover; put the ice in one end, leaving the other end for comodities to be kept cool. Such a box will hold 500 pounds at one filling and will not require filling oftener than once a week. This box is a good ice-saver, as it opens on top. Every time the bottom door of arefrigerator is opened all the cold air inside rushes out, because cold air is heavier than warm air. To recool the warm air that enters takes ice, besides keeping the contents of the refrigerator subject to changing temperatures. The box avoids this trouble. Put a trap in the drain.

A CEMENT FOR FLOOR CRACKS

Dust and dirt are prolific sources of disease. Cracks in floors, while being unslightly in appearance, harbor an unbelievable quantity of dirt.

A new floor, if properly laid, is free from this disagreeable feature, but in the course of time, these cracks will begin to appear, due to the shrinkage of the wood. For this identical condition paint manufacturers make and sell a specialty known as "crack filler." If all floor cracks are filled with this material the accumulation of dust and dirt will not be in evidence. Thus you may be assured of a sanitary floor surface and sickness may be avoided.

It is a simple matter to remedy; just clean out the dust from the cracks with some sharp pointed instrument and then thoroughly clean out with a scrubbing brush, soap and water. When dry, the crack filler may be applied. It is made in stiff paste form and should be applied with a putty knife in much the same manner as putty. To make the job complete the floor should then be waxed, varnished or painted, depending, of course, on the present finish and the effect desired.

KILL THE EARLY FLIES

One female fly surviving the winter may have the following progeny:

April 10, ...	1
April 29	10
May 20	200
June 11	4,000
June 30	80,000
July 18	1,600,000
August 5	32,000,000
August 25	640,000,000
September 16 ..	7,600,000,000

Swat 'em early and save yourself later trouble.

A HOME MADE SOAP SHAKER

An excellent soap-shakor can be made by perforating the lid of a baking-powder tin, making about twelve holes in the lid. This I find is a good way of getting rid of scraps of soap that are too small to handle.

TO TIGHTEN THE SPRING IN SHADES

When the spring in your shade becomes loosened, wind it up by using an ordinary button-hook. This will save many sore fingers.

DISH DRAINER AND RINSER

Buy ordinary baking-pan of any desired size and in the bottom about one-half inch from the end make, with a nail, a row of holes. Let this end of the pan extend over the drain board over the sink. Use pan for scalding and draining dishes.

TO SPRINKLE CLOTHES

When sprinkling clothes use a whisk-broom. It is easier and quicker than doing it by hand, and also distributes the water evenly without wetting the clothes too much.

CHIFFIN OR GEORGETTE CREPE

If when sewing thin materials, such as chiffon and Georgette crepe, you will slip a strip of paper under the seam to be sewn, it will stitch perfectly and not draw or pucker in the least. The paper can be torn off when the seam is finished.

COST OF PRODUCING MILK

(Continued from page 712)

price of butter, but is it high when the average price of milk at one of the best paying creameries in the Eastern Townships was $2.54 for the year 1919. By allowing a generous value of $0.79 per hundred for the skim milk which is returned to the farmers and which must be added to the above amount, we have a gross return of $3.24 per hundred weight for the Eastern Townships dairyman, which is less than any of the figures given above for the cost of producing milk under present day conditions.

Te question is often raised by people who have not studied this question. "If the average dairyman is not making any profit, how is he able to live and in some cases lay up a little money?" He lives by marketing his hay and other produce (in the form of milk) at a price lower than the prtvailing market price, and by accepting a less than legal rate of interest on the capital which he has invested; he lives, if he prospers at all, by strict frugality which is usually considered penuriousness; he lives by working 12, 14 and 16 hours a day, while the above estimates are based on a ten hour day; and he lives by the unpaid labor of his wife, his boys and girls, and perhaps by his aged father.

Another argument used against the milk producer often is in regard to the purchased feeds which is cows consume. "Why not raise these on his farm?" they say. Yes, and enough for hogs too! It is perfectly true that some farmers might raise more produce than they are doing, for we are not defending slackers, but any who is in the business himself and in touch with other dairymen knows that most farmers are raising al lthey possibly can with the capital and help at their command and the too often unfavorable weather conditions under which they have to contend. If we kept only as many cows and pigs as could be fed entirely off the farm most of us would be obliged to reduce our dairies by a third and our swine by at least one half. Think what this would mean on the output of our eastern farms, especially now when we are told that the country must be saved by greater production. Then again, it is poor farming to sell milk and meat aff the land continuously without replacing the plant food which is thereby carried away. The cheapest and best way to replace this plant food, in most cases, is for the eastern farmer to buy western grain or grain products and feed it ou to live stock even if he can do no more than get his money back by the transaction.

The statement is often made, and no doubt it is too true, that thousands of children in our cities are ill-nourished from the lack of good milk. This is a sad and terrible thing to contemplate; but should the producers of milk be shouldered with the responsibility of these little lives, as it too often is the case? If, as we have shown, the average dairyman is producing at a loss, what incentive is there for him to produce more and better milk ? I have no excuse for the filthy producer, but at the same time the public should know that it takes more time and labor, as well as a better equipment, to produce clean milk in winter than to produce dirty milk. More bedding must be used, the stables cleaned more frequently and more thoroughly, cows must be groomed more often, the udders washed at times, and the attendants and the utensils kept in a sanitary condition. All this means work and expense and the public is not willing to pay for it. If the wasteful systems of distribution in vogue in most towns and cities could be drastically improved, a saving in price of milk to the consumer could be effected; but if the consumer tries to effect a saving by reducing the price to the producer. (conditions remaining as they are) there will be a lessened production, which must of necessity raise prices. Milk at fifteen cents per quart or cheese at thirty cents per pound are cheaper foods than eggs and meats at prevailing prices.

I would like to close this discussion of the milk question with a quotation from an address by Mr. John J. Dillon before a meeting of consumers organized in New York city to strike against the price of milk. This was in November 1919, and the address published in the Rural New-Yorker.

"Your first concern is the production of a full supply of milk. It must come from the farms. You can get it nowhere else. The production of milk is the most slavish occupation and the most hazardous business in the world. The heavy work of the dairy goes on in rain or shine, hot or cold, Sunday and Monday, from before daylight until after dark. There is no 44 hour week for the dairyman. The day is never long enough for him. Father and son, and oftentimes the wife and daughter, take their part in the work.

"It takes three years to raise a milch cow. Four to five years is her average time of production. In the meantime any one of a score or more of accidents may befall her and disqualify her for production.

"Frost or storm, heat or cold, drouth or floods, blight or insects may destroy the prudent provisions made to feed her. The milk producer takes all the chances, assumes all the hazard.

"I would not have you value this simple, honest toil too lightly. Here in this great city you grow proud of your wealth, and your streets, and your buildings, and your flourishing business and prosperous institutions. Some of pou may not hold in much esteem the simple life and modest institutions of the country; but let the farmers take one Sunday off and practically every breakfast table in the city would be disturbed on Monday morning. If they took a month's vacation we would have famine in the city. Let them stay six months and moss would accumulate on the marble steps of pour counting houses and grass would grow in your city streets."—C. S. Moore.

THEY ALL DO IT.

In our little town—ah, sad to tell:—
There's a merchant who desn't know how to sell,
A laywer who doesn't know much of law,
A sawyer who doesn't know how to saw,
A teacher who doesn't know how to teach,
A preacher who desn't know how to preach,
A painter who can't paint very well,
A printer who doesn't know how to spell,
An odd-jobs man with never a job,
A cobbler who doesn't know how to cob,
A miller who doesn't konw how to mill,
A butcher who doesnt' know how to kill,
A racer who doesn't know how to race,
A mason who doesn't know how to mace,
A clocksmiit h who cannot mend a clock,
And a doctor who doesn't know how to doc:
And since none of them are busy men
You'll find them, again and yet again,
Ever, anon and a few times more
Round the stove in Mendelsshon's store,
Each talking freely and through his hat—
Doing the one thing they're expert at—
Giving advice to the farmers.

—LEE SHIPPEY.

Champion "X"
A-15, ½-inch
Price, 90c.
Adopted by the Ford Motor Co. as standard equipment on Ford cars since 1911.

Champion

DependableSparkPlugs is Ford's selection and should be yours

Nearly half the cars in Canada are Fords. Each one left the factory equipped with Champion "X" plugs.

The significance of this fact, and the proved efficiency of Ford cars, speak volumes to spark plug users in making replacements in Ford cars and those of other makes or in trucks, tractors, farm engines, motor-boats, or motor-cycles.

Service dependability is built into our "3450" insulator, which takes, without breaking,. punishment and abuse that has been considered impossible in anything but metal.

"Champion" on each insulator is your guide to the world's best spark plug.

Sold where motor goods are sold

Champion Spark Plug Co. of Canada, Limited
Windsor, Ontario

Largest factory in Canada making Spark Plugs exclusively

99

BUTTER FROM NEUTRALIZED CREAM

The following letter was received the other day, and as similar questions regarding neutralized cream have reached us from other localities we treat the matter in detail.

"Dear Sir:

I have read in the Journal of Agriculture, an article concerning the neutralized cream. I would be very anxious to get some explanation about it. Do you think, with the gathered cream, n cidity 45 or 50%, a buttermaker can neutralize it without pasteruizing it because here I have no pasteurizer? Neutralize cream to be churmned two or three hours after, is it possible to obtain good process?"

The first point for our readers to

remember is that neutralization of the gathered cream does not take away anw of the undesirable bacteria which have accumulated, and which will give the cream and the butter a bad flavor and spoil the keeping quality. The only way to improve the cream and procure a well keeping buter is by means of pasteruization. Efficient pasteruization of sour cream is an impossibility, and the sour cream must be neutralized first before it can be pasteurized. Further, the neutralization of sour cream with caustic soda dissovles some of the casein, and the dissolved casein is easily removed in the butter milk leaving a purer butterfat, and, in consequence, a better butter. The majority of bad flavors develop in the casein found in the butter.

A further question asked in the letter was:

"A cream vat contains 1800 lbs. of cream testing 30%, acidity 46. How much caustic soda should be added to reduce acidity to 32-35?"

The answer to this question would be very simple if we could be certain that pure caustic soda was to be used.

However, 1800 lbs. of cream of 46 acidity contain 18 x 0.46 lbs. acid and 1800 lbs. of cream of 32 acidity contains 18 x 0.32 lbs. of acid. The difference between the two is the acidity to be removed, namely, 18 x 0.14 lbs. of acid=2.52 lbs. of acid. One lb. of caustic soda neutralizes approximately 2 lbs. of acid. This, for 2.52 lbs. of acid, 1.26 lbs. of caustic soda should be added in a very diluted solution, by adding 25 lbs. of water to the soda.

The buttermilk from this neutralized cream looks watery and transparent. It is, a good hog feed though not suitable for human consumption.

Before finishing we want to emphasize again that butter made from neutralized cream, will spoil very rapidly. Further, we cannot imagine a creamery without some kind of a pasteurizer. The inquirer stated that he could not afford a pasteurizer. We cannot see how a man can afford to make butter wtihout one, as it makes a keeping butter that will demand a good price in any market. As soon as a butter market becomes weak the low grade butter suffers most, first quality very little, and extras not at all. Therefore we think it a good policy to make only extras and be independent of market fluctuations.

NATIONAL DAIRY COUNCIL OF CANADA

This Council has saved the milk producers of Canada hundreds of thousands of dollars in preventing shipping rates on milk and cream from being increased.

It wants to educate the consuming Public to appreciate the food and the economic value of milk and its products, so that they will use more of them and increase the home market.

The Council asks every dairy farmer in Canada to help it by giving 50 cents towards its founds.

With the patron's consent this 50 cents will be deducted from his June or July payment by the Concern to which he ships his milk or cream, and will be sent by that Concern to the Council.

All dairymen should help to protect and promote the great dairy interests of Canada.

E. H. Stonehouse, President, Weston, Ontario.
D'Arcy Scott, Sec. Treas. Ottawa, Ont.

One way by which the hard-worked dairyman may continue business and yet curtail his work is to weed out the poor cows from his herd. With the high cost of production of milk no "star-boarders" should be permitted to remain in his stable.

A farmer in the States calls the scrub bull bulshevik.

Stop Wasting Gasoline

SOME persons think that what they do with their money or what they purchase with their money is not any other person's business.

They are mistaken.

A lot of people are buying gasoline to-day and using it wastefully. In so doing they are penalizing all the people.

Those who have studied the subject say that one-half gallon of gasoline per car is wasted a day through carelessness, through over-use of cars and useless mileage. This means 200,000 gallons wasted a day or 7,300,000 gallons per year.

This has to be stopped or the price of gasoline will prevent the use of thousands of cars. Anyone who wastes gasoline is doing an injury to you whether you own a car or do not own one.

There are about 400,000 motor cars and trucks in Canada. The motor car is a great utility. It gives opportunity to many thousands of people—men, women and children—to get out into the country, to have recreation and pleasure that otherwise would be difficult for them to obtain. It is a great agency in the promotion of good roads. It is a great agency, too, in the promotion of good health. Anything that restricts its use is of public concern.

Does the waste of gasoline concern the person who does not own a car, might be asked. Let us see.

THERE are thousands of motor trucks. They do a great work in the transportation of various commodities. If the price of gasoline advances the cost of transporting goods will be increased. You will have to pay it in the higher prices you pay for meat, for vegetables, for milk, for eggs, for moving your household goods, for anything and everything you eat or use. Directly or indirectly it will be in the bill the general public has to pay.

One gallon of gasoline will provide the energy to move a one ton truck 15 miles, or, to put it another way, it will move 15 tons of freight one mile. If the users of automobiles would save the one-half gallon they now waste each day it would equal 109,500,000 ton miles of haulage.

It is estimated that more than 30,000 tractors will be used this year in Canada. All of these require gasoline or other refined oil fuel. Without these tractors, Canada could not plant her crops, let alone harvest and thresh them.

It has been figured that the 7,300,000 gallons of gasoline wasted per year in Canada is sufficient to plant, harvest and thresh 15,500,000 bushels of wheat. Think what it would mean to you, to Canada, and to the world if the production of Canada's food crops were curtailed.

There IS a shortage of gasoline. In the last few years the demand for crude petroleum, practically all of which must be imported for the manufacture of gasoline in Canada, has increased more than 650 per cent. In a like period, production has increased only 150 per cent. A shortage of crude and high prices necessarily follow. Pennsylvania crude is to-day costing $6.10 and Oklahoma crude $3.60 per barrel at the wells, and these prices must be paid in American funds which adds another 10 per cent. These things render gasoline scarce and make it very high in cost.

Economy in gasoline means more than the general public appreciates. More gasoline is being used to-day than is being produced. That means that reserve stocks are being drawn upon. Curtailment of waste is imperative. It rests with users of gasoline to do voluntarily what otherwise they inevitably will be forced to do.

Save Gasoline.

IMPERIAL OIL LIMITED

PROFITEERING FROM THE ALREADY OVERWORKED FARMERS

(Continued from page 703)

to start a store and to the farmers of Victoria Mills combining. Well, if the farmers of that section, who have been buying their flour and feed, just as cheap as the Woodstock store can buy them, desire to pay more for these goods, then they had better start the store. If they think they can compete sucessfully, not with their local stores, but with departmental stores, doing a nation-wide business, that will be the business of the men who put their money into the proposition. All that the Maritime Farmer wishes to observe is that the United Farmer stores have been long on promises. It is pretty nearly time they came over with some of the long-talked of benefits. The farmers of New Brunswick have already proved that they, uneducated in the fine art of buying and selling as they are, can buy and sell cheaper, in some lines at least, than these concerns in which they are invited to invest their money.

But the whole organization, as conducted from Winnipeg, is one in which money figures largely. First the farmer pays his membership fee, which is very proper. Then he subscribes for stock in stores, which tell him on one hand he is to save money, and abuse him on the other because he will not waste money. Then there is the Guide, for which he is asked to subscribe ($1.50 per year, if possible, if not at 25 cents for four months); then there is the foundation fund, a new one designed to raise funds for organization purposes. And when the organization is completed, it will be Winnipeg that will benefit, not the Maritime Provinces. Not only have these various assessments been made, but the United Fruit Growers and the United Farmers were induced to put money into a paper, which is controlled in Winnipeg. So that no opportunity is missed to give the farmer a chance to contribute.

As this organization is being designed for the benefit of Winnipeg, it would seem to the Maritime Farmer, that the Grain Growers' Association might readily spare some of that 500 per cent, profit, to carry on the organization. Surely out of the three and a half million of surplus, there should be enough money to go around without asking the farmer at every turn to pay. Why not use the money, now that it has been made?

But a greater contribution is being advocated. The Canadian Council of Agriculture is asking for the control of wheat by the Canadian Government. That will mean that the west will get the last cent out of wheat. But did you notice this? The United Farmers' Guide had an editorial in its issue of June 9th, top of page five, right hand outside column, in which it drew attention to the delights of the decontrol of feed prices. And the farmer of the Maritime Provinces is reminded that when this protection is removed he will have the privilege of paying eighty dollars per ton for bran. The Guide is surely doing the work which Winnipeg asks for.

What farmer is there in the Maritime Provinces who is asking the right to pay eighty dollars per ton for bran? Where does the Guide stand on the question? We are for all the control that can be given if the west is to get government handled wheat. If they do, then we in the Maritime Provinces, should not stand for eigthy dollar bran. .Just so surely as this article is being written, just so surely will the farmers of these provinces, realize the service the Maritime Farmer is performing, when they get their feed bills this year. The United Farmers' Guide, when it proposes the decontrol of feed prices and eighty dollar bran speaks for nobody but itself and its Winnipeg owners.

May we again say and without apologies, that we are for the Maritime Provinces, and we are against farmers paying one cent more than they have to for any commodity, whether it be flour or bran.

In a word, we hate hypocrisy. We want a straight deal. We do not like 500 per cent. profits, three and a half million surpluses in co-operative companies, nor do we like to see farmers lectured because they are expected to pay unnecessary prices for goods. If every merchant in this province is expected to charge as much as the United Farmers at Woodstock, then the farm population of this province is in for a roasting. We think our farmers are too sensible to take either the Guide or those who would soak them, very seriously.

GLEANINGS OF AGRICULTURAL PROGRESS IN N. B.

(Continued from page 706)

seed with the Government-owned huller, say that this crop is a money maker. It is hoped that the competition will be the means of extending the culture and use of Red and Alsike Clover on New Brunswick farms. The following is the proposed score card for the standing crop. Look it over and if you have a field of sufficient area make your entry and our inspector will pay you a call. The entry fee is twenty-five cents.

The prizes will be as follows:—

1st	$30.00	6th	$19.00
2nd	27.00	7th	17.00
3rd	25.00	8th	15.00
4th	23.00	9th	13.00
5th	21.00	10th	10.00

SCORE CARD FOR RED CLOVER

General Appearance:—	
(1) Uniformity of crop; absence of blank spots and thin places	7
(2) Vigor of growth, profusion of blossoms, acreage, etc.	8
Freedom from Weeds	25
Comments on same:	
Freedom from rust blights and insects	15
Freedom from other cultivated plants	
Timothy, alsike, white clover, etc.	10
Apparent yield and quality of seed:	
(1) Number and size of seeds per head	15
(2) Uniformity of maturity and color of seed	20
TOTAL	100

DEPT. OF AGRICULTURE
Fredericton, N. B.

EGG LAYING CONTEST FOR NEW BRUNSWICK

An egg-laying contest for New Brunswick has been authorized by the Director of the Dominion Experimental Farms. New Brunswick is the only province with no such contest, either Dominion or Provincial, at present, but the record of her breeders pens in contests held in other provinces show they have high producing stock, which should make the contest a most successful one.

Sixteen entries have already been received. Contest beins November 1st, 1920. Further particulars will be published later.

RE-QUEENING THE APIARY

(Experimental Farms Note)

The extent to which attention is paid to the frequently necessary operation of re-queening is a good measure of the efficiency of the management of an apiary.

We find for instance, in the neglected apiary, that no attempt at re-queening is made and the colony or swarm that chances to lose its queen —an accident which frequently happens to colonies that have swarmed or to after-swarms— is simply left to die out.

Then there is the fairly well kept apiary in which the absence of eggs in a colony after the young queen should have started laying is recognized as an indication that she has been lost and a frame of brood in all stages is given to the colony in order that it may raise a queen, which frequently does not begin to lay until the colony is much reduced in population.

Finally we have the well managed apiary in which the colonies are examined at regular intervals, and worker brood in all stages in patches of full size for the season is looked for. If this, or a young virgin queen is not present, or if the brood consists wholly or largely of drones, known by the strongly convex cappings of the pupae, a fertile queen is supplied at once from the nucleus kept for the purpose, or a ripe-queen cell is given. The best beekeepers go further and follow a regular system of re-queening each colony yearly, thus replacing all, except perhaps the best one-year-old queens. The young queens are more prolific and profitable not only in the fall but also in the spring and are less likely to swarm than the older queens.

The best time to raise queens in Canada is during the clover honey flow. Do not delay until the flow is declining when robbing is easily induced.

A simple and good way for the beginner to obtain fertile queens is to save the queen-cells in a colony that has thrown a prime swarm. Five or six days after the swarm has left, the colony should be divided into nuclei, each consisting of a comb or two of brood containing a queen cell or two and honey with the adhering bees.

A frequent object in re-queening is to change the race of the colony from black bees to Italians, which resist European foul-brood better, and are generally more prolific and better foragers in the interior of Canada where the summers are warm. In purchasing Italian queens, untested fertile queens should be specified. They are

THE ROYAL BANK OF CANADA

The Road From the Farm to the Bank should be well worn

Go to the Manager of the nearest Royal Bank branch with your financial difficulties while they are small and he can usually help you.

Your affairs will be treated with strict confidence. The Bank's employees are pledged to secrecy about the business of every customer.

CAPITAL AND RESERVES $35,000,000 TOTAL RESOURCES OVER $500,000,000
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Something New

The Remington UMC

8 Shot, .380 Automatic Pistol

It is exactly the pistol you would expect from the organization that for over 100 years has built up the quality and reputation of Remington rifles and shotguns.

Especially designed for quick straight shooting—it fits your hand correctly. Thumb operated safety lever adds safety when pistol is laid away or carried. Also acts as indicator, it and grip safety both showing whether or not hammer is cocked.

Safety sear lock absolutely prevents firing if a cartridge is left in chamber when magazine is removed for cleaning. No shell head blowouts or breech escape of gases. Each time trigger is pulled fires one shot, automaticcal ejects empty shell and reloads, ready to fire. Especially accurate and powerful.

Made only in one calibre, one style, one finish.

See it for yourself and you will agree that the Remington .380 Automatic is the best pistol for the woods, for touring or for any kind of protection.

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WINDSOR, ONT.

REMINGTON UMC

less liable to be injured in the mails than tested queens.

A good way to introduce a queen to a colony is in the "Miller" cage. The queen is imprisoned by a plug of soft candy which the bees eat away in the course of a few hours, and in so doing liberate the queen. Of course, one should make quite sure that the colony to which the queen is introduced is without a queen, and it is advisable to introduce her to a colony from which the queen has been removed the previous day.—F. W. L. Sladen, Apiarist.

SHORT COURSE FOR 'TEEN AGE GIRLS

Arrangements have been completed for a Short Course in Home Economics under the direction of Miss Macdougall, Superintendent of Women's Institutes. The dates are July 6—16. The course will include training in food values and balanced menus, actual cooking practice, canning, etc.

There is room for only twenty applicants, and there are some names already in. The girls will be under the care of the Superintendent and teachers during their stay in Truro. Meals will be served at the College, and rooms secured in the neighbourhood. The cost will thus be less than for straight board. Application should be made at once to Miss Macdougall, Agricultural College, Truro, N. S.

AYRSHIRE MEETING IN THE UNITED STATES

Optimism and progression was the key note at the 24th annual meeting of the Ayrshire Breeders' Association of the United States, held at Kimbal Hotel, Springfield, Mass., on June 9th. The meeting was largely attended, breeders being present from almost every state in the union. The large number of new and young breeders present was marked. This new blood coming into the Association is bringing renewed life to the organization. The genial President, W. P. Schanck, of Avon, N. Y., presided. He advised the breeders not to lose sight of breed and hardiness of constitution. That has every kept the Ayrshire in the fore front of the advancing ranks of the pure bred dairy cattle that are to exterminate the scrub. The President also referred to the dairy economic conditions which were forcing dairymen to recognize the importance of keeping only high producing cows, and also recognizing the value of the pure bred bull in imprving the coming powers of their herds. He approved of the move to abolish the scrub bull and also the establishing of accredited herds. He considered that a moral responsibility rested upon the breeders of registered cattle to free their herds, ond also a financial loss to our breeders. He stated that "the more we study tuberculin as a diagnostic agent and its limitations ,the clearer we see the importance of securing animals from herds that repeated annual tests have shown to be clean." He referred to the progress made during the year and thanked the members for their co-operation and bespoke for his successor the hearty support that had been given him.

The report of the executive committee showed that considerable publicity work had been done during the year and that the Ayrshire Quarterly showed a profit of $1537. The report of the indefatigable Secretary, J. G. Watson, showed it to be the greatest year in the history of the Association. The Secretary stated that financially, it was a winner, exceeding the year 1918 in total receipts by $4,928.77. The total receipts for the year 1919 amounted to $43,531 and expenditures amounted to $33,819.35, leaving a net income from operations of $9,711.90.

During the fiscal year, the Association invested $9,997 in Liberty Bonds. which with the addition of a $1,000 Bond purchased in 1918, gives us a splendid sinking fund. We had in addition to this amount, cash in bank and petty cash amounting to $6,391.21. During the fiscal year 4,6333 females were recorded(as agains 6,929 in 1988; 1,515 males, as against 1,565 in the previous year, while transfers showed an increase from 3,312 in 1918 to 4,486 in 1919. The decrease in registrations is accounted for by the change in rates which went into effect in March, 1918, which resulted in heavy registrations at that time to avoid penalty fee. However, if compared with 1917, a normal year, we find a very large increase in 1919. Transfers in 1919 show a 35% increase over that of 1918. During the year, one hundred and seventy-eight new members affiliated with the organization, an increase of almost 6% over the previous year. We now have an active membership of 1,359 and 126 inactive members, a total of 1,495 members. He also stated that volm umes 33 and 34 of the Ayrshire Herd book were issued and volume 35 went to the press which brings their records completes to November 20th, 1919 and shows recorded 59,492 females and 23,650 males. He claimed that their publicity work had been a great stimulus to Ayrshire development. During the year, the Association has been active in fostering sales, assisting at fairs, spreading the gospel of the Ayrshire through the columns of the press, putting buyer and seller in contact, answering correspondence and inquiries, assistig in the organization of clubs, etc., furnishing speakers, judges, etc., and in every way possible boosting the Ayrshire.

The Advanced Registry showed that 66 breeders in 21 states had completed 292 records with a total average of 10,229 lbs. milk and 412.84 lbs. fat wth an averiage test of 4.04% fat. A new record had been made by "Bloomer's Queen," 21,820 lbs. milk and 856.41 lbs. fat. Two world records had been made. In the Roll of Honor 39 certificates had been issued with an average production of 10,128 lbs. milk and 413.87 lbs. fat with an average of 4.09% fat in 300 days.

The fololwing officers were elected. President, Capt. A. Henry Higginson, So. Lincoln, Mass.; Vice-Presidents, Hugh J. Chisholm, Port Chester, N. Y., John LLinn, Manhatten, Kan., Percival Roberts, Jr., Nurberth, Pa., and J. H. Meyer, San Francisco, Cal.; Secretary, J. G. Watson; Sec.-Treas., W. F. Stephen.

PRIZE LISTS NOW READY

The St. John Exhibition Prize Lists are now ready for distribution. Copies may be had by applying to H. A. Porter, Sec., St. John, N. B.

NEW BRUNSWICK POWER COMPANY

7%

Cumulative First Preferred Stock

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The New Brunswick Power Company owns and operates the electric light and power business, the gas business, and the system of street railways in St. John, N. B., and vicinity, serving a present estimated population of 65,000. The charter rights under which the company operates are without limit of time and contain no burdensome restrictions.

In March last an Act was passed by the Government of the Province of New Brunswick under which the rights of the preferred stockholders are fully protected and dividends assured.

The following important points are embodied in the Act:

1st. The Board of Directors are authorized to fix from time to time such rates for Railway Transportation, and Electric and Gas services, which may be necessary, after providing for operating expenses, depreciation, sinking funds and all other charges, to give them a net return of 8% on the rate base.

2nd. A rate base of $3,100,000 is declared as of the time of the passing of the Act. This amount covers the Bonds and Preferred Stocks issued.

On the present rate base of $3,100,000 the net earnings will be at least $248,000 per annum. After providing for bond interest, $87,500, this would leave $160,500, or over 2¼ times the amount required to pay the dividends on the First Preferred Stock.

Under the Act just passed, we consider this stock a conservative investment, which we feel justified in recommending strongly.

Ask for Special Circular.

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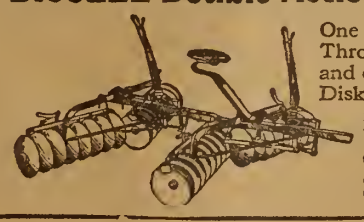
BISSELL Double Action Harrows will thoroughly cultivate and pulverize any soil. One Harrow is Out Throw; the other is In Throw. They are simply constructed, rigid and durable. The Gangs are flexible and the Disk Plates are so designed that they "hang" right into the soil. Bissell Harrows are built in sizes and weights suitable for horse or tractor use. Write Dept. M for free catalogue. 98



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GETTING RID OF FIELD MICE

A useful pamphlet, "Rodent Pests of the Farm and How to Control Them" may be secured from the U. S. Department of Agriculture, Washington, D.C. Ask for Farmers' Bulletin 932.

The most practical method of destroying field mice on a large scale is by poisoning and the following formula is one of several recommended by this bulletin:

Wet-Grain Formula.—Dissolve 1 oz. of strchnin (sulfate) in 2 qts. boiling water. Dissolve 2 tablespoonfuls of laundry starch in ½ pt. cold water. Add the starch to the strychnin solution and boil for a few minutes until the starch is clear. Pour the hot starch over one bushel of oats in a metal tub and stir thoroughly. Let the grain stand over night to absorb the poison.

The poisoned grain prepared by this formula is to be distributed over the infested area, not more than a teaspoonful at a place, care being taken to put it in mouse runs and at the entrance to burrows. To avoid destroying birds it should, whenever possible, be placed under such shelters as piles of weeds, straw, brush or other litter, or under boards. Small drain tiles 1½ inches in diameter have sometimes been used to advantage to hold poisoned grain and old tins cans with the edges bent nearly to gether will serve the same purpose.

Among the most effective natural enemies of field mice may be named the northern shrike or butcher bird, the food of which consists quite largely of mice, especially in spring and fall. The habit of this bird to impale mice and other prey on thorns and splinters of fences, etc., is well known. Owls and hawks also make a business of feeding on mice. No one acquainted with the habits of these birds will doubt the great mistake made by our legislature in placing a bounty on these useful birds.

Last fall two or three sparrow hawks were observed hovering over a meadow near Wooster, and were seen in the course of an hour or two to pick up two or three dozen mice. Later in the afternoon some hunters from town killed three or four of these hawks. No wonder the price of living goes up when men persist in violating Nature's laws in this manner.

Snakes are of considerable value as mousers, the harmless sort like garter snakes comparing well in value with the more dangerous species of rattlesnakes and copperheads. Minks, skunks and weasels destroy mice in great numbers; also, foxes prey gredily upon them. Grey squirrels probably eat them and of course domestic cats eat them; it is well known that cats prefer them to house mice.

Where it is possible to fence badly infested fields and pasture with livestock, mice the not apt to thrive. Hogs will quickly rid a field or pasture of mice. Sheep and cattle do not devour them, they destroy the nests by trampling so that well-pastured areas are inhabitated sparsely by mice.—Ohio Farmer.

TIRE WASTE FROM SPEEDING

Deductions show that excessive fast driving is destructive on ordinary tires. They also show that if the motorist could maintain an average speed of twenty-five miles an hour without incurring the displeasure of magistrates he would get more mileage out of his tires than at any other mark. Also that if he were one who insisted on "letting her out" he must obey two rules—drive slowly over rough roads and take turns cautiously and, as important as the other, increase the air pressure in his tires from two to eight pounds above normal—else resign himself to prodigal purchases of tires. For speeding, specially built tires are required.

IMPROVE YOUR BAKINGS

By Using

BEAVER FLOUR

THE solution to the problem of—"How to improve your bakings and make bread, cake and pastry which are real food treats"—is simple—use Beaver Flour.

Why? Beaver Flour is made from the finest of selected Ontario Winter and Western Hard Wheat. It contains the world-famed richness of the former, and strength of the latter. When scientifically blended, these grains produce a flour—Beaver Flour—which is unexcelled for purity and baking qualities.

Let Beaver Flour prove to you that it will improve your bakings. Try it and note the difference in your bread, pies, cakes and pastry.

Sold by your grocer.

THE T. H. TAYLOR CO.
LIMITED
Chatham - Ontario

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It is a well known fact that the faster a tire is driven the more heat it generates internally, and while normal speed will not raise the temperature of the tire to a danegrous point, excessive speeding will raise the temperature to a point well beyond the danger line or to a point where additional vulcanization will take place—more than the manufacturer ever intended for the tire and sufficient to dry out, not only the friction gum between the plies of fabric but the very fabric itself, depriving the tire of considerable of its elasticity and its resiliency, in fact, part of its very life. This excess heat, drying out the fabric friction between the plies of fabric, naturally will cause a separation between the plies resulting in the fabric chafing against itself, or the plies of fabric chafing against one another, weakening it to that point where it can no longer maintain the air pressure, resulting in a blow-out.

Speeding has other bad effects on tires than prematurely drying them out. One of the most common is the result of driving at a fast pace over uneven or rough roads. Some drivers, unfortunately for the tires, drive at the same speed over a rough road that they would over a boulevard and then wonder why it is that their tires wear away so rapidly.

Watch a speeder negotiating a rough road at about as fast as his car will travel and notice the rear wheels in particular as they strike an obstacle, both at the same time; the shock comes so abruptly and forcibly that the rear wheels are raised free from the ground. Perhaps this is only an inch or so but while in the fraction of a second the wheels are off the ground, the tension is released on the engine, the wheels are spinning much faster so that when they again strike the ground the road itself must do some brake work and have an action on the tread of the tire much like that of a rasp being rubbed over its surface.

Now if it should happen that when the tires strike the ground after being thrown into the air, there should be a sharp pointed stone or other sharp obstacle at that immediate point, the result would be a nasty cut circumferentially around the tread. This might extend for but a few inches or it might extend half-way round the tire and might be deep and serious, and all brought about in the wink of an eye. In addition to this, tires used under these circumstances would no doubt lose their treads, not alone from the rapid wearing down but from a separation between the tread and the carcass, for it is easily seen that the tires leaving the ground frequently and coming down again, they would be revolving at such a velocity that their very contact with the road would bring about an extreme wrenching of the treads of the tires at this point. Very little action of this kind is necessary to bring about complete disintegration of the tire itself.

SQUIRREL POISONING AND BIRDS

It has ben asked whether the method of destroying squirrels published in the Gazette of Jan. 1 is not dangerous to birds. The formula used was as follows: Part 1—Add enough water to ¼ of a pound of Gloss starch to make a thin paste. Add 5 pints of boiling water, and boil until a clear smooth paste results. Part 2—strychnine alkaloid, 10 ounces; baking soda 10 ounces. Stir the strychnine and baking soda together and mix to a smooth paste with 2½ pounds of Karo corn syrup. Add enough of the starch paste to make this smooth if it is yet dry. Mix parts one and two and stir until smooth. Then add part 3—saccharine powder, 1 ounce; glycerine, 8 ounces. Add 1½ pounds of salt if necessary. Mix the above paste thoroughly with 160 quarts of

well-cleaned oats. The preparation should be put on runways and near holes; not in piles nor in burrows.

This method of poisoning squirrels is the one which the Bureau of Biological Sorvey recommends. It is being demonstrated by the bureau's repersentatives in Oregon, and extensive co-operative campaigns are now in progress on Government, state and private lands. Essentially, this method of destroying injurious rodents is being used in our campaigns against ground squirrels and prairie dogs throughout the western states. These campaigns have developed to very large proportions, owing to the direct benefit in increased crops and forage production which results from eliminating the pests. The work has already been done over many millions of acres. The method was developed with a view to obtaining a method that would be highly effective and at the same time eliminate as largely as possible destruction of useful birds as proper protection of such forms useful to the farmer is one of the objects for which the bureau is striving, The workers are constantly on the alert to detect cases where useful birds are destroyed in order to safeguard the birds. The bureau has followed these operations carefully and has repeatedly made detailed investigations to the effect of such poisoning operations on birds, and fells entirely safe in stating that no appreciable harm results to the bird populaation in connection with the poisoning campaigns. Few birds feed on cleaned whole oats and barleyl the grains chiefly used. Through the demonstration of the effectiveness of these grains as bait for the rodent pests, the bureau has unquestionably eliminated a large amount of bird killling, which formerly resulted from the use by farmers of poisoned wheat and grain containing small seeds. This has also largely resulted in discontinuing the use of phosphorous poisons for this purpose, these having been exceedingly destructive of game and other valuable birds. The bureau is therefore confident that in addition to rendering a large service to the farmers and stockmen of the west through teaching them the most practical and economical rodent pest and aiding them in organizing effectively for this work, it has also rendered an important service in the cause of bird protection by devising and introducing poisoning methods which eliminate the destruction of birds to a point where such is entirely negligible.—E. W. Nelson, Chief Bureau of Biological Survey, Washington, D. C.

MIXED FARMING vs SPECIAL CROPS

We meet many men of all kinds who claim that the farmer should specialize. Others, on the contrary, think that it is only general farming that pays. According to the best economists both of the United States and of Canada, the following are the respective advantages of these two kinds of farming.

First, what do we mean by general farming? We say that a person does general farming when he cultivates most of the plants and raises most of the animals common to his locality. A farmer who draws most of his revenue from one product or from two or three products of the same kind is supposed to do special farming.

Advantages of Specializing in Farming

1. A farmer who is a specialist usually acquires more competence in his line. It is much easier to gain lots of experience in one special line than in fifteen or twenty.

2. **Economy of capital.**—He who wishes to undertake several branches of farming at the same time must have the necessary equipment for each, which means many machines and buildings.

3. **Economy of labour.**—For example, a man who makes a specialty of growing potatoes can buy, not only the necessary machinery, but also all that which, while not absolutely necessary, is a useful help in this work while he who is raising a number of different crops cannot economically provide himself with all the machines adapted to the different crops.

4. **Easier Sale.**—Little attention is paid to the man who has only a few pounds of tobacco and a few bushels of potatoes to sell, while he who has carloads of one single product to sell easily attracts the attention of large buyers.

5. **Less suffering from neglect.**—With several different crops there are always some which require care and attnetion at the same time and so some have to be neglected while the others are being cared for.

6. **The culture of special crops gives more leisure time to the farmer**—For example: the culture of wheat in the West.

Advantages of General or Mixed Farming

1. **Rotation.**—It permits of rotation of crops which is of great aid in maintaining the fertility of the soil.

2. **It diminishes risks.**—Farmers who devote themselves to one specialty are liable to meet with severe losses at times when crops are attacked by disease or when weather or market conditions are unfavourable.—If, on the contrary, he raises a variety of crops and live stock, he will rarely meet with misfortune in all branches in the same year.

3. **It increases the spirit of economy.**—The same income is much less likely to be rashly spent when it comes in small sums than when it is acquired in a large block.

4. **A more even division of work.**—In mixed farming the work of men, horses, and machines is more evenly divided through every month of the year.

IN CONCLUSION.—Comparing the advantages and inconveniences of these two forms of farming we are of the opinion that in the majority of cases it pays better and is more prudent to follow mixed farming.

Card, the great American economist, does not advocate ordinary mixed farming, but rather a system comprising a limited number of crops which gives all the advantages of specialization, while at the same time permitting a rotation.

The cultivation of one specialty may be recommended under the following conditions:—

1. When it furnishes employment for men, horses and machines for the greater part of the year.

2. When it is very profitable and when the fertility of the soil may be maintained without rotation. For example: Market gardening near a city.

3. When the farm to be cultivated is too small for it to be profitable to establish rotation.

A Solid Cutting Foundation

AFTER all, the principal thing is to get the grain cut — all of it. And in order to do this successfully, a binder must have a smooth-working sickle that will not jam or bind, even when the binder is working on rough ground.

McCormick and Deering Grain Binders cut clean — and continue to do so during the entire life of the machine. There is no twisting, sagging or springing of the cutter bar, because the knife works forth and back on a solid foundation — a T-shaped steel sill that effectually resists heavy strains imposed by operation in rough, uneven fields. There is no rubbing of sickle sections against guards nor binding due to springing or twisting of the sill, for it *does not twist or spring.*

This is only one of many features that make **McCormick** and **Deering Grain Binders** so efficient and dependable — that have won for these harvesting machines a world-wide reputation for economical, satisfactory service.

Your nearby International full-line agent handles these standard-setting harvesting machines. See him, and place your dependence also in **McCormick, Deering,** or **International twine,** and your harvest will be well within your control. Place your order early —service will follow.

INTERNATIONAL HARVESTER COMPANY
OF CANADA LTD.
HAMILTON CANADA

WESTERN BRANCHES — BRANDON, WINNIPEG, MAN., CALGARY, EDMONTON, LETHBRIDGE, ALTA., ESTEVAN, N. BATTLEFORD, REGINA, SASKATOON, YORKTON, SASK.
EASTERN BRANCHES — HAMILTON, LONDON, OTTAWA ONT., MONTREAL, QUEBEC, QUE., ST. JOHN, N. B.

MARKET REPORTS, JUNE 15, 1920

Extracts From Reports

Toronto, Eggs—There has been a little easier undertone during the past week, but very little material change in prices. Specials are down one cent and now jobbing at 57c, extras 55c, firsts 53c, and seconds 44-47c. Some eggs have arrived from the prairie provinces, and more are reported en-route. Last week end several dealers had offers of April and May storage for fall delivery, all charges paid and 46½c f. o. b. Chicago. Exporters report the situation to be improving with some sales for fall shipment and a prospect of business for prompt shipment. Storage stocks have increased considerably during the past week. From June 1st stocks on hand of fresh and storage at Ontario points amounted to 81,260 cases (for comparative figures see eblow. Poultry—There has been a material increase in the receipts of broilers and fowl during the week, and prices are lower. Other varieties unchanged.

Montreal, Eggs—This market has undergone little or no change during the past week, prices ruling about steady with specials jobbing at 57c, rehandled current receipts 54-55c and seconds 48-49c. There seems to be some different in opinion among exporters and some still claim that they have not had bids high enough to warrant business, while others have closed contracts for fall shipment. Receipts for the week ending June 12th were 15,961 cases as compared with 16,981 cases for the previous week and 13,609 cases for the same week last year. Poultry—The poultry situation continues practically unchanged except for a slight increase in the receipts of broilers and fowl.

Winnipeg, Eggs—Receipts continue to show a falling off and the quality from some sections is very poor. The interprovincial movement during the past week has been light, the bulk of receipts being stored. Quotations to country shippers have declined to 38c delivered and current receipts are jobbing at 43-44c. Poultry—A few shipments of live fowl are now arriving.

Regina, Saskatoon and Moose Jaw, Eggs—Receipts continue light, though there is still a slight surplus for local consumptive demands. Prices to country shippers range from 35-37½c, cases included. Poultry—No business reported.

Calgary, Eggs—Dealers dropped their buying price last week to 35c delivered loss-off. Quality of fresh receipts continues very poor, some packers stating that 75% are seconds. Poultry—No change.

Edmonton, Eggs—This market is unchanged since the commencement of last wee kand price to country shippers dropped to 35c. A few eggs are still going into storage and the jobbing trade is reported dull. Poultry—No business reported.

Vancouver, Eggs—This market remained unchanged last week for local fresh, with United States fresh slightly lower at 52-53c and prairie province fresh at 48-50c. Imports during the past week amounted to 134 cases of States eggs, 40 cases of frozen eggs, and 4 cases of egg albumen. Poultry—Market unchanged. Live broilers continue to arrive freely, also hens. The market is firm for dressed poultry.

Maritime Provinces, Eggs—From 44-46c is being paid at country points on Prince Edward Island and current receipts are retailing at 48c. Production is reported very heavy and country storekeepers claim they have never handled as many eggs in any previous week as last week. Quality still continues good. For the week ending June 12th, 2,565 baby chicks were distributed from Charlottetown. The inter-provincial movement of eggs last week amounted to 885 cases and the export movement 50 cases. On the main land prices are slightly lower and in New Brunswick 40-42c is being paid to producers, while the St. John trade is offering 44c f. o. b. to country shippers and 46-48c delivered.

Review of the Situation

Eggs—An effort has been made to get prices down at country points in Ontario, but judging from reports received from track shippers, this pressure has had little effect so far. They claim to have paid stores and farmers 46-48c, and the latest sales they have made were on a basis of 49c for current receipts cases returnable, and 53-55c for firsts cases free f. o. b. Government inspected. Some of the large operators at Toronto say they have received eggs from the prairie provinces costing 42½c f. o. b., and have more on the way. These they claim can be sold at 48c and even less, and show a profit. There has been no material decline in production although at some points there is a falling off in receipts. Several wires were received from Chicago towards the close of the week, offering Minnesota firsts April, May at 46½c f. o. b., all charges paid to end of season.

The western situation is easier and the prairie province trade is offering 35 to 38c delivered loss off to country shippers. Though receipts are falling off there is still some surplus over consumptive requirements that is being stored.

Inspections last week for interprovincial and intraprovincial in the East, numbered 15 approximately 6,000 cases, and there were 6 inspections in the Western provinces.

The United States markets have remained fairly steady. Supply was large and demand only fair, principally for northern stock. Chicago quotations current receipts firsts 38-39½c, storage packed firsts 41½c, extras 41¾-42c.

Storage stocks June 1st were as follows:—

1920, June 1st.....	5,106,747 cases
1919, June 1st.....	6,098,448 cases
Decrease.....	991,701 cases

Poultry

There has been a material increase in the receipts of broilers and fowl during the past week and prices in consequence are lower. Other varieties remain unchanged. A few crates of live spring ducks were received at Toronto during last week from a duck farm in Quebec. These are being sold to a special trade which is limited owing to the high cost. Storage poultry is now in small compass and is fast cleaning up.

The United States dressed poultry market has been barely steady, a good deal arriving in poor condition dues to delay in transit. Live poultry opened this week easy but there has been a gradual improvement in the demand.

Storage stocks June 1st were as follows:

1920, June 1st	30,540,230 lbs.
1919, June 1st	55,615,989 lbs.
Decrease	25,075,759 lbs.

EXPORT

Eggs

There has been quite a revival in the export egg trade and it is reported a number of sales have been made for fall shipment by country packers in Ontario. The prices obtained have not been learned, but it is said they will show a useful profit. A small shipment of fresh firsts went forward last week to Great Britain. Recent cables indicate a much better tone to the British market. (See below.)

Poultry

No business.

Latest British Prices (Cables)

London, July 14th, 1920:

Market again firmer, English 32/—34/, Irish 29/—32/, Danish 32/—33/, Chinese 23/—35/. Large chickens short and wanted, Irish plentiful and lower.

Glasgow, June 14th, 1920:

Market firmer, Irish spot 29/—30/ f.o.b. 27/—29/, arrivals limited, demand good. Danish sixteens 28/, eighteens 29/6 strong demand supplies insufficient due Irish shortage. Retail 2/10/ 3/4, Government considering maximum prices for autumn.

British Market Letter

There has been a fairly steady market during the past week, though at the commencement, trade was quiet owing, no doubt, to the holidays. All descriptions of best eggs, including Danish, which have arrived at various ports this week, have moved freely, and prices are unchanged form last week, except perhaps in the case of some out of condition lots. Next week there will be Chinese, and a small shipment of States to be dealt with, also further arrivals of Irish 27/- 28/-, Danish 27/ 32/-, according to weight. Quotations from Ireland are inclinde to be a little firmer, though I do not think there is any likelihood of this market advancing. James Gillanders, London, Eng., May 29th, 1920.

NO more fears when the thunder clouds gather—if your buildings are roofed with Pedlar Steel Shingles. These shingles lock together on the roof into one continuous sheet of steel that repels lightning. A Pedlar steel roof cannot take fire from any cause. It is also proof against every kind of weather. Send us the dimensions of your buildings for free estimate. We will prove that, service considered, a Pedlar Steel Roof is the cheapest Roof to buy.

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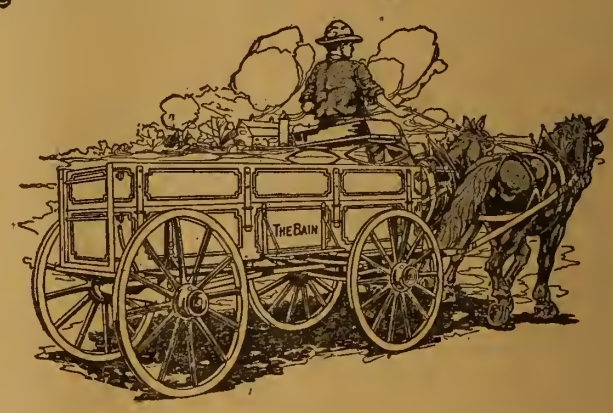

Rolling Along in a Bain

UP hill and down; along level country roads: across the prairie; over rocks and into ruts; on the smooth city pavements; thousands of Bain Wagons are rolling along under their burdens and demonstrating by their service that they do what they are built to do, and what we say they will do.

The best of materials, unsurpassed facilities, and careful workmanship combine to make the Bain Wagon the best on the market to-day.

A Bain Wagon for every purpose. Sold by Massey-Harris Agents everywhere

MASSEY-HARRIS CO. Limited
Head Office: Toronto, Ont.

AGENCIES EVERYWHERE

British Egg Imports, 1920

The British Board of Trade have issued figures on the imports of eggs for the first four months of this year, January, February, March and April.

1920 .....22,011,340 dozens
1919 .....15,784,480 dozens

Increase ..... 6,226,860 dozens

The United States proportion of these imports was:

1920 .....2,297,630 dozens
1919 .....4,610,410 dozens

Decrease .....2,312,780 dozens

United States Export of Eggs

The following are the comparative figures for the exports of eggs from the United States for month of April, 1920, and 1919, as compiled by the Bureau of Markets, United States Department of Agriculture.

April, 1920 .....1,743,480 dozens
April, 1919 .....3,087,928 dozens

Decrease .....1,344,448 dozens

Cold Storage Eggs

A bulletin has been issued recently by the New York Division of Food and Markets from data assembled and compiled by H. D. Phillis of the Bureau of Markets and Cold Storage. The following is an extract dealing with certain prejudices and misapprehensions regarding eggs that have been held in cold storage:

"Much of the bad reputation which cold storage eggs have gained is ill-founded. The mere fact that an egg has been held several months in storage does not mean that it has deteriorated to any great extent, for its quality at certain times of the yaer is actually apt to be better than that of the average "fresh" egg arriving on the market. The unpleasant flavor usually acquired by a cold storage egg may or may not be sufficient to injure its use for most forms of cooking, depending on the conditions under which it has been stored. Lastly, an egg which has not been in storage over seven months is not apt to have acquired a sufficient flavor to be objectionable nor to have deteriorated far enough to affect its wholesomeness or edible qualities."

HERD IMPROVEMENT IN PRINCE EDWARD ISLAND

In 1914 a number of patrons of the Tryon Creamery took up cow testing and have followed the work consistently right up to the present time. For the five years ending in 1919, every farmer has made a substantial increase in the average production of his herd.

In one or two herds the increase was as much as 74 percent. which meant that these men received nearly twice as much milk from the same number of cows in 1919 as they received in 1915. The average increase in butter fat production for all herds was 33.1 lb. per cow. or in other words the increase in the average production of each cow was 33 percent. One farmer had a net profit of $78.57 per cow from his herd of 14 cows. after allowing on an average of $100 per cow for feed.

If the production of every dairy cow in Canada could be increased as much as the production of these Prince Edward Island herds, it would mean an increased revenue of many millions of dollars from dairy products. This is just another instance of what can be accomplished by cow testing. It pays big returns.

UNITED DAIRYMEN COOPERATIVE LIMITED

The United Dairymen Cooperative Limited. held their first auction sale of cheese in the Board of Trade rooms. Montreal, on the 4th instant. The cheese sold by the United Dairymen Cooperative Limited, will be graded by an official of the Dairy and Cold Storage Branch, Department of Agriculture, Ottawa. The grades and standards used will be those adopted by the conference of Dominion Dairy Officials held in Ottawa in November, 1918, and are as follows:—

Special Grade—Score 94 to 100 points. Minimum for flavour, 41 points.

First Grade—Score 92 and under 94 points. Minimum for flavour, 39 points.

Second Grade—Score 87 and under 92 points. Minimum for flavour, 37 points.

Off Grades—Score under 87 points and under 37 points for flavour.

Standards for Grading Cheese

Special Grade—Flavour, clean, sound and pure; Texture, close, firm and silky; Colour, good and uniform; Finish, even in size, smoothly finished, sound and clean surfaces, straight and square; Boxes, strong, clean, well made and close fitting. If made of wood the ends to be of seasoned timber. Weights stencilled or marked with rubber stamp.

First Grade—Flavour, not quite clean; Texture, slightly weak or open; Colour, uniform; Finish, fairly even in size, well finished, sound surfaces; Boxes, strong, clean, well made and close fitting. If made of wood the ends to be of seasoned timber. Weights stencilled or marked with rubber stamp.

Second Grade—Flavour, "fruity" not clean, "turnipy", or other objectionable flavour; Texture, weak, open, loose, "acidy", too soft, too dry; Colour, uneven. mottled, or objectionable shade; Finish, very uneven in size, showing rough corners, black mould, dirty or cracked surfaces, soft rinds; Boxes, too large in diameter; top edge of box more than half an inch below the top of the cheese. Made of too light material. Ends made of improperly seasoned material.

Off Grade—Flavour, rancid, badly "off", anything inferior to second grade; Texture, very weak, very open, showing pin holes, or porous, very "acidity", very soft or very dry; Colour, badly mottled or very objectionable shade; Finish, anything worse than second grade; Boxes, no question of boxes sufficient to make off grade if other qualities are good.

THE USE OF ARMOURIES FOR POULTRY SHOWS

The Canadian National Poultry Association recently made representation to the Federal Department of Agriculture with a view to obtain permission from the Department of Militia and Defence to allow the use of armouries for the holding of poultry shows and exhibitions.

In this connection the Dept. of Militia and Defence state that subject to the interests of Militia Units not being adversely affected, instructions were issued some time ago to General Officers commanding districts that they were authorized to permit the loan of armouries for any specific purpose by non-military organizations, subject to either fire insurance being taken out on the building by those proposing to use it, or special arrangements satisfactory to him (General Officer commanding District) being made to safeguard the building

In the event of any Poultry Assoc. wishing to use an armory for show purposes, a request should be made to the General Officer commanding the District stating the dates upon which the show is to be held.

The efficiency of the hog is determined by his ability to make a maximum gain on the minimum amount vof feed. To do this the young pig must be kept thrifty and suffer no set-back through improper feed or feeding.

MONCTON

You Can Count on Moncton, N. B. Here in the most progressive City in The Maritime Provinces. The Population Has Doubled in the Last Ten Years ; The City is well kept and Boasts more Miles of Paved Streets and better Streets generally than any other Maritime City.

Excellently Located, it is the most convenient railway and Distributing Centre and was selected by The T. Eaton Co. Ltd. for their Maritime Province Branch on this account; other large Institutions are to follow.

Moncton is essentially a City of Homes and Industry, the home of Marven's Biscuits. Atlantic Underwear, Humphrey's Woolens, etc.

We offer as one of the Remarkable Investment Opportunites which this year affords.

NEW ISSUE

$200,000 City of Moncton 6 p.c. Bonds

DUE JULY 2, 1940 and

$193,000 City of Moncton 6 p.c. Bonds

$9,500 DUE EACH YEAR, BEGINNING JULY 1, 1921

PRINCIPAL AND SEMI-ANNUAL INTEREST PAYABLE AT MONCTON, ST. JOHN, HALIFAX AND MONTREAL.

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I will take $..... City of Moncton, N. B., 6% Bonds.

Due .....192.. at 98.50 and Accrued Interest.

Please Confirm.

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AGRICULTURAL MACHINERY BECOMING MORE AND MORE COSTLY

Agricultural machinery, like everything that is now sold, shows a continual advance in price to which there seems to be no limit.

The lack of manual labor, the constantly growing demands of agriculture, which expand with its progress, oblige farmers to supply themselves with all the latest and most improved machinery, to which additions are constantly being made.

It is only natural, therefore, to suppose that the present high cost of living would have led all farmers to take a little more care of their agricultural implements, which formerly completely neglected.

Unfortunately this is not the case. What particularly strikes one, when visiting what is considered to be a well kept farm, is to see a number of farm implements of all kinds, not in the yard of the farm, but scattered here and there all over the fields; and this is true in the case of even more or less complicated machinery, such as seeders, reapers and sometimes thrashing machines.

We are not speaking of ploughs, harrows and rollers, which are forgotten for years and lie covered with a vegetation that seems to be respected. Nevertheless all this material is worth something. It is difficult to understand why such a condition of mind should be found among the people on our farms today and why there is not more effort made to make some use of what represents real capital.

It is true that very often material thus abandoned in the fields is in such a condition that it is impossible to get anything but scrap iron out of it. Even so we should think of the old material and gather it up and get rid of it.

How are the different machines cared for on most of our farms? The plough, once the polughing is finished for the season, is put back in a corner without any preliminary cleaning; the reaper or the binder, still dirty and covered with cobwebs meet with similar treatment, and all agricultural tools are treated in the same manner. This will not do. The consequence of such neglect is fatal: rust caused by exposure to rain encroaches upon all the metal parts; mud and dust accumulate on the gear and in the openings intended for oiling purposes, thus rendering the instruments unfit for all work when they are required for use. Under such conditions these machines wear out more quickly when remaining stored than when in actual use. The owner will be lucky, too, if at such a time, an employee, attempting to become a mechanic all at once, does not attempt to put in order a piece which is not working well: with the aid of a wrench or a crow-bar, the new machanic attempts to set things going and with a hammer bends the piece if he does not cause a serious break. As to the dirt of the parts to be oiled, it will cause the machinery to clog and stick, necessitating repairs by an able blacksmith.

Thus simple neglect of proper care of the working stock, will always result in a loss of money, and in addition, a loss of time, which s equally very costly. Yet, it appears very easy to avoid the inconvenience due to such a lack of care. What is easier than to clean up the farming implements when we have finised using them? At present prices it is well worth while.

BIGGER PROFITS FROM LAMBS

Farm flock owners, particularly those of the east, are being exhorted by the Bureau of Animal Industry, sheep specialists and livestick interests to dock and castrate their lambs. For some unexplained reason the sheep raisers of these sections have been prone to neglect these operations, although they are in the interest of both the lambs and the pocket books of their owners. These same farmers, it is pointed out, would never think, of letting their bulls or their boar pigs, not intended for breeding purposes, remain entire, and yet they fail to follow the same practice in the case of their buck lambs.

Numerous sound reasons are advanced for docking and unsexing lambs, the mose forceful being perhaps of profit. "Bucky" lambs are frequently discriminated against on the market, because when left entire they are generally coarse and strong in flavor. The castrated lamb is a better lamb and deserves a better price. It is said to develop more rapidly and to flesh mor uniformly. Unsexed ram lambs are more easily managed, they are quieter and can be allowed to run with the ewe flock.

One of the strongest arguments advanced for castrating lambs is that this practice is almost universal in the west, where lambs for market are raised in lots of thousands. The range men have learned by experience that it pays. And yet it is estimated that about eighty per cent. of the ltmbs coming to market from the farm-flock states are both uncastrated and undocked.

Docking is urged primarily for the reason that the tail is an appendage of no particular benefit to the lamb—male or female. Removed, it makes for a neater and more attractive animal and guards against the accumulation of filth around and beneath the tail. Left on the femles, it may interfere with breeding. Sanitary reasons, if none other, make docking important.

"We consider it very essential that lambs be trimmed—not only castrated but docked," writes H. A. Phillips, of Armour & Co. "A lamb that is so treated matures into much better animal, the quality of meat is improved and he sells on the open market for from two to three dollars per hundred more than if left entire."

As far as the market is concerned failure to castrate is a two-edged weapon. Bucky lambs bring less themselves because they are inferior in quality to wether lambs and ewe lambs, and because of the large numbers that are thrown on the market from the so-called native-born lamb states, they pull down the price for better-quality stuff.

Sheepmen are greatly interested in the "Eat More Lamb" campaign now being carried on to induce the meat-eating public to consume more lamb and mutton. But a roast from a bucky lamb, coarse-fleshed and strong-flavored, may undo at one sitting weeks of educational effort.

"The marked discrimination shown by buyers against strong weight and heavy ram lambs and the harmful influence on consumptive demand accruing from the slaughter of such great quantities of stock that cannot make a satisfactory food product cannot be fully realized by the producers," writes G. H. Bedell. of the Bureau of Animal Industry.

"Big, coarse ram lambs produce by no means the best meat, neither do the thousands of thin, untrimmed cull native lambs that have to be slaughtered because the feeder will not buy them. It is not surprising that the consumer balks at such meat and refuses to eat it. With our markets flooded with low-grade lamb the average consumer, a poor judge of meat on the block, has

HEAVES

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International Heave Remedy gives remarkable results, a sure remedy for heaves, asthma, coughs, etc. Buy a package and follow simple directions on the label; surprising results will follow. At your local dealer. $1.00 per package, for guaranteed results. Refuse substitutes.

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An engine for every need. Also operated on Gas and Gasoline.

Maple Leaf Grain Grinders. 6 to 15 in.

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WINDMILLS,

Pumps.

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1000 1 lb. Printed, - -	$5.50
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Parchment marked "Choice Dairy Butter" 250 sheets, 90c; 500 Sheets for $1.80, Postage Paid.

The Maritime Farmer

SUSSEX, N. B.

Cord or Fabric.

APPEARANCE is often deceptive—and no one can tell how much service a tire will give by looking at it.

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You can depend absolutely on Partridge Tires because the factory is back of every tire they make.

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Our prices are very reasonable, and we will give up to three years time, to responsible parties.

All stallions government inspected.

J. E. ARNOLD & SONS

GRENVILLE, - - - - - - - - QUE.

little chance of escaping frequent disappointments in purchasing this meat and instinctively turns to other meats, in the purchase of which he feels he has more chance of getting a palatable food product."

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Objections by farmers that castrating and docking are difficult and risky operations are swept aside by all sheep specialists. To the contrary, they declare, both operations can be performed safely by any average person.

THE MANUFACTURE OF CLOVER SILAGE

(Experimental Farms Note)

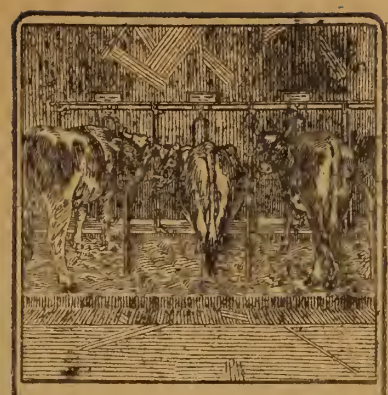
We are but beginning to appreciate the value of clover silage in modern stock feeding. When properly made clover silage is an excellent feed for nearly all closses of live stock. Aside from its higher protein content, it has an advantage over corn silage in point of lower cost of production. The yields of clover compare favorably with those of corn when the land has ben equally well prepared.

Seldom are fields seeded down to a purely clover mixture. Usually some of the standard grasse are added. On the Agassix Farm we use a mixture containing red, alsike and white Dutch clover, also Italian rye and orchard grass. This makes good silage but the greater the percentage of clover in the mixture the higher the feeding value, and the easier it is to make a silage of good quality. The grasses are inclined to be more wiry stiff and dry, thus requirng more weght to press the mass firmly into the silo to exclude air.

The most common practice is to cut the clover for the silo when in full bloom, that is, when right for hay making. Care must eb taken not to leave the harvesting period too late. It is better to err on the early side rather than postpone the cutting too long. While the plants are young the stalks and leaves are more tender and break up more easily. There is also the advantage of obtaining an earlier second crop. Only as much should be cut at one time as may be placed in the silo during the day. The mower should be started early in the morning while the dew is on and followed at once by the rate. The clover should not be left to wilt between cutting and siloing. If severe wilting does take place better results are obtained by adding water. The clover ought to feel wet as it drops in the silo. Frequently attempts are made to make silage out of clover after it is spoiled for hay. This is a poor policy. Partly spoiled clover makes very inferior silage as it loses its colour and likely decay has begun.

Clover silage has been made with some degree of success by placing in the silo without cutting. This should not be done if it can be avoided. Not only is there less liability of the clover spoiling when cut into short lengths, but it can be placed in the silo and also removed with much greater ease. The knives on the cutter must be kept sharp and set to cut approximately half inch lengths. It is a good plan, where possible when siloing clover, to put a layer of corn on top to weight down the mass below and secure a more thorough packing and thereby also a better quality of silage.—W. H. Hicks, Superintendent Experimental Farm, Agassiz, B. C.

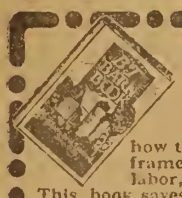
Some one has said that it is better to be a pessimistic optimist than an optimistic pessimist. It is well to keep this motto in mind at this time when labor is scarce, and the cost of production is sky high. Conditions will in time change for the better and those farmers who have "carried on" in spite of many discouraging factors will be in a position to profit when normal conditions return. The world needs more farm produce, and there will be a big demand for such for many years to come.



1. BT Steel Stalls keep the flanks and udders of the cows clean. Cows are lined up so that the droppings fall in the gutter. The cow has all the freedom necessary for her comfort, but is tied so that she cannot dung on the cattle stand.

2. If cows are tied with chains in double stalls they can move forward and sideways. The cattle stands are always dirty. When the cows lie down of course they get dirty too. That means that you must clean them off carefully before milking, or else get dirty,, unsanitary milk.

3. Babies, children and invalids depend upon milk for their lives. It must be clean. Cities and Dairy Companies are becoming very particular about its cleanliness and purity. Clean, sanitary cow stalls are absolutely essential if milk is to be clean. The coupon below will bring further proof. Send for it to-day.



Send this coupon for the 352-page Barn Book. Tells how to plan and build the barn, how to ventilate, how to frame, how to save steps, labor, time and feed. This book saves you hundreds of dollars in building. It is free.

BEATTY BROS. LIMITED

Dept. U486 St. John, N.B.

I intend to build about.....
I intend to remodel about.....
I keep.....Cows
My name is.....
My Post Office is. .....
R. R. No.....Prov.....
Nearest Railway Station.....
If you live in Maritime Provinces, please give Lot and Concession. If you live in Western Provinces, please give Section, Township and Range.....
.....

Lawndale Stock Farm

Jerseys and Shorthorns (Pure Bred)

Our Present Offering in Jerseys is as follows:—2 splendid young bulls, both from R. O. P. mothers, 1 dropped in June 1919, the other in July, 1919. They are beauties and the right sort. Write soon for information to

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on, as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue, which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex N. B.

FOR SALE.—Pure bred Holstein bull calf, born April 27th. For particulars write H. MacINTYRE, Box 525, Campbellton, N. B.

FOR SALE—Pure Bred Berkshire Pigs Two Months July 1st. JAS. I. STEWART, AMHERST POINT, N. S.

FOR SALE—Ten Pure Bred Yorkshire Pigs, Price $10. unregistered. Apply to WENDELL WARD, WEST BATHURST, N. B.

LADIES WANTED TO DO PLAIN and light sewing at home, whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars. NATIONAL MFG. CO., Montreal.

THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and other premises. Price $4.00 per 100 lbs. Apply by mail to "NAILS," care of Office Maritime Farmer, Sussex, N. B.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T. D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

"Carleton County Holstein Breeders' Club, R. W. Maxwell, Woodstock, Secretary."
F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B

Ayrshire Cattle

McIntyre Bros., Springbrook Farm, Sussex, N. B.
E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.
C. A. Archibald, Truro N. S.
John H. Hughes, Pentcodiac, N. B.
J. Frank Roach, Sussex.

YORKSHIRE PIGS

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
C.A. Archibald, Truro, N. S.
J. James Ross, Pictou, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

A BOOM IN SHEEP BREEDING

Compared with the product of other countries sheep breeding in Canada does not appear prolific. In Australia there are twenty-five times as many sheep as there are here. In the United States thirteen times as many and in Great Britain nine times as many. That this fact is becoming recognized and that efforts are being made to improve the situation is shown by a series of articles on sheep extension work in the different provinces that appear in the Agricultural Gazette of Canada for May. These articles show that the subject is being taken up in a very practical way by at least seven of the nine provinces. Presumably in the other two, British Columbia and Prince Edward Island, although not set forth, like measures are being taken. In short, there are prospects that sheep raising and mutton and wool producing are going to receive in the next few years very considerable impetus. The efforts put forth to bring this about consists mainly of the distributing of pure bred rams, the holding of competitions for which prizes of considerable value are given for the best eyes and for the best flocks, of organized sheep sales, of obtaining the highest price for wool through the provincial departments of agriculture and through the Canadian Wool Growers' Association, of demonstrations in shearing and of other matters connected with sheep raising, and by placing flocks, as in Ontario, on a share basis. In addition drastic legislation has been passed looking to the protection of sheep from dogs. It is noteworthy that in many instances credit has been arranged with the banks so that funds may be procured on fairly easy terms to be used in the purchase of pure-bred rams and high-grade ewes.

EGGS 45 CENTS

For the next two weeks we will pay 45 cents pe rdozen for fresh eggs, delivered St. John. Send in case lots by express to The Maritime Farmer, St. John. We will take one or more cases but shipments should be in three case lots or over, wherever possible. If you can't ship eggs this season, get in line for later business. Induce your neighbors to co-operate with you. All eggs must be strictly fresh. This is more imperative, now that warm weather is coming on.

DAIRY BUTTER.—We will pay fifty cents per pound f. o. b. St. John for good dairy butter. This price will hold good the next two weeks. Ship in lots of one hundred pounds or over and send by express. We want good butter. Do not ship stock that is inferior. Address all packages to The Maritime Farmer, St. John, N. B.

In forwarding parcels put your name and address on all goods, as well as The Maritime Farmer, St. John, N. B. Notify us at Sussex, of any shipments.

SELECTING THE SOW

The gilts that are to be developed for brood sows should be separated from the remainder of the herd of hogs at weaning time. In selecting them choose first of all gilts from mothers that have been satisfactory sows. Then get those that have a feminne aippearance about the head. It will pay also to count the teats on the udder and keep those that have twelve or fourteen teats rather than those with only eight or ten. In conformation the sows that have good long bodies, strong backs and large heart girths will invariably give the best results as brood sows. In so far as possible only gilts with good big bone in their legs and strong pasterns should be retained. Having made the selection the gilts that are to be developed as brood sows should be run in a pasture field and fed in such a way and with such feeds as will develop rapid growth but avoid excessive fattening.

Praise your own breed of cattle all you like but don't knock your neighbors breed. There is a place for each breed of cattle. There are good and bad representatives of all breeds.

There is little excuse for any one using a grade or scrub bull when it is so easy to secure a pure-bred bull.

SUNNYSIDE STOCK FARM

Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

HIGHLAND LAKE HOLSTEINS

Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.

We have young bulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows; and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yonge St. Radial) JEFFERSON, ONT

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for salo calves of both sexes, sired by Dutchland Pietcrje Count, a bull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Johona Lad, who was 101 A. R. O. daughters 4 over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice, come and see these calves or write for further particulars.

We will also book orders for young Yorkshire pigs for the next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - CANARD, N. S.

COBEQUID FARM HOLSTEINS

We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows have in turn been bred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter each in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a heifer calf or two. Get your orders in quick, they won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

Special Offering

Maple Green Farm Holsteins

On account of the great shortage in the supply of milk in our home town, we have decided (with regret) to dispose of our entire crop of Bull and helfer calves.

If taken inside of the next 30 days will price them away below their value.

The Dams of these calves are now running in the R. O. P., and the last official test conducted by the R. O. P. inspector showed an average test of 4.62% fat for the lot.

All are sired by our 32.32 lb. herd sire "King Korndyke Johanna", whose Dam is a full sister to Canada's Champion R. O. P. cow, "Jemima Johanna of Riverside". Milk in 365 days 30373; butter in 365 days, 1280 lbs.

Phone or write,

R, L. HICKS
DALHOUSIE JCT., - - - N. B.

ELMHURST STOCK FARM

Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S.

Shorthorn Cattle

High grade registered stock for sale

J. E. HETHERINGTON
CODYS, :: :: :- N. B.

Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages. Have some good cows to freshen soon. Am booking orders for ram lambs for fall delivery. Write or phone for prices and description.

J. ROBIE MacDONALD,
Shubenacadie, - - Nova Scotia
Successor to J. MacDonald & Son

AYRSHIRE CATTLE AND OXFORD DOWN SHEEP

G. A. TAYLOR & SON
Salisbury, - - - N. B.

Present Offering—Two Ayrshire Bulls, 12 and 12½ months old. Their sire's dam is "Rose" with a 4 yr. record of 12,913 lbs. of milk and 485 lbs. fat. The dam of their sire's sire was "Milkmaid 4th". Prices right.

Gesner A. Taylor Austin C. Taylor

Elmwood Stock Farm

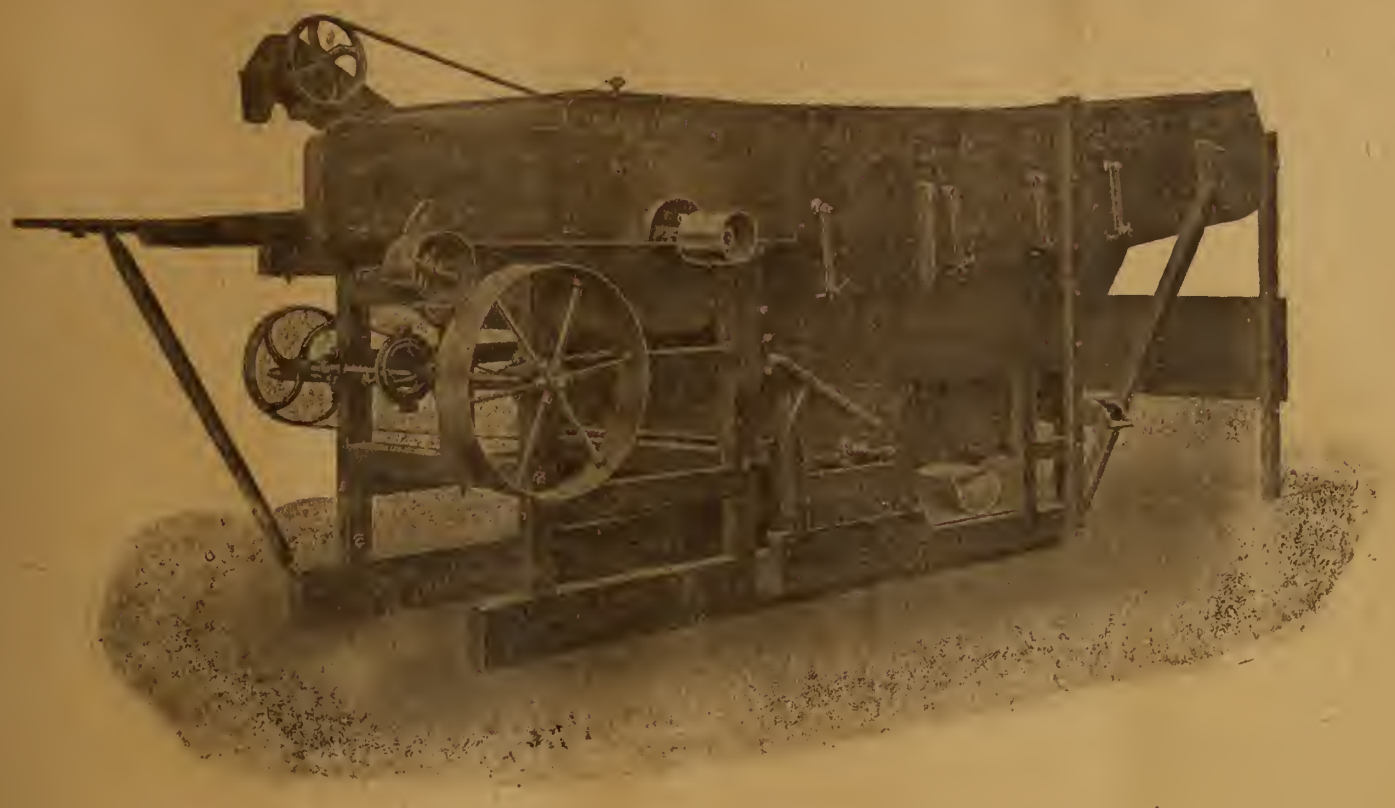
We have a few young bulls to offer, sired by Dutchland Colantha Sir Rag Apple, a son of Colantha Johanna Lad. His dam is a granddaughter of Pontiac Korndyke. Thus combining the blood of two of the greatest bulls the world has ever seen.

The dams are daughters of Dutchland Pieterje Count. These calves are a nice straight growthy lot.

W. L. ETTER, Shubenacadie, Hants Co., N. S.

Butter Parchment at Farmer Office

THE INDEPENDENT FARMER OWNS HIS OWN THRESHER!



No. 1 and 2 with Tailings Elevator

Order your Little Giant early and be ready for a good season. A Guarantee of Satisfaction goes with every Sussex Little Giant. Ask for Special Catalogue.

WALLACE MACHINE WORKS, Limited, : Sussex, N. B.

Holstein Herd Averages 18812 lbs. Milk

A herd of 13 purebred Holsteins last year averaged 18812 lbs. milk and 638.57 lbs. fat.

Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in

HOLSTEIN CATTLE

send for booklets—they contain much valuable information.

Holstein-Friesian Association of Canada
W. A. CLEMONS, Secretary.
ST. GEORGE, - - ONTARIO

FOR SALE

We have to offer a nice bunch of Shorthorn bulls and heifers ages 1 to 3 years.

Also span 4 year old horses, span 5 year old horses span of brood mares and a choice driver

For further particulars apply to

FRANK C. FAWCETT
Upper Sackville - - N. B.

AYRSHIRES BULLS!

fit for service, bred from heavy producing stock.

FRED S. BLACK & SONS,
Springvale Farm,
AMHERST, - - - N. S.

Chester White Pigs for Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

COSSAR STOCK FARM
Lower Gagetown, N.B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

We are presently offering, one imported Clydesdale Stallion "Dunure Crag" sired by the famous breeding horse "Baron of Buchlyvie."

Also

One Canadian bred Clydesdale Stallion "Baron Cossar", rising 5 years old.

Further particulars on application.

G. C. Cossar, Proprietor. J. Melklejohn, Agent.

HOLSTEIN BULL CALVES FOR SALE

I am offering for sale 5 bull calves from a week to 18 months old. While the dams of these calves are not tested, the dam's dam and the sire's dam of each calf has a record, some as high as 32 lbs in 7 days. The sire of these calves has 14,000 lb. 2 year old daughter. They will be sold at a bargain prices if taken within a month.

ROBERT HICKS
Glenrane Farm, West Bathurst, N. B.

W. E. B. TAIT

DORCHESTER, N. B.
Breeder of
DUAL PURPOSE SHORTHORNS
and
BRED-TO-LAY BARRED ROCKS

Eggs for Hatching from winners of P. E. I. Egg Laying Contest 1919, mated to Pedigreed Cockerels Imported from Oregon Agricultural College. Price $4.00 per 15.

Eggs for Hatching from high producing Pens, $2.50 per 15.

Pig Club Pigs For Sale

Last year we could not begin to fill the demand for our high class Registered Yorkshire Pigs. If you do not want to be disappointed this year, order now.

THE SOUTH TETAGOUCHE BOY BREEDERS CLUB.
Lyndsay Macintosh, Secretary,
R. R. No. 1. WEST BATHURST, N. B.

Advertise in the Farmer

WISH-TON-WISH STOCK FARM

Have 4 good bulls fit for service, that are well grown and are extra choice individuals, and out of gold, big, heavy producing cows. Also 4 or 5 good bull calves from one to two months, as well as a few good heifers ready to breed, and some already bred to Sir Johanna Ormsby of Hickory, whose dam has a yearly official record of 22,159 lbs. milk asd 971.25 of butter in 365 days. For description and prices write, or come and see our herd.

HARDING BROS., Proprietors, WELSFORD, New Brunswick.

Firshade Farm Dual Purpose Shorthorns

P. R. L. FAIRWEATHER
Rothesay, N. B.

FOR SALE

Two yearling Gurnsey bulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

SARAH E. M. SMITH,
Woodwards Cove, Grand Manan, N. B.

AYRSHIRE CATTLE. KARAKULE-ARABI SHEEP

We are offering two Ayrshire Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

For particulars and prices write

THE EASTERN KARAKULE-ARABI SHEEP CO., LTD. WINDSOR, N. S.

A. T. McLEAN, . V. Sc.

Veterinary Surgeon and Dentist,
late of Can. Army Veterinary Corps.

Graduate of University of Toronto and Ontario Veterinary College, 1910.

Treatment of diseases of all domestic animals.

WEST MARKET ST., MONCTON, N. B.
'Phones, Office 979, Residence 1079

Springbrook Farm Ayrshires!

We have to offer one bull, 24 months, 1st prize at Woodstock, Fredericton and Chatham, 1919. Six choice bulls from 8 to 20 months, sired by the prize winning bulls "Morton Mains", Amanth Imp. and Cherrybank Cicero. Also females, all ages.

McINTYRE BROS.
SUSSEX CORNER, - - N. B.

GUERNSEYS!

For Sale—Registered stock. Male or female.

T. D. BLAIKIE,
Great Village, N. S.

Willow Glen Shorthorns!

Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

A. N. GRIFFIN,
New Mines - - - N. S.

You, Too, Can Have the Telephone

INSTALLING a Northern Electric Rural Telephone System is neither an expensive or elaborate undertaking.

The time and money that you now lose through delay and distance could, if you owned a telephone, be diverted into profit-making channels.

The worth and necessity of the Rural Telephone, its cost, the things it gives and saves you, together with what it has meant to thousands of Canadian Farmers will be gladly told by our nearest Branch House.

To save your time — Clip and mail the coupon

Northern Electric Company
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Makers of the Nation's Telephones and Developers of Power and Light Systems for Canadian Farms

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Please send without obligation on my part, further information on your Rural Telephone System.

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Address .....

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AND CO-OPERATIVE DAIRYMAN

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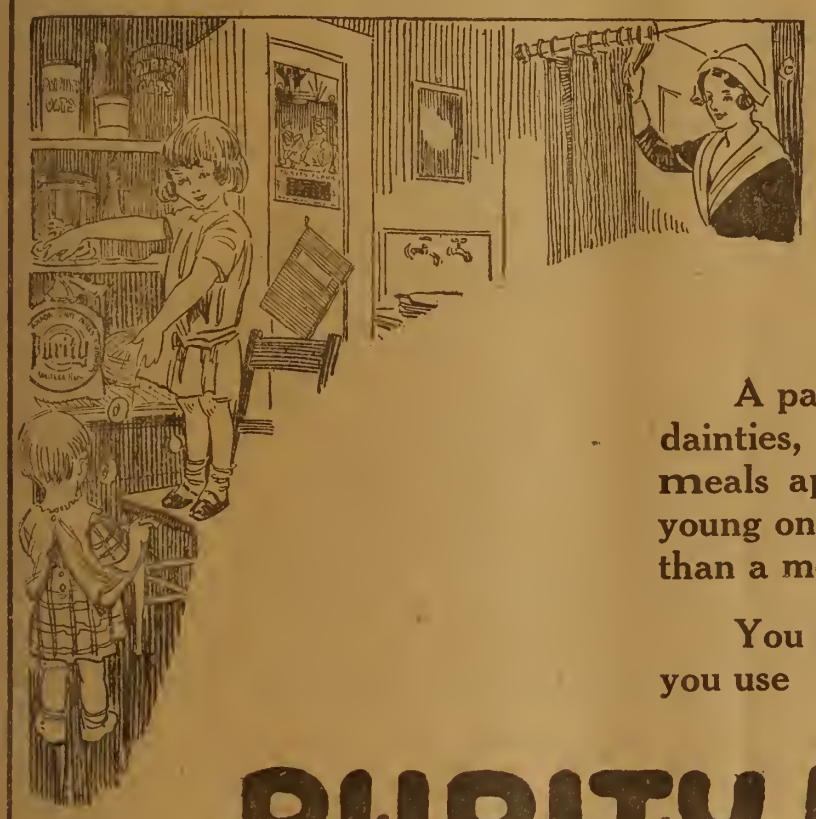
TRADEMARK REGISTERED

Published Fortnightly in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., JULY 6, 1920 No 20.



A healthy child will have a healthy appetite

A pantry filled with delicious dainties, to satisfy the between meals appetites of your growing young ones, is a better investment than a medicine chest.

You won't need medicine when you use

PURITY FLOUR

fOr all your baking

The first requirement of health is proper food, and in PURITY FLOUR, the perfectly milled product of the world's best wheat, we offer the nearest approach to food perfection.

Use the coupon to secure a copy of The Purity Flour Cook Book, containing 631 tried and tested recipes for all manner of dishes for all meals.

COUPON

Western
Canada Flour
Mills Co., Limited
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I enclose 20 cents for Purity Flour Cook Book.

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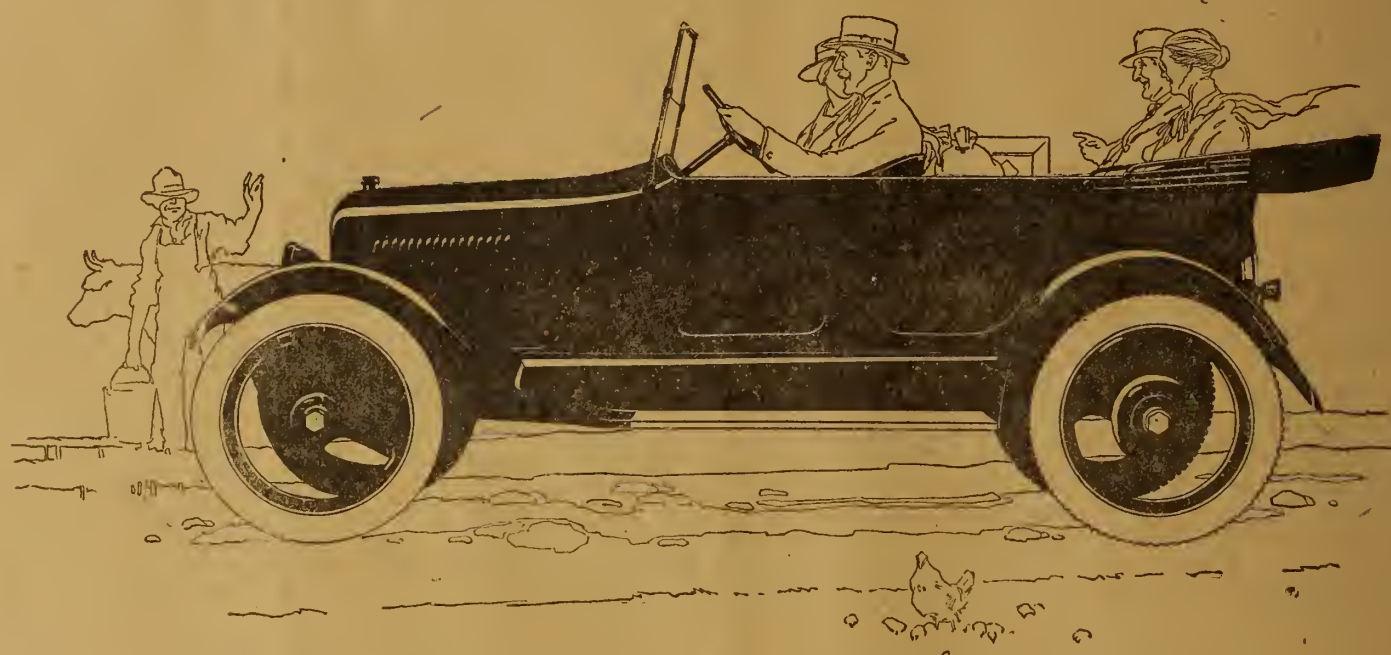
Overland

TRADE MARK REG.

Features That Specifications Fail to Describe



FARMERS want facts. It is a fact that farmers all over Canada testify to the remarkable comfort, economy and sturdiness of the Overland.

It is a fact that the car has demonstrated its stamina to farmers in every province---its capacity to stand all kinds of punishment without damage.

It is a fact that farmers everywhere are finding that the Overland handles and turns easily, and that it costs little to own and operate.

Examine its bright, weather-resisting enamel finish.

See how easily its detachable upholstery removes for carrying farm produce to town, or farm supplies from the city.

Experience its many conveniences, such as electric starting and lighting, and three-speed transmission.

Note how high-grade and complete it is in every respect.

To fully appreciate how smoothly it rides, pick out rough roads and drive it.

Then you **know** what a wonderful car the Overland really is for rural districts and varied uses on the farm, and why it is gaining in popularity among farmers.

In one large Canadian plant, the Overland is built under the supervision of Canadians who appreciate Canadian conditions and build accordingly.

Have your nearest Overland dealer demonstrate this car over a particularly rough stretch of road.

Or send for illustrated catalogue.

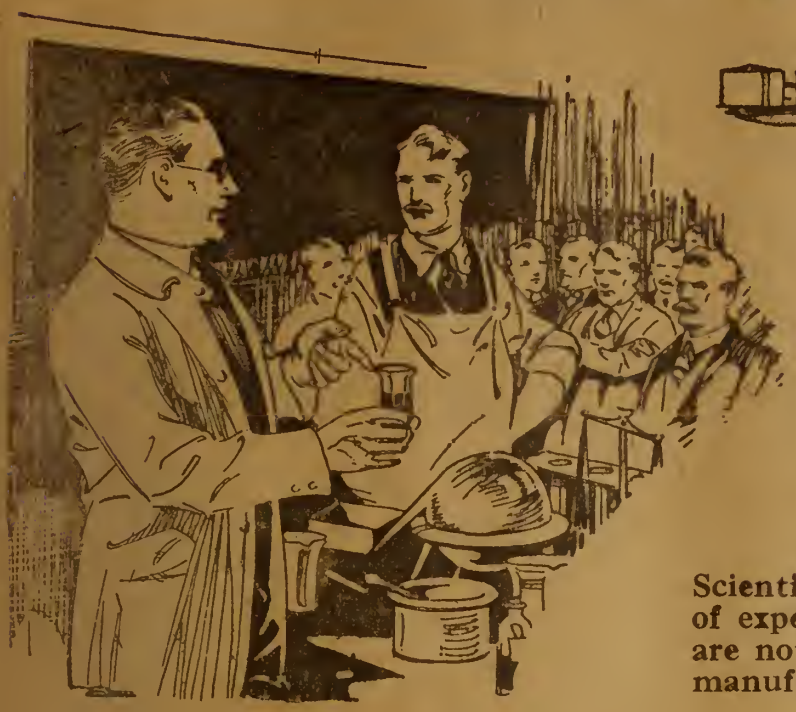
WILLYS-OVERLAND LIMITED

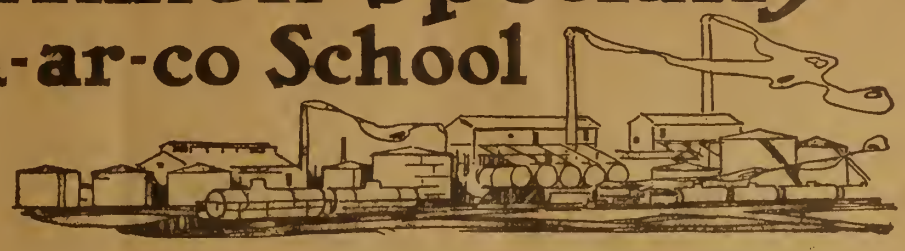
Sedans, Coupes, Touring Cars and Roadsters

Head Office and Factories, Toronto, Canada

Branches: Toronto, Montreal, Winnipeg and Regina

We Train Workmen Specially in our En-ar-co School





for the scientific production of

En-ar-co Motor Oil

Scientific processes of refining, developed during 35 years of experience and testing in the En-ar-co laboratories, are not entrusted to "green" hands when it comes to manufacture.

Trained Workmen

who have passed strict examinations in our special school, are employed in the production of En-ar-co Motor Oil.

This ensures a uniformity of quality that makes En-ar-co Motor Oil absolutely dependable. It never varies: every barrel is the same.

What This Means to the Farmer

Scientific refining has made En-ar-co Motor Oil a perfect lubricant for your tractor, car, truck, stationary or other farm engine. And perfect lubrication means more power and longer life for the engine.

No clogging deposits can form when you use En-ar-co Motor Oil. It coats all moving parts with a smooth, velvety film, that will withstand pressure and remove fricton.

Other Members of the En-ar-co Family:

White Rose' Gasoline

A pure, dry engine fuel, that means extra power and "pep."

National Light Oil

A clear-burning, sootless oil for lamps, stoves, incubators and brooders. Best fuel for kerosene-powered tractors.

En-ar-co Motor Grease

For differentials — gears — transmissions, on motor cars and tractors.

Black Beauty Axle Grease

A smooth, wear-resisting grease, that removes the grind and squeak from axles.

Order En-ar-co Products from your local dealer. If he hasn't got them, write us direct and we'll see you are supplied promptly.

This Game Sent Free

A fascinating game in which autos compete in a cross-country race will be sent FREE to any auto, tractor, truck, motor boat or engine owner who will fill out the attached coupon and mail it to us.

Canadian Oil Companies,

Limited,

Branch Offices in 35 Cities

General Offices: Toronto, Ont.

CANADIAN OIL COMPANIES, LIMITED

1509 Excelsior Life Building,

Toronto, Ontario

Send me En-ar-co Auto Game free. Enclosed find three cent stamp for postage. Also give nearest shipping point and quote prices on items marked.

I use.....gals. Gasoline per yr.

I use.....gals. Motor Oil per yr.

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I use.....gals. Tractor Oil per year.

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Name.....

Post Office.....

County.....Province.....

I own.....(make of auto, tractor or motor boat.)

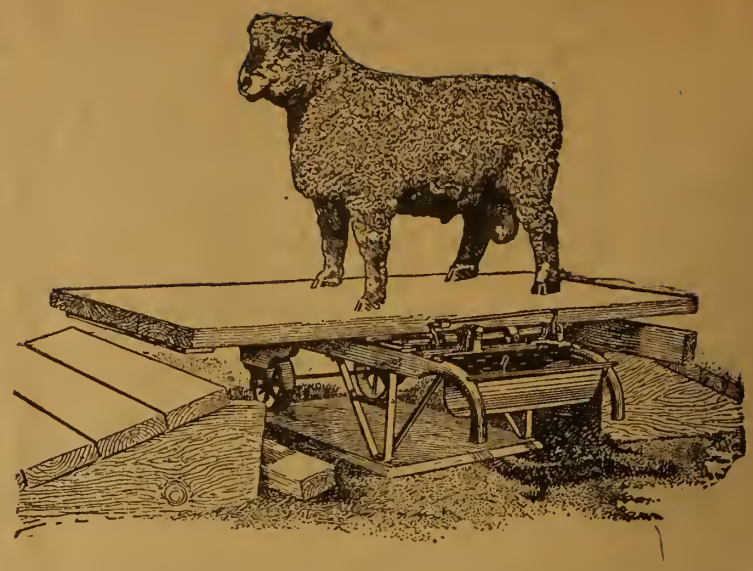
(Be sure and give make of auto, tractor or motor boat, or game will not be sent.)

Am at present using.....Motor Oil.

I will be in the market again for more oil about.....

.....and you may quote me on.....gals. En-ar-co Motor Oil.

A Reliable Scale Takes the Guess Out of Selling



SCALES on the farm will save you money. They take the doubt out of your business transactions. Even the smallest grocer who has only about one-twentieth as much money invested as the average farmer, and does not do nearly the amount of business, has a pair of scales.

The Renfrew Handy Two-Wheel Truck Scale will weigh anything from 1 lb. to 2,000 lbs. It can be wheeled around as easily as an ordinary truck, and when not in use can be tipped up and stood in a corner out of the way. The

Renfrew
TRUCK SCALE

will weigh accurately wherever you use it, whether in the barn, on the road, or in the field. It is self-adjusting, and will weigh accurately on uneven ground. This makes it particularly desirable as a farm scale. There is no need of having to level up the scale every time you use it.

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Farmers Should be Represented in Nova Scotia

Winnipeg's Advice That Farmers' Opportunity to Reach the Legislature Should be Disregarded---Farmers Should Insist Upon Representation

That the Winnipeg forces, presently engaged in endeavoring to organize the farmers of the Maritime Provinces in their own interests, care little about eastern representation in the legislatures of the three provinces, is painfully apparent. At a meeting in Truro, on June 9th, it was decided not to enter the local field. Why?

Long before the United Farmer movement, as directed from Winnipeg, ever reached this part of Canada, the Maritime Farmer urged the farmers of the three provinces to see that they were properly and effectually represented by candidates and to see that farmers occupied more seats in our Legislatures.

But that is not to be. Mr. John M. Pratt, who was introduced as a Saskatchewan Farmer, but who has been for years connected with the circulation department of the Grain Growers' Guide, of Winnipeg, briefly summarized the reasons for farmers organizing. If Mr. Pratt's reasons were sound, they were evidently not along the line of provincial organization.

The facts are that Winnipeg does not care a rap about the local trouble of the farmers of Nova Scotia, New Brunswick, or Prince Edward Island. It is interested in just one thing. That one thing is the price of a bushel of wheat. Every effort is being made to lead the farmers of this part of Canada to think something else. But actions speak louder than words, and every effort is being made to devote the whole organization to electing farmer candidates on the platform of the Canadian Council of Agriculture, of Winnipeg, whose fight is for the middle west and all the middle west all of the time.

But there is no good reason why the farmers of Nova Scotia should take a back seat at Mr. Pratt's suggestion. That gentleman was in New Brunswick, where he declared that the Grain Growers would spend their last dollar, in forwarding their ideals. We ask again is thee any other reason why such huge amounts are being spent in the east by the Winnipeg interests? And therefore the Maritim Farmer again urges the farmers of these parts to see that they are properly represented in the elections which are to be held in Nova Scotia.

See to it that farmers are placed on every possible ticket. The Maritime Farmer has faith in the average farmer. This paper believes that he will vote true on any question affecting the agricultural interests of his community, without any interference from Winnipeg. The absolute abandonment of the farmers to their fate in many of the Nova Scotia constituencies by the self-styled leaders, from Winnipeg, is most conclusive evidence that nothing will be done by them except in the Dominion field and in support of a policy in which no farmer from Nova Scotia ever had a say. These fellows from Winnipeg are not losing any time in gathering funds, either. Apparently this money is not to be wasted in helping farmers get to Halifax.

The Maritime Farmer has for months pointed out this feature of the Winnipeg campaign. The result pretty clearly justifies what we have said, and except in a few isolated cases, little will be done for the farmers of Nova Scotia in their own local circle.

The whole policy of Winnipeg has been to deceive. We have repeatedly exposed the attempts of the Grain Growers, now the United Farmers, to get wheat handled again this season by the government of Canada. A bill to enable this to be done was passed at the last session of Parliament. It was passed at the instigation of the Canadian Council of Agriculture, backed up by resolutions of every branch of the United Farmers of the west.

To show to what lengths the United Farmers' Guide of Moncton is prepared to go, it may be stated that in its issue of June 30th it tried to place responsibility for government control of wheat on the shoulders of Mr. R. W. E. Burnaby, of Ontario.

When the Guide did that it knew it lied. The lie is so deliberate that it is astounding. Mr. G. F. Chipman, of Winnipeg, knows that at the instigation of the Canadian Council of Agriculture, when Mr. Crerar was its president, every branch of the Western Grain Growers passed resolutions favoring government control.

The Maritime Farmer warned the eastern farmers that the adoption of any such policy should be Canada-wide and should include eastern farm products. We were denounced by men who were to profit by the deal and we warned eastern farmers that some day they would pay dearly for not insisting on the rights of eastern agriculturists. Evidently the farmers of the Maritime Provinces are waking up and now realize that they have had one put over on them. Hence the deliberate and despicable attempt to shoulder on Mr. Burnaby responsibility in which he had no share.

But the United Farmers' Guide was established to fool the farmers of the east. That is why it is controlled in Winnipeg. That is why three of its directors are Winnipeg men, with only two from eastern Canada.

It was because of this knowledge that the Maritime Farmer refused to sell to the Grain Growers' Guide, of Winnipeg. This paper is owned by local capital, and there has never been a change in the ownership of its capital stock for over eight years. The Maritime Farmer is just the same paper as it always has been. The United Farmers' Guide has a full list of its stockholders. We challenge that paper or any of its staff to come out in the open and make one suggestion of graft or wrongdoing against any stockholder in this company. If that paper will do so we will give the person concerned a chance to make good.

This paper has made some very serious charges during the past few months. We have invited our western friends to take action against us; we repeat that invitation. And we also say again that we have exposed cases in which these high-professing politicians have been robbing the farmers, while they profesesd to help them. We are willing to stand behind our statements and the trial would be before a jury of farmers.

So there is our position and that of our accusers. We defy them to make charges against any stockholders in this paper and we dare them to have what they term damnable falsehoods investigated under oath in the courts of this country. This about states as plainly as we can state, where we stand in this matter.

The Maritime Farmer, however, was not the only paper to refuse to bow to Winnipeg. In British Columbia, Winnipeg tried to buy the leading agricultural paper of that province. The deal was blocked by the farmers of the province, who declared their opposition to tieing up with Winnipeg and prevailed upon the owners to save the paper from falling into the hands of the middle west propagandists.

That the British Columbia farmers were wise has been evidenced by the move of Hon. T.A. Crerar to place apples on the free list. Apples are not grown on the prairie, so the middle western grain growers are willing and anxious to admit United States apples free of duty. British Columbia farmers, as a result, are up in arms, and declare that they will have none of it. They will not stand for it, is the way they put it, and they have served notice on Winnipeg that they are not to be fooled with anything that the Canadian Council of Agriculture has offered in the way of policy.

So we suppose that now some of the polite things that are being said about the Maritime Farmer and the indepenednt farmers of the Maritime Provinces, will be directed the way of those men in British Columbia who have sand enough to stand up for their rights, and who have no regard for the "bushel of wheat policy."

The Maritime Farmer did what the farmers of British Columbia requested of their leading agricultural paper. We refused to sell out the farmers of eastern Canada and leave them in the position of having no paper with courage enough to speak for the east.

We are straight out for farmer candidates in Nova Scotia. There is no good reason why the farmers of that province should not be represented by men who will not be dictated to by Mr. Pratt, the circulation manager of the Grain Growers' Guide, or Mr. George F. Chipman, who for the sake of the dollars necessary to carry on the policy of the Guide in support of western farmers, was willing to sell all his subscribers to men whom he described as guilty of the most serious crimes in the calendar.

The Maritime Farmer advises the farmers of Nova Scotia to disregard the advice of any but themselves. They know their wants and they should insist that despite the finding of a hand-picked convention, they are entitled to representation among the candidates being nominated in Nova Scotia.

As to how the farmers vote, we do not presume to advise any farmer as to how he shall vote. We are not a political sheet. But we do not care to etand for the stuff that Winnipeg is trying to impose on this part of Canada.

When the farmers down east come to pay their feed bills next fall they will appreciate that the warnings we have uttered are not as groundless as the United Farmers' Guide would have their readers believe.

THOSE WESTERN APPLES.

A few weeks ago we published a photograph of a page in the Grain Growers' catalogue, in which western apples were recommended as the only thing on earth to tens of thousands of western farmers. The Grain Growers are strong for things western. In the issue of the Grain Growers' Guide of May 12th an article over two pages of that paper is devoted to western apples and their superiority. As the Grain Growers' Guide remarks, referring to Okanagan apples, "these varieties are recognized as peers in the apple kingdom." Gravenstein is one of the varieties mentioned. We venture to think that with all the boosting done for western apples, a Nova Scotia Gravenstein can knock the spots off any British Columbia apple of a similar grade that can be produced. The McIntosh Red is another apple cited as being "peer in the apple kingdom." Well, the Maritime Farmer will back a good New Brunswick McIntosh against all comers. And the Maritime Farmer has been getting some free lectures for maintaining that there is such a place as eastern Canada. If the Grain Growers can exclude eastern apples from the west, they intend to do so, judging by the earnest way in which they are keeping the merits of western apples before their readers. Did somebody say something about "no east, no west, but Canada for all"? Seems we have heard something like that.

Annual Convention of the Women's Institutes of N. S.

The opening session of the seventh annual convention of the Women's Institutes of Nova Scotia was held on June 22nd, at 8.30 p.m., in the Science building of the Agricultural College, Truro, with Dr. M. Cumming in the chair.

Rev. Mr. Knott offered prayer, invoking God's blesisng on all the deliberations of the session.

D. Cumming, as principal of the Agricultural College, extended a most hearty welcome to the visiting delegates. He spoke of the sincere interest he had in the organization of Women's Institutes in Nova Scotia and of the benefits which would materially accrue to the province through the development of policies for the betterment of life in the rural dsitricts. He was pleased that the convention was metting at a time when the delegates would see the college grounds at their best and extended the freedom of the same to the members of the convention.

Mayor Coffin followed with a cordial welcome to the visitors from the town of Truro and hoped they might have a profitable session.

Mrs. A. S. MacIntosh, of Oxford, on behalf of the visiting delegation, replied to the address of welcome in a few well chosen words, and also thanking the Truro ladies for their kind hospitality. She paid tribute to the ever-ready assistance given their newly organized society in Oxford by Miss McDougall, the efficient supervison. She esteemed it a privilege to attend the convention and meet on common ground to discuss with open minds the various problems of the home life and hoped all would return home with renewed vigor and enthusiasm to live up to the Institute motto: "For Home and Country."

Mrs. J. P. Landry extended a more cordial welcome from the Bible Hill Institute, which welcome at the close of her remarks, took the tangible form of a very delicious lunch, served by the ladies of said Institute, in the course of which ample opportunity was given to mingle in a social way, meeting new and renewing old acquaintances. The meeting then closed with the singing of the National Anthem.

Wednesday Morning.

The wednesday morning meeting opened by the singing of the Institute ode. Miss McDougall, supervisor of Women's Institutes, in the chair.

The first business was the appointing of Mrs. Hatfield, of Berwick, as secretary of the convention. Then followed the reading of reports from the various Institutes. These reports were commendable for the concise manner in which they were presented, a feature worthy of note in a gathering where of necessity so many reports have to be gone over. The work reported brought to mind, very forcibly, the great power for good and the real improvement in rural conditionas which is being wrought throughout Nova Scotia by the Women's Institutes. Thirteen of the Institutes reporting are yet in their infancy but the amount of work already acomplished was amazing. Nearly all of the societies are working for betterment of conditions in the schools, looking after the sanitary conditions, inteersting the children in school gardens, and as in the case of Acadia, providing the seeds for this work and also providing an open air rink.

Aspen and Glenelg memhers all belong to one congregation and are buying a new organ for their church. They meet at the homes of the various members. Tea is served, for which they charge 25 cents, which is added regularly to their funds.

Barss' Corner reported an increase in membership. They work for a school exhibition to be held in September, also for repairs to their hall. An autograph quilt made to raise money, and the doing of considerable beneficient work,, contributing to the Salvation Army drive, etc. They also reported having a good circulating library.

Berwick has affiliated with the Local Council of Women, and in this way extended their community work. They have interested themselves in the welfare of th feeble-minded children n thieir community, have taken up work among the schools and are now taking the school census. They also have decided to help establish community singing in their district.

Bear River, although only three months' old, is very active. They are particularly active in bettering school conditions. They interviewed the school trustees nd appointed a committee to meet with them each month. Now they are working hard to procure fire escapes for the schools. At the request of the Soldiers' Settlement Board they are interesting themselves in the new settlers in thir midst and will hold a reception for them during the next week, as a means of getting better acquainted. They applied to McGill for a ravelling library and by paying a small sum extra have secured a wider range of subjects. Each member has donated one volume which now gave them a spelndid circulating library in their town. They are trying in every way to better the social life of their community.

Bridgewater reported considerable hospital work, the preparing of the necessary linen. They also are ready to furnish one room. While they have closed their meetings for the summer, each member is pledged to earn $2.00 to be contributed to the funds before the beginning of the fall meetings.

Caledonia is interested largely in school work and are prepared to take up a modern health crusade at the beginning of the next term. When questioned regarding this it was explained that the literature in regard to this modern health crusade could be obtained from the Dalhousie hospital branch.

Canning Institute is taking an active interest in the school garden and school exhibition. A skating rink has been obtained in which the Institute has taken stock. The condition of the poor house has been looked into and donations given. They are now doing war memorial work and hope to raise $1000 for this object.

Cambridge Station, a new Institute, reported making application for a McGill travelling library and are planning to improve the school property.

East Leicester has made many improvements in the social life of the community and are now to meet with the Local Council for the purpose of making plans for the improvement of the cemetery.

Grand Pre Institute has accomplished much work in the schools, sent donations to the Infants' Home in Halifax and have met with the Local Council to plan the betterment of conditions in the poor house.

Gaspereau, a new society, reported the valued assistance which Miss Stuart of Grand Pre had rendered them. Much progress has been made in the improvement of sanitary conditions in the schools.

Glace Bay, also a newly organized society, has established the Victorian Order of Nurses and are financing the same. Each member pledged 25 cents a month. They also have received generous donations from various other societies in Glace Bay towards this purpose. The sanitary conditions of the jail are also receiving attention.

Halfway Brook has concentrated efforts towards a new chlurch in their community, all members being of one denomination.

Hantsport reported splendid community work accomplished. They have a committee meeting with the Town Council to improve conditions of their cemetery. They also have a committee to meet with the Board of Trade re the improvement of sidewalks. The Children's Aid Society has their undivided support.

Indian Brook has chiefly worked in the school, donating $10 toward a school library and offering prizes for school garden work.

Lakeville reported splendid work done in their community in relief of the needy and in the improvement of life of their community.

Lawrencetown reported as their chief work an interest in the schools. Pictures, among the world's best subjects, have been bought for the schools. They are now agitating for supervised play grounds, the ladies of the town having volunteered two afternoons each week to carry out this plan. They have a good circulating library and have purchased a piano.

Medford reported an improvement in the social life of their district, interesting meetings are held. The child welfare problem being of paramount interest.

Maplewood has purchased an aisle carpet for the church, raised money by two autograph quilts, did considerable children's sewing, helped with school exhibition last year, and improved local conditions generally.

Millville in common with the other branch societies of which they are a part are working for the new church and improving the cemetery.

Mahone Bay Institute members are putting forth their best efforts towards the erecting of a suitable memorial for the brave boys from their community. They are planning for a big money-making day towards this end on July 1st.

Brookfield reported a committee visiting the schools and looking into conditions each month. Preparations are under war for a school fair this year. Two magazines are taken which go the rounds of the community. They also had a McGill travelling library.

Oxford, which boasts the largest membership, has a committee looking into the various needs of the schools and reporting the same. They serve hot soup and cocoa at the noon hour in the schools during the winter months, which is most gratefully appreciated. They also offer prizes for certain fsubjects. A number of needy families have been helped and donations have been sent to the Amherst hospital. A Victory bond of $500 has been purchased by this progressive Institute. Much of the credit for the splendid work accomplished is due to the untiring energy of their president, Mrs. MacIntosh.

Paradise reported a McGill library started and much done in the improvement of conditions in the rural schools. Now their energies are toward the improvement of their cemetery.

Port Maitland has also done considerable work among the schools, has bought an equipment for their kitchen and provided sign boards for the many dangerous places encountered in travelilng the roads. Tea is served for 10 cents, thus constantly adding to their funds.

Riverside, another branch of the Stewiacke, has been working principally for the new church. They are now fixing up their cemetery. A donation has been given to the Armenian Relief.

The Supervisor's Report.

The reports were then laid aside for the morning and the Supervisor submitted her report for the year. There are now 64 Institutes in Nova Scotia, which, with the loss of two from the 53 reported last year, makes 13 new Institutes organized this year. Ten of these were organized by Miss McDougall. Total membership 1567. During the past year the sum of $10,000 was raised. Thirty-five of the Institutes were personally visited during the year.

Miss McDougall paid tribute to the splendid assistance given her by Miss Campbell, of Grand Pre, and Miss Hyson, of Lunenburg. During the winter 10 courses in home nursing had been arranged for in connection with the St. John Ambulance Soceity, which had proved highly instructive. Two hundred and fortyo-ne had registered for these courses.

She told of her visti to the New Brunswick Institute convention of last fall; also of attending the Federation in Toronto in November. Plans were under way this summer for demonstrations in canning, also for a short course to be held the first of July for girls in the teen age.

Miss McDougall urged that the Institutes would see that the girls take advantage of these courses, which will be so beneficial to them.

She also urged the Institutes not to be too materialistic, not to think that because their funds were low that they are doing nothing, but to always remember there are thing of infinitely more value than money. And lastly to send in their reports regularly each month to her as it was the only way she could know just what they we re doing.

After a short discussion on various phases of the work brought forth in this interesting report, a nominating committee of three was appointed by the chair: Convenor, Mrs. Hamilton, Mahone Bay; Mrs. MacIntosh, Oxford; Mrs. Jackson, North Sydney.

The meeting then adjourned.

Wednesday Afternoon.

Supervisor in the chair. Reports of Institutes resumed.

Round Hill reported active meetings, work done on their cemetery and considerable energy expnded on momerial work.

Scotia Village found their meetings very helpful and had taken advantage of the home nursing class. They were now turning their attention to the painting and repairing of their public hall.

Scotsburn has assisted a number of families belonging to returned soldiers that were in need of help. They have renovated the hall and bought chairs for same. They also have taken up work in the schools.

Southside Branch of the Stewiacke are working for the new church practially to the exclusion of all else, although they are now looking into the condition of the cemetery.

Sheffield Mills has done considerable sewing for some needy families of the neighborhood and gave a Christmas treat to the children. Doinations had been sent by them to the Infants' Home in Halifax. Community work has been taken up through voluntary offerings by the members. Money has been raised to paint the walls and ceilings of the primary department of their school. They have also been instrumental in having some road work done, cleaning the sides, etc.

Tatamagouche reported social life in their community very active. They have purchased books for the school library, improved the condition of their sidewalks, had a clean-up-week and appointed a committee to see that these streets are kept clean.

Upper North Sydney has made several improvements in their school property and are now improving their institute building. They have decided to affiliate with the Women's Council.

West Brook has made improve-

ments in both church and cemetery grounds, has built an extension to the school house for a library and interested themselves in school work generally. Donated, too, a good circulating library like may of their sister institutes.

West Gore society found their meetings foth interesting from the social standpoint, and profitable. Many interesting features of their meetings were spoken of, among which perhaps the outstanding was the passing of a resolution to use only 1 lb. of sugar per week to a family of five during the present excessively high prices. This was being religiously carried out and none seem to be suffering in consequence.

Westville reported improvements made on their school house and work along the same line being now carried on in their hall.

St. Andrews reported a new school building had been erected in which they are taking a deep interest and an advance made along all social lines in their community.

Bridgetown reported the play grounds they had started last year a great success and that they were to have supervised play grounds this summer. A drinking fountain has been placed in the school grounds, and much work done in the homes of the needy in the way of providing comforts and little pleasures at the Christmas season.

Port Williams reported an active society, doing good work for the Infant's Home, Halifax, and other worthy subjects, school exhibition work and help given in teaching the girls to sew. The ladies giving two afternoons a week for this purpose. The outfitting of dolls for an exhibition, providing the necessary work on which the children could learn the different stitches.

This finished the reports of the different institutes represented.

A very interesting letter was then read by Mrs. Walker, telling of the extreme suffering in Austria and the great need for reels of cotton and bandages. This was a personal letter but it awakened much interest and many donated voluntarily money with which to buy reels of cotton to send for relief.

Miss MeCain, Supervisor of Women's Institutes for New Brunswick, who was to have brought greetings from her province, was unable to be present, owing to the recent death of her father.

Miss Saunders, Superintendent of Women's Institutes for Prince Edward Island, brought greetings from the Garden of the Gulf, and told of the work being carried on by their various societies.

School improvements were commanding the greatest interest and wonders had been done in remodelling school grounds, planting trees and teaching the children to take pride in their school, planting trees and instilling in the children a pride in their school property. The sanitary conditions of the schools sadly needed attention and a committee was appointed to see that this state of affairs was remedied. The open bucket had been done away with and in some cases pumps put in the school rooms. Prizes were offered for the school fairs. In some places hot lunches had been served at noon to the children during the cold weather. Membtrs of the Institutes were put on the school boards in many places.

Some institutes built rooms and bought equipment, some bought organs or pianos. Cemeteries were improved and a general cleaning up of the towns was started with prizes offered for the best kept grounds. War memorial work had also been taken up.

Much was accomplished and better work was well under way for this year.

Miss Saunders, in closing, wished the Nova Scotia Institutes a prosperous and successful year.

Miss Jennie Fraser, for many years the Superintendent of Women's Institutes in Nova Scotia, was the next speaker. She expressed her great pleasure at seeing once more those with whom she had been in former years so closely associated. She could see considerable growth in the work since she had left and the thing that interested her very much among the reports was the mention of community singing. She had the pleasure whlle at McDonald College, of attending a demonstration on communlty singing and folk dancing given there by an American.

She thought the possibilities ln connection with the practice of community singing were unlimited and that too much stress could not be laid on its revival. She had often heard her father say "Social life in the country died when community singing went out."

In regard to child welfare, she thought when the state had taken it up the Institute cannot afford but to be interested.

A very interesting report was read by Miss Annie Stuart, of Grand Pre, of the first convention of the Federation of Women's Institutes, which will be published in full in the next issue of the Maritime Farmer.

Dr. MacMurchy then brought up a discussion on the letter from Vienna read by Mrs. Walker and sald she shought something definite should be done in regard to sending bandages and reels of cotton to the sufferers in Austria.

In the rolling of bandages, Dr. MacMurchy sald, perhaps it would be a help to know that the cotton could be rolled in any length and then cut with a carving knife in 2½ inch widths. This simplified the work connected with the making of these bandages. It was then moved by Mrs. Lovitt, of Bear River, and seconded by Mrs. Hamilton, of Mahone Bay, that a subscriptoin list should be opened to raise funds for this worthy object, Mrs. Walker to be the recipient of these funds and attend to the buying of the reels.

An address was then given by Mrs. ohn Stanfield, Truro, on "The Value of the Library." Mrs. Stanfield welcomed the visiting delegation in the name of the Woemn's Council of Truro, in the absence of the president of that organization, and gave a short outline of the work carried on by the Council among the girls in the factories of the town, in the way of social evenings given them, etc., and also along the lines of child welfare. A number of children had been outfitted for school, who otherwise would have had to stay at home. They had secured the services of the dentists of the town to look after the teeth of children whose parents could not afford the necessary expense.

Taking up the subject of her address Mrs. Stanfield told of the beginning of the public libraries of our land and the system by which this work is carried on, and its development. The late Andrew Carnegie chose free libraries to improve the mass of people. We must dismiss the idea that a library is only a collection of books for students. It places before the individual what will apply best to his need and adds happiness to the community at large. Teaching the children to read without providing proper readlng material is absurd. A good library cannot fail to be a benefit. All cannot afford a private library and a community library benefits all.

This interesting address brought forth some discussion on a subject in which all seemed interested. Miss Fraser, of New Glasgow, Mrs. Staddard, of Lawrencetown, and Mrs. Stanfield, told of how the libraries had started in their home community, some just through the donations of individuals, and of the happiness brought to many homes by these libraries.

This finishing the afternoon programme, the meeting adjourned.

(Continued on page 760.)

How to Use the Common Potato Poisons

By Geo. E. Sanders, Dominion Entomological Laboratory
Annapolis Royal, N. S.

Poisons for the potato are divided into two groups, one of which groups is safe when used straight or alone on potato foliage, and the other safe only when used in a particular manner in Bordeaux mixture.

The poisons of the first group as a rule cost more than those in the second, as they are more expensive to manufacture. The following table gives names of the poisons which are safe when used alone on potato foliage and the amount that should be used in 100 gallons of solution:

Dry arsenate of lead, 5 lbs. per 100 gallons.

Paste arsenate of lead, 10 lbs. per 100 gallons.

Paris green, 2½ lbs. per 100 gallons.

Arsenate of zinc, 3½ lbs. to 100 gallons.

Arsenate of lime, 4 lbs. per 100 gallons.

These amounts all give one pound of metallic arsenic in 100 gallons of water.

These are absolutely the only poisons that are generally available that can be used straight or alone on potato foliage. Of this group Paris green may occasionally give some slight burning. They are arranged in descending order of cost, taking prices generally, the dry arsenate of lead usually costing the most, while arsenate of lime is almost invariably the cheapest poison in this group.

The second group of poisons enumerated below, must never be used excepting in combination with Bordeaux mixture. The weight given opposite to them given from three-quarters to one pound of metaillic arsenic per gallon of Bordeaux mixture.

Sodium arsenate (arsenoid and solarsate) 3 lbs. per 100 gallons.

London purple, 3½ lbs. per 100 gallons.

Solium arsenite (handy killer), 3½ lbs. per 100 gallons.

White arsenic, 1 lb. per 100 gallons.

The poisons in this group are cheaper than those in the first group and generally will kill very much more rapidly. When used alone they will destroy foliage, but when used properly in Bordeaux, they can be made both safe and efficient. Each of them needs to be used in a particular manner and when the saving which results from their use is considered, it seems well worth the while of the largest growers to learn how to use these cheap and effcive poisons.

Sodium Arsenate.
(Arsenoid or Sol-Arsato)

This poison is entirely soluble and for 100 gallons of Bordeaux, three pounds of poison should be dissolved and poured either into the lime solution before making Bordeaux, or poured into the completed Bordeaux. This is done in order to cause the arsenate to combine with the lime rather than the copper. Combining an arsenate with copper has a tendency to make the arsenic slow in its action on insects.

London Purple.

This is one of the old poisons which is comfing back into use in several sections. It is really an arsenite of lime and while not wholly soluble will give quite serious burning, as a rule. To use London purple it should be dumped into the water intended for a stock solution of copper sulphate and the copper sulphate dissolved into the poison and water. Three and one-half pounds of London purple should be put in ten gallons of coarse crystal copper sulphate dissolved into this mixture. After stirring this should be used in the same manner as any other stock solution and in combination with the proper lime solution. This will give a very safe and effective poison.

Sodium Arsenite.

This material is made and sold in New Brunswick in bottles under the name of Handy Killer. To be absolutely safe, this should be put into the water intended for a stock solution of copper sulphate, and the sulphate dissolved into it ln the same way as described for London purple. The stock solution and the Bordeaux which will result after the lime is added will be green instead of blue.

As asrenite of sode (Handy Killer) is entirely in solution, a fairly complete combination with the copper may be effected by pouring the poison into the copper slphate solution a few minutes before making the Bordeaux and stirring rapidly. This will give a green stock solution as described above. In order to have the cheaper arsenites safe in Bordeaux, the stock solution and the Bordeaux made after the lime is added must be green and not blu.

White Arsenic.

The formula given below which enables growers to use this base or raw product is that worked out by Mr. A. Kelsall and the writer during the past three years.

White arsenic must be used exactly according to directions and is one of the safest, most lasting and effective, as well as the cheapest of poisons if the simple directions are followed:

1. White arsenic must be ground finely enough to pass a two hundred and fifty mesh screen, and must be mixed with an equal weight of hydrated lime, when dry, in order to make it wettable.

2. To each ten gallons of water intended for copper solphate or bluestone stock solution, stir in two pounds of the mixture made up of one pound of white arsenic and one pound of hydrated lime.

3. In each ten gallons of water containing the poison and intended for stock solution, hang a bag of coarse crystal copper sulphate at the top of the water. The copper sulphur must be dissolved into the poison ln the stock solution. Stir occasionally while the copper sulphate is dissolving.

4. Use this green stock solution just exactly as any other stock solution of copper sulphate in making Bordeaux. Stir before dipping out. Dilute it before adding it to the dilute soultion. Use the usual quaniity of lime regardless of the lime that was mixed with the white arsenic.

The Bordeaux made in his manner with white arsenic will be green and

(Continued on page 766)

Gleanings of Agricultural Progress in New Brunswick

Investigational work carried on by the New Brunswick Department of Agriculture has shown the very great need of lime on the majority of the soils in the province. It is a surprising fact that tests have shown it would require from two to three tons of ground limestone to neutralize the acidity per acre of ground in the various counties of the province.

The following table shows the requirements as determined by a number of tests of representative soils in various parts of each county:—

County	No. soils tested	Lbs. limestone required per acre
Restigouche	3	5150
Gloucester	42	5683
Northumberland ..	30	4085
Kent	20	4681
Kings	44	5690
Albert	10	6690
Queens	8	6262
York	25	6326
Carleton	35	6553
Victoria	29	5876

It can be seen from this table that not less than two tons per acre should be used and better two and one-half tons when applying ground limestone.

With this information before him, the Minister of Agriculture, the Hon. J. F. Tweeddale, decided that the question of supplying cheap ground limestone to the farmers of the province was one of the important things to be considered. If lime could be placed within the reach of farmers at a reasonable price, it would mean a big increase in the crop production of the province. It would mean that the clover acreage would be increased and grown much more successfully. To the man raising potatoes, or dairy farming, or, in fact, doing any kind of farming, this would be a very practical benefit and work out in profits of dollars and cents to all using the lime.

A survey of the lime deposits of the province revealed the fact that abundant supplies of high grade lime were available, the largest deposit being in St. John County. The lime in this district is also of high quality, testing 94% Carbonate of Lime. It was finally decided by the Hon. Mr. Tweeddale, because of the unlimited quantities available at this point and the high quality of the material, to establish the plant at Brookville, St. John County.

Satisfactory arrangements were made by the Minister with the Railways in regard to the matter of freight rates, which solved one of the big problems that faces the working out of a lime policy in any country, namely, that of economic transportation. It must essentially be delivered to the farmers at a low cost, in order that they can use it in the quantities required. Frequently in other provinces and States of the Union the transportation has cost more than the lime; in which cases the cost often runs up to a prohibitive figure when it is delivered.

A definite contract has been entered into with Messrs. Smith & Merrithew, Limited, Brookville, St. John County, to supply ground limestone to the farmers at $5.00 per ton in bulk, car lots, delivered, freight prepaid to any station on the C. P. R. or C. N. R. lines in the prvince. If put up in bags the cost of bags and bagging to be charged extra. They are now booking orders for summer and fall delivery. One of the most modern lime-crushing plants in America is being placed at Brookville. This plant consists of a large preliminary crusher through which the rock is put as it comes from the quarry. The broken material then passes direct from this into a large roller-process grinder, which grinds down to the required fineness. The material can be run from this directly into the cars or into a large storage bin as required. The plant has a capacity of 80 tons per day and will be in operation early in July. A 75 h.p. electric motor supplies the power.

Farmers' organizations, Agricultural Societies or individual farmers may place their orders with the Smith & Merrithew Company, Brookville. Orders may also be placed with the Dept. of Agriculture, Fredericton, who will forward them to the company. The company having agreed to fill them up to the full capacity of the plant. Delivery will be started as soon as the plant begins operations. Terms will be sight draft attached to bill of lading, which means cash upon the arrival of the car.

Farmers will appreciate this opportunity of getting any quantity of limestone and delivered to them at as low a cost as $5.00 per ton. At that price it will be widely used and the results from its use will speak for themselves.

In conclusion, in regard to the use of lime, this might be said: Probably its most important function is in acting as a neutralizer of soil acidity and thus make soil conditions more favorable for crop production. To some extent it does act as a liberator of plant food, which is locked up in the soil, both potash and phosphoric acid. It is thus a very valuable indirect fertilizer. Its effects in putting the soil in the best possible conditions to make the best use of fertilizers and manures is unquestioned. It also puts the soil in condition to grow clover, which is one of our best soil fertility building crops. By this means it becomes possible to add considerable humus to our soils and increase their productive capacity. Farmers thus should not look upon it as an element that can replace entirely the fertilizer and manure which they are using, because in itself it is not a direct fertilizer. The incorportion of clover roots in soil and the sweetening of soil will, however, make it possible to reduce somewhat the amount of fertilizer used and get as good results. It will thus increase crop production at a considerable saving to the farmer. Practical tests made by farmers in different parts of the province have shown its vlaue. Ask any farmer who has used lime on his farm and he will tell you of the marked results obtained. The farmer who maintains the fertility of his soil and its humus content, and keeps it sweet by the use of lime, will find his crops responding to such treatment and the yield per acre brought up to a very high standard.

CO-OPERATIVE MARKETING OF WOOOL IN NEW BRUNSWICK

From all indications, 1920, will be a banner year in the co-operative marketing of wool in New Brunswick. At the phesent time, the wool market is very weak, with very little demand for wool. Local buyers are paying from 16c to 25c per lb. Although this looks bad for the flock owner, it is haped that these conditions are only temporary, and that wool will be selling at about normal price in 2 months, after the bulk of the wool has been placed on the market. With these conditions prevailing, the farmer who markets his wool co-operatively is sure to come out a winner, as all wool marketed in this way is handled by the Canadian Co-operative Wool Growers Association, which is a Dominion wide company, handling the bulk of Canadian Wool, and is therefore in touch with the latest market conditions and able to demand the highest price.

Due to a backward spring followed by continued dry weather, wool raisers have beena little slow in shipping to the grading station at Fredericton. Nevertheless, wool has been coming in very rapidly in the past week, and now over 50,000 lbs. have been received. It is expected that between 40,000 and 50,000 lbs. more will be received in the course of the next week or 10 days. The time limit for receiving wool is June 25th.

James D. Thompson, Expert Wool Grader, Livestock Division, Ottawa, arrived at Fredericton on June 10th, and grading commenced the following day. A. E. McLaurin, of the Livestock Division, Ottawa, who is supervising wool grading in Canada was at Fredericton at the same time, and stated tht he considered the Warehouse, which is situated in the rear of the Main Fredericton Exhibition Building, a very fine one. If you have not shipped your wool, do so at once.

Notes From the Nova Scotia Agricultural College

TIMELY HINTS TO CREAMERY PATRONS

These are the days when the creamery manager's peck of troubles is full to overflowing. Late June and early July give him the most difficult period in the year's operations. Nearly all creameries are really undermanned, so that every member of the staff is as busy as he can be. The cream supply is at its height. The butter at this season is being put away for next winter's use, and must be at its best in quality.

This, then, is the time when the cooperation of the patron is most necessary. In the hot weather the cream quickly sours unless special precautions are taken to keep it sweet. Sour cream not only does not make as good butter, but it is practically impossible for the manager to get samples for testing. Consequently there are more complaints of variation in cream tests than at any other season.

The patron who has ice and uses it is fortunate. The main matter is to keep the cream sweet. Delivery should be frequent enough to give it a chance. Aove all else the main principles to be observed are in the words CLEAN and COOL. The milk or cream should be cooled to a temperature eblow 55 degrees as quickly as possible after milking.

This whole question is clearly outlined in two bulletins which may be obtained from any creamery manager, entitled "Care of Cream for Butter Making", and, "Causes of Variation in Percentage of Fat". A little time spent in the reading of these will add to the quality of the cream, reduce the manager's peck of troulebs, and make the business more profitable and satisfactory, if acted upon. If the bulletins are not on hand at the creamery, drop a card to Dairy Division, Agricultural College, Truro, and you will receive copies by return mail.

WOMEN'S INSTITUTE CONVENTION

The Seventh Annual Convention of Women's Institute workers was a most successful gathering. Reports of the past year's work indicated untiring activity all along the line. The ideals of the Institute are being worked out in a great many communities along the lines of greatest need. Thirteen new Institutes have been organized since last October.

Seventy-five delegates were present at this convention. All were proud of the work done and enthusiastic in planning for the future. Several of the addresses were worthy of a verbatim report to the general public. The main tendency of the plans for the future is toward a greater cohesiveness within the organization, and a more definite continuity of work between conventions. To secure these ends standing committees were appointed on Education, Health, Publicity, Home Economics, Legislation, Agriculture and Finance.

FIELD CROPS COMPETITIONS.

Farmers intending to enter the Field Crops Competitions in Nova Scotia are reminded that entries must be made beofre August 1st. Bulletins giving necessary information may be obtained by writing Mr. F. L. Fuller, Agricultural College, Truro.

The new features appearing in this year's announcements are, (1) a competition in clover growing for seed in each county where gve or more entries offer. The area required is a half acre under either first or second crop. By the time this issue reaches its readers it will be rather late to risk preparing for a second crop, as the first crop should be cleared away by the 25th of June, over most of the province. If this has not been already done the first crop must be allowed to mature.

2. A special competition for encouraging the production of seed oats. The terms of this competition run as follows:

Competition to include two or more districts.

District No. 1—Antigonish county and that portion of Pictou county east of West River.

District No. 2—The remainder of Pictou county and that portion of Colchester county lying north of the Canadian National Railway and Cumberland county.

Other counties or districts securing the necesasry number of entries and making application for competition may be considered.

Five acres all of one variety to be seeded with approved seed.

To qualify for competition there must be ten or more entries in each district. Entries free.

Competitors may enter both the regular Field Crops Competition and the Special Seed Oats Competition, but winners of prizes in the Special Compeition cannot receive prizes in the regular Field Crops Competition.

The prizes for the field scores in each district will be as follows: 1st, $25.00; 2nd, $20.00; 3rd, $15 00; 4th, $10.00; 5th, $5.00.

Additional and equal prizes will be awarded for 1½ bushel samples shown at Maritime Winter Fair or subsequent Seed Fair held in the district. Total product of field must be offered for sale and sample shown at Seed Fair must be representative of total product as certified by Inspector of Seed Branch.

Competitors failing to win a prize in the field score in this competition are eligible to compete for prizes at Seed Fair.

WOOL MARKET AT PRESENT UNSATISFACTORY.

Very small quantities of wool are now selling in the big markets of the world. As a result the Canadian Co-operative Wool Growers, Ltd., have been compelled to reduce their first payment on wool collected at receiving stations to 15c. per lb. However, it is quite possible that the second payment will be much larger than the first.

In the first place, May and June are always depressed months in wool marketing, recovery taking place later in the season. Then, the fact that the Canadian Co-operative will have on hand a thoroughly graded lot of wool to sell when the market gathers strength will give them a decided advantage. Hence, although farmers may be disappointed in the original advance made, they may reasonably expect a decided improvement when the wool is finally placed on the open market.

Just now manufacturers are believed to be heavily stocked with high priced wool, and are hoping to recover themselves by buying at decidedly lower prices. Those who adopt the heretofore prevalent practice of selling outright to local buyers at once are likely to lose out. Those who market co-operatively and wait for future developments have every reason to expect just as much better results proportionatly as in the past three or four years.

Your correspondent has clipped the following from the market section of a big Toronto paper: "If anything will save the producer from the vicissitudes of exploitation on a falling market it will be the system of co-operative marketing on the basis of scientific grading and selling in large bulk. Standing alone farmers would have to accept the offers which dealers might care to make them, but selling co-operatively they are able to sell direct to manufacturers, and get whatever the wool is worth on a manufacturing basis. After all, the wool must go to the manufacturers, and they will pay no more than they have to for it; thus they will try to buy as cheaply from a leader as from the co-operative sellers, and the dealers' profit must come out of the wool."

THE VALUE OF PRESS NOTES.

Following a short note recently issued in this paper, and in the press of Nova Scotia, calling attention to the necessity of beginning to spray potattoes with Bordeaux mixture for the prevention of rot by thre first week in July, no less than seven letters were received in a single mail at the office of the Secretary for Agriculture, asking for detailed information on this important matter. This indicates two noteworthy facts, viz:

1. That articles containing useful agricultural information are being read and appreciated by our farming population.

2. That a very considerable number of people in the province have made up their minds to begin this year the practice of spraying for the prevention of rot, a measure of incalculable value.

Reports from some sections are to the effect that supplies of the necessary materials may run low. Farmers will be well advised to place their orders early therefore. Those who cannot get supplies locally will be directed to sources of supply if they write to the Department of Agriculture, Truro.

FOR SALE AFTER JULY

Pure Bred Holstein Bull, 3 years old (No. 32708); dam of this Bull tested 5% butter fat. Enquire

W. R. McKENZIE,
Apohaqui, Kings County, N. B.
R. F. D. No. 1.

N. S. EGG LAYING CONTEST.

Such splendid results have been achieved to date in the First Nova Scotia Egg Laying contest, and such interest manifected, that the management of the Poultry Departmentment at he Agricultural College have made arrangements for a second year. Announcements are now ready and will go out to poultry clubs, etc. One of the new fetaures in the second year of the contest is the opportunity of any owner of a pen of birds to send a suitable male bird to mate with his pen. Thus opportunity will be offered to secure the best possible laying strain under the most favorable conditions.

As in the first year of the competition the number of pens is limited to thirty. Interested parties should write at once as the space is likely to be snatched up very quickly.

DAIRY PROGRESS IN CAPE BRETON.

Dairy Superintendent McKay has recently returned from an extended visit to the creameries and some of the larger dairy farms in Cape Breton. He reports that both the Baddeck and Margaree creameries have greatly increased their business this year over last.

The prospects of the proposed new creamery at Port Hawkesbury are very bright. A site will soon be settled upon and work begun. It is hoped that the plant will be ready to begin operations at the opening of the season of 1921, probably my May 1st.

Some splendid dairy herds have been developed in Cape Breton in recent years. Among these is one of pure bred Guernseys owned by Mr. H. C. Corsion at South Ingonish. Mr. Corsion is a wealthy American manufacturer who has for many years spent his summers at beautiful Middle Head. He has done a fine piece of work in demonstrating what can be done in the way of dairying even in outlying districts. The weekly shipment of butter from his herd is now 200 lbs. All in all dairy prospects in Cape Breton are very encouraging.

HANDLING CLODDY SOIL.

Of all the things I ever abhored in the making of a seedbed it was that of the difficulty in handling clods. Clods are not a very good indication of proper tillage methods, but occasionally we get a few of them under certain conditions and they say we'll never let it happen again when starting out to pulverize the clods.

In plowing the driest and hardest soil where clods turn up it will be noticed that the clods, and all the dirt turned over in fact, are a little moistre than they will be the next day. As soon as the clods are turned up with the plow capillary action is cut off and the lumps begin to dry out rapidly with the increased surface exposed to the air. The time to tackle those clods is just as soon after plowing as it can be done rather than to wait for a rain to soften them. A disc harrow while cutting them in pieces will also pulverize many of them if harrowed while freshly plowed.

be a nuisance all summer etaosihrdlu

If clods are not broken before the corn or other crop is put in they will be a nuisance all summer, interfering with harrowing and the cultivation. Summer rain and the rollign about over the land with the cultivators will tend to wear down clods before the time to sow wheat but yet you will find a big clod still left to interfere with the wheat drills. Clods even as small as your fists are always rolling over onto the young corn, sometimes breaking it off or covering it.

Thorough preparation is urged for several reasons. It is one of the ways of getting rid of clods. If you don't get rid of them before planting it will be a good deal bigger job trying to get rid of them after planting. The roller, culti-packer, disc harrow, and drag are about the best tools to handle clods with. You can cut, crush, or break them, which ever proves the most effective. It takes a great deal of work and persistent effort to handle them properly.

I have seen many farmers plow all their land before ever putting a pulverizing tool on it. There may be three weeks pass beofre a foot of soil is worked. Perhaps a half of their land will be pulverized in fine shape and the rest a mass of clods. The best plan I have ever found of avoiding these clods is to put the pulverizer on just as soon as the soil will work nicely. This may be the next day, or within a few hours. A good practice is to unhitch from the plow early enough in the afternoon to drag or harrow all that was broken that day. This is a pretty sure way of detecting clods. Soil seldom works up best immediately after being turned, but after a few hours exposure to the sun and air it pulvrizes finely.

When soil is plowed too wet clods are exceedingly hard to combat unless the soil contains plenty of humus or is sandy. The best advice that can be given in this case is to quit plowing, wait until it turns ocver less compactly. Plowing land too wet tends to pack the poil, while plowing when the soil is drier or in the right condition produces just the opposite effect. The furrow slice when turned over should break and settle in a loose mass when soil conditions are favorable.

If clods turn up where cattle have tramped duirng wet ewather or wagons have crossed, break them up before they become hard and unmanageable. Hauling over wet fields or allowing live stock out on the fields when soft is favorable to clod formation. It is a good deal easier to avoid the clods than to try to get rid of them. But it pays to get rid of them before planing your crop.

There is a good point in tractor farming, you must not go on your land while it is soft. With a tractor you do not need to, you have plenty of power and can defer plowing until plowing conditions are exactly right.

TYPE IN BREEDING.

Form and function are co-ordinated in dairy cattle. The vitality and high production of our cattle result from their form and functional development, and these are the results of thousands of years of favorable environment with selective breeding. These things constitute the pure-bred of today and thus there come to your hands these wonderful instruemnts, the work of untold generations who have gone before. The type of the pure-bred as so devloped should be approached with reverence. No hasty hand should seek to radically after the type so attained and which is so correctly indicated in our scale of points. But danger there is, and lamentable as may be the fact, that in the hands of most owners a retrograde movement sets in, due to our own carelessnes sand neglect or perhaps the striving after false ideals.

Be again reminded that you must ever keep in mind an ideal in your breeding operations which shall ever consist of the trye type of the breed, and not neglect proper and liberal feeding as the essential accompaniment to your efforts.

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DATES OF ISSUE.

July ..... —20
August .....3—17—31
September .....14—28
October .....12—26
November .....9—23
December .....7—21

JULY 6, 1920.

FOR THE LOOKS OF THINGS.

How much is a man to be judged by the appearance of his surroundings? How much is a community benefited by the neat appearance of the farms? These are questions which may be purely speculative but which leave a strong impression on the visitor. One of the things which strikes the visitor in a prosperous dairy community is the fine appearance of the farm buildings. He thinks at once "here must be a prosperous country." When one travels through some sections he gets a very strong impressions but in exactly the opposite direction. The unpainted barns and general appearance of neglect go together and the visitor gets the impression that either the land is too poor to support well built and well kept premises or the people have no pride in these things.

This condition misrepresents the value of the country and the thrift of the people. A little money spent in paint and in keeping the place in order would add actual cash value to the dalry farms along the St. Lawrence Valley. These things are a matter of habit and if a few men would fix up their places nearly everyone else would follow.

One reason for the genereal lack of paint on all buildings but the dwellings is that they are built of rough sawed lumber, and the practlce of leaving such buildings unpainted started years ago when lumber was cheap and there seemed to be no real economic value in paint. That day has passed and a few farmers are using paint even on this rough lumber, adding many dollars to the appearance of their farms.

The looks of the farm has another value which is more important than the mere money value. It is due the children on the farm that they be given a chance to grow up in pleasant and inspiring surroundings. Youth is usually responsive to the beautiful. If they are going to be made to like the country and stay in it, one of the factors is to make it beautiful by harmonizing the work of man with the work of nature.

Too little attention is given to these things on the farm. Utility is necessary, but it is not necessary to sacrifice beauty and harmony for utility. The two can very well go together.

Well kept lawns, fances kept ship-shape, paint on the buildings, shade trees and flowers, are all things easily obtainable, and add not only to the actual value of a farm and a community where every one looks after these things, but it adds to the well being and satisfaction of living in such a place. There are some men who would be content to sleep in the hog pen if by so doing thy could make a dollar or escape the spending of one, but the women and children almost without exception crave. the beautiful and treasure every opportunity to make the place in which they live a fit place for humans to live.

MORE WORK.

Laborers of the city are trying to meet the high cost of living by asking for increased pay. But they forget that an increase in wages is only intensifying the present conditoni and will occomplish nothing but to further advance prices.

We must ever bear in mind that money does not feed or clothe the nation. If we want more food, more clothes, more homes, more of all commdities, more work must be done. Work is the solution of our high cost of living—not higher wages or shorter hours.

Professor H. C. Filley, Chairman of the University of Nebraska Department of Rrural Economics, recently stated:

"If plumbers, painters, and carpenters receive $1 to $1.25 an hour, the farmer must pay equivalent wages or limit his farm operations to the work which can be done by himself and family. When he recalls the efforts made to compel dairy farmers to sell milk at less than cost of production, the drive on food prices, the losses incurred by feeders due to the sudden decline in the price of live stock, and the continued increase in the price of retail goods, he is not apt to compete very strongly with the paving contractors, automobile companies, and clothing manufacturers for the limited number of men who really want a job.

"As long as men are drawn from the farms by the high wages and short hours of city occupations, we cannot expect an increase in the production of farm products. As long as the production of manufactured goods per worker continues to diminish, due to the short hours and inefficiency, we cannot expect the cost of living to decrease.

"The remedy for the high cost of living is not on the farm but in the cities. When the city workers lengthen their working day to approximately the average length of the farmer's working day, speed up production as the farmers have done, and curtail their consumption of non-essentials, we can expect a reduction in the cost of necessities."

WAGES AND THE FARMER.

The National City Bank of New York keeps in very close touch with the business enterprises of the nation and evidently gives more than passing attention to the effect which the farmer has upon the prosperity of the nation and ihe wages factory men receive. If labor leaders in our cities would give the same intelligent study to our national problems, they would not be looking for shorter hours, higher wages, and cheaper food.

In a monthly report, the National City Bank of New York made the following comprehensive statement regarding the effect of the price of farm products upon the prosperity and the welfare of all other industries:

"The grievance of the farmers is that the prices of what they have to buy do not go down with the prices of what they have to sell, and this complaint is commended to the attention of all who think that the prices of manufactured goods can be maintained after the prices of farm products have generally declined. The purchasing power of the farming population is in the prices of farm products, and as they decline they will pull down the whole wage scale and price level.

,'Labor leaders may say that present wages will never be reduced, popular opinion may theoretically approve and employers may assent, but if the purchasing power of the great interior districts of this country decline, those districts will buy fewer goods unless hose goods ocme down correspondingly. The prosperity of the farming districts has been a very large factor in the demand for labor in the manufacturing cities. So long as employers are able to add wage increase to the price of their products they will grant the latter, but employment and wages depend at last on the purchasing power of the consuming public. The entire price and wage situation mlght change rapidly."

THE COST OF A SCRUB BULL.

It is estimated that in herds in which a scrub or grade bull is used each cow produces at least 50 lbs. less butterfat per year than if the herds were headed by a pure-bred bull. Fifty pounds of butterfat may be easily estimated to be worth $25.00 net to the farmer, over and above what it would cost to keep a pure-bred bull and the extra care in feeding the cows better.

A survey of Sheboygan County, Wisconsin, shows that it contains about 40,000 cows and that 37% of the herds are headed by pure-bred bulls. This leaves 63% of the total number of herds headed by grades and scubs or, in other words, about 25,200 cows in that country are sired by and bred to scrubs and grades. This number of cows, allowing 50 lbs. fat for the value of a pure-bred bull, would produce 1,260,000 lbs. less butterfat than if they had been sired or brad to pure-bred bulls. Calculating butterfat at 50c a pound, the loss amounts to the munificent sum of $630,000 annually. This is a large expense, if it may be expressed in this way, for the privilege of keeping grade and scrub bulls.

We appreciate that men who have reached the stage of keeping pure-bred bulls are better educated dairymen, but the stubborn fact remains, nevertheless, that those dairymen keeping scrub and grade bulls to head their herds are losing large sums of money. It shows that they need a better dairy education so they may be able to handle better dairy blood.—Hoard's Dairyman.

* * *

The better the farmer, the less sure is he that he has heard the last word on efficient farm management. There is no business in which more time and thought are being expended for finding better ways than in agriculture.

* * *

Let the young man about town out of a job try a year on the farm. Plowing will give them a new constitution, take the kinks out of his head, the fog out of his threat, the gas off his stomach, the weariness out of his legs, the corns off is toes, and give him a good appetite, and an honoset livlng.

HORTICULTURE.

WEEDS WE SHOULD KNOW.

Weeds are among the most commonplace of all plants. This fact everyone knows who has ever tried to grow a crop of any kind. We see very little use for this group of plants, and everyone knows that they mean work if a piece of land is to be cropped successfully. To learn something about the habits of our common weeds is the first requirement to possess in order to combat them successfully, and if all who are engaged in growing crops either in the field or in the garden would carry on a warfare against weeds, the time would come when these ugly pests would be on the decline. Talk against weeds ever becoming very serious has been laughed at by those who were farming newly broken land. This might be expected because weeds are rather scarce for a time at least under these conditions. The parents of many of you juniors know this to be a fact. But today much of the land which was at one time rather free from weeds is overrun by them, in fact some of it to such an extent that it has been abandoned. And all because we have been too careless in the matter of looking after them at the proper time.

Annuals, Biennials, and Perennials.

These are three big words with rather simple meanings. Any seed is an animal which lives by one season. Many of our most common field and garden weeds belong to this group. They start from a seed in the spring, grow up, blossom, and produce seeds and then die. This is all done in a single season and that is the erason they are spoken of as annuals. Perhaps you have noticed that no matter how clean you have kept your garden for a single season, not allowing a single weed to go to seed, there are always some weeds which come up again the next year. You have wondered at this, have you not? It is an easy thing to explain for one who knows the habits of some of these weeds. The soil contains so many seeds of various weeds that there is always the chance that some of them will live over in the soil for long periods of time. You ask, how can that be, since the seeds of our garden and field crops rot if left in the soil for any length of time. It is like this. Nature has provided many of the weed seeds with hard coats which enable them to resist decay for long periods. They may have become buried so deep that they could not germinate on account of not getting a sufficient amount of oxygen, but when the plow brings them near to the surface of the soil they are ready to grow. This explains why there are always some weeds to be found in the garden no matter how clean it is kept the preceding season.

Since annual weeds spread largely by their seeds, it is a comparatively easy matter to keep them in check by preventing them from going to seed. Any method which will stop them from forming seeds is good. In the garden where the numbers are usually limited, cutting them off or pulilng is the safest method. This should be done before they have formed any of their seeds, because when they are in the seed developing stage, there is sufficient nourishment in the leaves and stems to continue the seed formation, and the result will be that in many cases the seeds will be formed completely enough to germinate. Furthermore, when a weed is cut or pulled, care should be taken to see that it is entirely removed. To be sure of this they should be cut beneath the surface of the soil. If any of the lower branches are left, they will form seeds and the trouble will repeat itself next year. Cutting is usually done with a sharp hoe or with a spade, the latter being a good instrument to use when the weeds are large and scattered.

In the case of field crops ilke corn, cultivation is the one big way to keep the weesd down. This must be done at the right time, and done thoroughly, if the work is to be effective. Many corn fields in the fall do not look as though they had ever been cultivated. This is because the owner did not cultivate at the right time, or because he did not do the job effectively.

Rotation of crops also helps in keeping down annual weeds. When a piece of land is seeded down to clover and timothy, and a good stand has been secured, the weeds are crowded to such an extent, that this, together with the fact that the cuting of the hay crops retards their growth, tends to destroy them. If for no other reason than this, it pays to pactice a well worked out rotation system. Annual weeds may be destroyed in large numbers by using such implements as the drag and the weeder in corn and potato fields while the plants are still small or just coming up. If the work is odne on a bright day, the first crop of weeds in such fields can be eradicated very easily.

Annual weeds as troublesome as they are, are not half as bad as those which are classed as biennials and perennials. A biennial weed takes two years to mature seed. Like the annuals, it too starts from a seed, but instead of forming seed the first season, it just grows a big healthy plans, dies down in the fall, and starts again the following spring from the root. The burdock is a good example of such a weed. Usually biennials store up large quantities of food in a fleshy root the first season so that the next year the plant grows very early in the spring, using this food supply. Perhaps you have noticed the big root which the burdock has at the close of the figrst season's growth. Carrots and parsnips, although not weeds, are good examples of this. In order to get rid of biennials, we use the same methods already mentioned for combating the annual kinds, since like the annuals they usually spread from seeds. They do little damage the first season, beyond that of taking moisture and food that the other crops should have.

Undoubtedly the worst weeds which we have to contend with are to be found among the group known as perennials. A perennial weed lives on far an indefinite period of time and may produce seeds very year. Many of the worst ones spread in other ways than from seeds, and this is why they are so difficult to get rid of. Many of these are called noxious weeds because they are so difficult to eradicate. And the only way to get at them successfully is to first know their life habits. Two of the worst perennial weeds which every junior should learn to recognize at an early date are quack grass and the Canada thistle. These two have always been condemned by those who have had any experience in trying to rid the soil of them. They perhaps are the two worst ones in many sections of the northern part of the United States. Methods which are advocated for the eradication of annual and biennials are not at all effective in combating these two.

Quack Grass

Quack grass is among the very worst of all weedy grasses. It belongs to the same family of plants as all of the small grains, timothy and red top grass, but unlike them it is very undesirable. More than one acre of land is lying idle because this pest has taken complete possession of the soil. Usually all of this has been due to either carelessness or ignoraace.

This plant not only spreads itself by its seeds but also by a system of underground stems. In fact it is the latter which makes this grass noxious. These underground stems run along underneath the surface of the soil, usually at a depth of three or four inches. They look like roots and may easily be mistaken for them. They possess a great deal of vitality and hence they are not very easily killed. But you ask why they are so troublesome? The answer is this: At every joint or node a new plant starts to grow, and since each one has so many joints a single plant in time will produce a very large number of others, and in turn each of these is capable of doing the very same thing. Consequently it only takes but a short time before the soil is completely occupied with these underground stems, and a dense turf or sod is formed with which the other desirable plans cannot compete. If one plaws through a patch of this grass, some of these underground stems are bound to catch on to the plow and are then carried to other parts of the field where a new patch is soon started. This accounts for the rapid spread of this grass in many sections. It is quite evident then that to eradicate quack grass one must know at least this much about the plan.

Canada Thistle.

If the Englishman who brought the Canada thistle from England to Canada, thinking that it would make pretty good feed for mules, had to labor at eradicating this weed, the chances are that he would have thought twice before doing what he did. So persistent is this plant, that it, too, like quack grass, has taken possession of large areas of some of our best land. No one yet has ever found a place for the Canada thistle among forage crops.

Some people think that the Canada thistle does not produce seeds that will sprout. This idea is all wrong for the seeds of this plant will grow just like those of any other plant. Perhaps this idea was gained on account of the peculiar blossoming habit of the plant. Some plans produce stamens only and hence are not capable of forming any seeds. They blossom like any other plant, and because they do this but do not form seeds is a reason why this idea should have gained ground. It is only those plants which pjroduce thistles that form seeds.

But Canada thistles do not have to depend upon seeds in order to produce new plants. Any portion of a root is capable of doing this. In this respect they are like quack grass and for this reason Canada thistles are difficult to get rid of and are also considered noxious.

It is not difficult to learn to recognize this plant. It grows from 1 to 3 feet tall and has leaves of a bright green color which are smooth on the upper surface and rough underneath. The edges of tse leaves are wavy and are equipped with short stiff spines. The flowers are purple and are about an inch long. The seeds are smooth and brown in color, and are larger at one end than they are at the other. At the larger end there is a depression in which there is a projecting point.

Can These Weeds be Eradicated?

Any plant will die in time if it is not allowed to form leaves. This is because the leaves of a plant manufacture the food upon which the plant must live. So any method which will prevent them from forming any leaves will be effective if it is followed up. About the only way to get rid of either of these weeds is to destroy the roots and underground stems. To be sure it is a difficult task, because these parts of the plants are so persistent. Therefore we must be just as persistent in following up the method we adopt.

For large areas, about the only effective method to use is the fallow method. This consists of keeping the soil plowed or harrowed os that the plans cannot form any leaves. If this is followed up consistently during the fall and spring months and then a crop like corn is planted which can be thoroughly cultivated during the remainder of the season, the weeds will be so weakened that many of them will disappear the first year. But this will not probably be enough and unless followed up during the next few years, they will come back as strong as ever.

For small patches of either of these weeds one may resort to what is called the smother method. By covering the patch with thick tar or building paper, the plants will be smothered. Care should be taken to weight the edges of the paper down with stones or soil so that the wind will not blow it off. This method is very effective; the patch will die out in a single season. For Canada thistles one may resort to salting them. This is done by cutting off the plant close to the ground when it is in bloom and throwing a handful of salt on the top of the root. One application is usually sufficient. Of course this method can only be used when the thistles are confined to small patches. A good stand of alfalfa on a field infested with Canada thistles is another way of getting rid of them. The alfalfa crop grows so rapidly and the crop is cut so frequently that the thistles are weakened and finally die. Many alfalfa growers report that they have had good success with this method. When the field is again broken up it can be planted into corn. The cultivations which follow will entirely eradicate the thistles.

Do You Know These Weeds?

Here is a list of weeds which we lieve every junior who lives on a farm or who works in a garden should know. It will be interesting for you to check off from this list all of those which you already have learned, and then make it your business this summer to become acquainted with the others:

Canada thistle, burdock, oxeke daisy, snapdragon, cocklebur, sow-thistle, yellow dock, wild mustard, wild parsnip, Russian thistle, wild barley, morning glory, wild onion, quack grass, pig weed, lambs quarters, purslane, common plantain, buckhorn, common milkweed, sheep sorrel, corn spury, bouncing bet, dandelion, wild lettuce, green foxtail, yellow foxtail, common wallow, Indian mallow, back bindweed, chess, dodder, catnip, chickweed, sticktight, chicory, common ragweed, mayweed, mullein, lady's thumb, king head, bull thistle, and roadside thistle.

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We Manufacture Strawberry Boxes and Crates for same, 6 qt. Baskets, Apple Boxes, Box Shooks, Apple Graders, Wheelbarrows. Now is the time to lay in a supply of Fruit Packages for the coming season. We have a good stock on hand, order early and ensure prompt shipment. Price on application to

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LIVE STOCK.

STEER SELLS AT 75c. PER LB. ON HOOF.

The Toronto Fat Stock Show held its tenth annual exhibition at the Union Stock Yards on Thursday, Dec. 11. There were upwards of twice as many entries as were forward the year before, and the quality of the animals compared favorably with any previous year. It is apparent that a great deal of renewed interest is aroused in beef cattle areas, and that fewer scrub animals will be seen at stock yards in the future. The well filled classes of the desir able blocky type were a source of admiration to the thousands of stockmen that visited the exhibition. Hon. Manning Doherty, Minister of Agriculture, spent a few hours in the yards, apparently taking a keen interest in the competition. He complimented the stockmen and Fat Stock Fair management on the progress made during the past few years in the quality of exhibits .

As at Guelph Fair the Grand Champion animal was a grade steer, "Black Hector," owned by W. G. Whitelaw, Elora. He is an Aberdeen Angus cross, and is exceptionally well finished, and firm to the handling.

The winner in the pure bred classes was a white Shorthorn steer owner by John Barr, Blyth, gaining the Walker House Cup and the sweepstakes for the best pure bred steer.

The grand championship for the best three cattle was awarded to T. A. Russell, Downsview, with a red, a roan, and a white, that were a picture of admiration for the beef cattle stockmen. G. E. Rowntrdee, Woodbridge, won the grand champion for car lots.

Some of the finest sheep ever seen at Toronto were in the pens and competition was keen and close. Hogs were out in greater numbers than ever and the uality was up to the usual high standard.

More remarkable than the show was the sale that was held on Dec. 12, the day following the show, where amazing prices were paid for prize animals. For "Black Hector," the grand champion steer, the price of 75 cents per pound on the hoof was paid. He weighed 1,290 pounds, and thus realized $967.50, a splendid price for a yearling. He was bought by H. P. Kennedy, Toronto. Immediately after H. P. Kennedy had purchased the champion steer, he wired the Live Stock Commissioner at Ottawa and offered to send him overseas to show the Old World that Canadians know how to raise cattle. The Live Sctock Commissioner eagerly accepted the offer, and along with a number of other cattle that Mr. Kennedy is exporting, Black Hector will travel to Europe. He will be consigned to the Canadian High Commissioner, and when it is thought that he has done his duty in advertising Canada, Mr. Kennedy will present him to whoever the High Commissioner suggests.

Along with Black Hector, the champion carload of cattle will cross the seas. Mr. Kennedy purchased them from George E. Rowntree, the owner, for 21 cents a pound.

The steer owned by J. M. Gardhouse, "Roan Jasper,," weighing 1110 pounds, and sold for 40c per pound, thus realizing $444.00. "Snowball," owned by J. Barr, Blyth, weighed 1220 pounds, and sold for 31c. per pound, thus realizing $378.00.

While single animals, as a rule, went for more sensational prices than the groups, carload lots sold remarkably well. Two carloads from Sprucedale Farms, 30 animals in all, brought the sum of $9,113.50. For three heifers under one year Short Bros, of Elora, received $650.

Sheep and hogs were sold in separate rings. The record price for sheep was paid by the Swift Canadian Company. For a pen of ten lambs or ewes, under 100 pounds, Swift's paid the owner, C. E. Meggs, of Paris, 41 cents a pound, a total of $371.05.

Hogs sold all the way from 26 to 50 cents a pound. A litter of hogs owned by J. K. Featherstone, of Streetsville, winners of the United Farmers' Co-operative Company's special prize, brought the tremendous price of $815, purchased at 50 cents a pound by the Harris Abattoir Company.

All the animals were quickly picked up, and the demand far exceeded the supply. The sales ring was crowded. Buyers came from Buffalo, New York, Chicago and Montreal. Bidding was keen, and though prices

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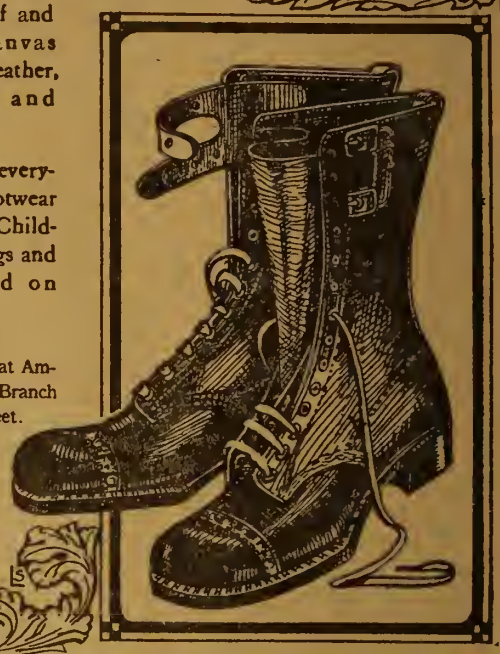

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No matter what makes of motor you own, there is a "Champion" that will give efficient service under any condition the motor itself will stand.

Look for "Champion" on the insulator as well as on the box.

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Champion "O"
for Overland Cars
A-14-"O" ½-inch
Price $1.00
Specially recommended
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were three times as high as on the ordinary market, the quality of the animals offered showed an equal difference.

SCOURS AND BLOATING IN SHEEP —SUDDEN CHANGES IN FEED THE CAUSE.

The season has come again when it will require some extra care in looking after the health of the average flock of sheep. It is often a question with the careful farmer how to handle sheep that have been fed on dry winter feed, in order to get them accustomed to grass. Sheep are very liable to bloating and scours, and when once an animal has had an attack of any one of these troubles it is apt to come back again on the least provocation when a sudden change of feed or pasture is given. There is never any trouble with sheep that are in climates that allow them some green herbitage or grass during winter, except the scours that come from sheep worms that are generated on sheep foul pastures but serious inroads to sheep health very often arise from bloating and scours that are the result of faulty management where dry winter feeding is suddenly exchanged for grass feeding.

The Danger of a Sudden Change of Feed.

The spring activities of the farm field are likely to divert attention from the sheep flock. The grass shows signs of coming along speedily and the sheep man is glad to be relieved of the sheep feeding chore. Lambs are well a-foot and able to look after themselves, but summer weather experience has not yet been their lot. In view of this fact it is convenient to take some thought in regard to training them for the new experience and grass feed.

There is a great diversity of opinion and accordingly diversity of methods adopted in turning a flock of ewes and their lambs on to pasture. There is very little written on the subject as to guidance in the matter. This may be owing to the fact that a hard and fast rule can hardly be laid down, seeing that spring seasons start away with a very slow growth of grass in which the digestive organs of the sheep naturally adapt themselves to the change at other seasons the growth is rapid and if the animals are not trained by some medium of gradual change, many deaths will occur.

It is necessary for every owner of a sheep flock to make some provision by artificial arrangement at the barn and in the field, so that little trouble will be found in giving the sheep a chance to become accustomed to grass feeding. Of course a whole lot of the success of the change depends upon the healthy state of the sheep before going on the grass. This is imperative in any case. Sheep that are inclined to be constipated will readily scour when turned out even only a short time to newly grown grass. The bowels of the sheep, previous to their being sent to grass hould be in a laxative state, and this can be done by allowing them free use of plenty of salt, clean pure water, and green clover hay and roots, and if grain feeding is done the addition of bran will improve it.

How Scours Can Be Avoided.

The writer's method is to arrange a barn or shelter shed that has access to a paddock or grass field by lane or pasasge way. When fed their usual winter feed in the barn or shelter they move lackwards and forwards between the grass field and the shelter as they wish. They thus get accustomed to grass, so that when the time comes that they can be out all night they are hardened to meet any cold night that may come around. and their digestive organs are gradually accustomed to summer grass. Without this arrangement the flock will cost a deal of bother at a very busy season. If kept in winter quarters till the grass is well grown there will be trouble if not closely watched when sent to pasture for the first week or so. A short time each day on rank pasture will have to be the order, and when taken home to the winter lot they will be restless. And restlessness acts on a mother ewe in the same way as it does on a dairy cow, and less milk will be forthcoming for the lambs.

Not only will a sudden feed of fresh-grown pastures cause scouring, but slight frosts that often occur in the spring mornings are fruitful of mischief among lambs. This will occur even after sheep have been accustomed to grass, and it is one incident in keeping sheep that is difficult to guard against its occurrence, chiefly because the frost generally comes on unawares and as late as the first weeks in June. When scours appear in a flock after eating frosted grass, it will be well to take the affected ones in hand and administer to them some remedy.

A similar condition will also arise with sheep that have had a long fast in a stockyard or on a railway journey. Here prevention is better than cure. Sheep or lambs shipped long distances should first be given dry feed and very cautiously turned upon rank pastures.

When frosted grass or overeating is the cause of scours, laudanum in tablespoonful doses for mature sheep, and less for lambs, is a standard remedy. It is best to give it in milk or water. If the appetite of the animal shows signs of being affected and it is dull and not inclined to eat, a teacupful of ginger in a cup of warm water will be found beneficial. There is always the danger of a recurrence of scouring when once it starts, and the shepherd's best method is prevention, by planning ahead how he can best secure the gradual change from winter to summer conditions.

WHEY TO CALVES.

Whole milk gives such splendid results with calves that we consider it essential for the first week or ten days. After that time, skimmilk can be gradually substituted for it. These two feeds are so well suited to the needs of the young calf that we would not try to do without them. Especially when calves are to be put on whey, it is essential that they be given a very good start.

By the time calves are three or four weeks old, the skimmilk can be gradually substituted with whey. Only that whey which is sweet and undiluted and has been kept clean should ever be fed calves. To be successful it is necessary that special attention be given to regularity in time and quantity of the calf pails.

In feeding whey, a feed relatively high in its carbohydrate value is supplied, the very opposite of skimmilk, which is comparatively high in its protein. It is necessary, therefore, to combine with whey feeds which have considerable protein.

By the time calves are five to six weeks old, they may be receiving 10 to 25 lbs. whey daily. Alfalfa or mixed hay should be fed in as liberal amounts as the calves will consume. Such a mixture as 200 pounds of ground oats, 200 pounds of bran and 100 pounds of oil meal should be very satisfactory as a concentrate allowance. Calves should have as much of such a mixture as this as they will consume until they have gotten a very good start, when the concentrates may be cut down slightly.

It pays to give calves the very best possible attention to see that they make the best gains which can be secured. Success may be attained in feeding whey if every precaution concerning cleanliness and concerning a balance of neutrients is employed. It is more difficult to raise good calves with whey than with skimmilk.—Hoard's Dairyman.

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We purchased the herd of 40 head that produced Plain Mary, including two of her sons. Five sons of their sire from high-producing cows, heifers and cows bred by or to these bulls, son and daughter of Plain Mable, half-sister to Plain Mary and the privilege of retaining on the farm some ten cows at the purchaser's option to be bred make up the contribution of Plain Mary and this herd to the sale.

The world-renowned Sophie Tormentor stock of Hood Farm will be represented by a beautiful son of Sophie 19th's Tormentor, one double grandson and several grandsons of Pogis 99th of Hood Farm, son of the celebrated cow—Sophie 19th of Hood Farm. Other cows of this breeding, in all 24 cows and heifers in milk and a total of 58 head of Jerseys will be sold.

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DAIRYING.

TO CONTROL RINGWORM TREAT WITH IDOINE.

"Ringworm, a disease of the skin of animals characterized by the appearance of sharply defined roundish areas, may be cured by application of idoine or salicylic acid and alcohol. These spots are usually covered with scabs and crusts and are free from hair or nearly so," says B. A. Beach of the department of veterinary science in the University of Wisconsin.

"Cattle are most susceptible to ring worm," declares Dr. Beach. "Animals kept in damp, close, filthy quarters are more apt to have the disease.

"Ringworm is caused by a fungus which grows in the outer layers of the skin. The spores are very resistant and will live a long time in infected quarters. They grow when conditions become favorable. The germs are spread from infected animals or quarters to healthy animals. Blankets, harness, curry combs, fence posts or other objects against which the animals rub spread the disease.

"The disease may appear on any part of the body," declares Dr. Beach, "though the favorite places are the head, neck, shoulders, and back. If untreated, ringworm will spread over a considerable part of the body. Itching always accompanies ringworm in cattle, although it varies in intensity in different animals. In horses the itching may be absent."

Dr. Beach suggests this treatment: "Care should be taken to prevent contact between animals or infected objects. Thoroughly cleanse and disinfect as far as is possible everything with which the diseased animals have come in contact. The treatment consists of clipping the hair when necessary. The crusts are softened with green soap or ordinary soap and soft water. The diseased parts should then be painted with tincture of iodine, or salicylic acid and alcohol, one part to ten."

EFFECT OF FEED ON DAIRY PRODUCTS.

Milk and butterfat are the marketable products from the dairy farm and it is important that no deleterious effects be produced on those materials by the feed given to the cows. Hence, the effect of the feeds on the flavor of milk and the consistency of butterfat are worthy of consideration.

It is now generally believed that good feeds have no influence on the flavor of milk, though it has often been said that silage imparts a disagreeable flavor to milk. If the feeding be done carelessly this is true but if the silos are shut off from the barn, the cows fed silage after milking and not before, and given only what they will clean up in a short time, the danger of having a silage odor or flavor in the milk is negligible. The same applies to rutabagas. If the silage or roots are fed just before milking, or unused feed is allowed to remain indefinitely in the mangers, the milk, if not removed from the barn immediately after drawing, will take on a disagreeable odor. The presence of a silage flavor or odor in milk is due to carelessness.

Garlic and other weeds will impart an unpleasant odor and flavor to milk when they are consumed by the cows. This is due to volatile substances present which are absorbed from the alimentary tract, carried to the udder, and eliminated in the milk. Such substances, being volatile, do not affect the flavor of the milk for any considerable time after they have been eaten.

Certain feeds influence to a limited extent the chemical and physical characteristics and, consequently, the consistency of butter. Linseed oil meal, peanut meal, and gluten products have a tendency to produce a soft, salvy butter with inferior flavor, while cottonseed tends to produce a hard, tallowy butter. These feeds do not produce marked effects unless fed in too large quantities, and by properly balancing the constituents of the ration these influences can be minimized. The feeding of cottonseed meal in the summer time is often advisable as the butter produced at this season is generally soft and cottonseed tends to make it more firm.

Milk is remarkably constant in composition and general character and can be affected but little by feeding. Its flavor is not affected by feeds when the feeds are carefully handled. The nature of the butterfat can be altered somewhat; however, by the feeds given.

SALT FOR COWS.

All animals that consume large quantities of vegetable food require salt in addition to their regular feed. Old settlers of the middle west can still show you where the buffalo scooped large pockets in the ground by licking, in order to get at the salt in the soil. When cattle are confined for any length of time without being fed salt, they will make similar licks in the ground for the reason that there is always some salt in all soils.

When properly fed, salt has a beneficial physiological effect on the body, and serves somewhat as a spice to stimulate and increase the palatability of many foods. It also stimulates the secretion of digestive fluids, assists in the circulation of the fluids of the body, and prevents digestive disturbances. Formerly it was thought that salt increased the digestibility of a ration, but experiments have proven that digestibility is neither increased nor diminished by the use of salt.

You want him good and healthy,
You want him big and strong,
Then give him a pure wool jersey,
Made by his friend Bob Long.
Let him romp with all his vigor
He's the best boy in the land,
And he'll always be bright and smiling,
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Fleet Foot Shoes are Dominion Rubber System Products

The Best Shoe Stores Sell Fleet Foot

49

ST. JOHN EXHIBITION
September 4th-11th

Prize Lists are now obtainable on application to

CHAS. ROBINSON,
Manager.

Money Loose is Money Spent

If you hope to rise above the dependance on daily earnings, you must learn to save money. Saved money means capital, and capital means ability to take advantage of opportunities offering, until some day you become independent.

The Bank of Nova Scotia will welcome your Savings Account and give you every possible service and attention.

Capital . . . $ 9,700,000
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We invite your account. Special facilities for banking by mail. Thirty-eight branches in New Brunswick. Head Office, Halifax, N.S.

54A

The dairy cow consumes a large amount of roughnes and requires salt continually, in order to thrive well and keep the milk bucket well filled. It has been shown, by evperiments, that for ordinary live stock three-fourths ounce a day for one thousand pounds of live weight is about the amount of salt required.

With the dairy cow it is a different proposition. Experiments in which producing cows were allowed to consume salt at will show that they require considerable more salt, in many cases several times as much, as do dry animals. The amount of salt consumed varies greatly with individual cows, and the only system of giving salt that allows for this is where the cows are allowed free access to it daily, or have a supply in the manger continually before them.

Another important factor to be taken into consideration is that salt requirements will vary greatly with feed from different localities. Soils which contain large amounts of salt produce crops containing more salt than soils low in salt. The water of streams and wells also varies in salt content. The farmer who keeps saft before his cows at all times need not worry about whether his feedingstuff and water supply contains a high or low salt content.

Barrel salt or compressed dairy salt should be used for salting cows. Never use crystal rock salt. Because of its extreme hardness, it requires too much licking to get enough of the crystal rock salt, and the sharp edges produced in the rock by licking frequently cut the tongue severely and cause eating to become a painful process. There is no donger of the animals consuming more salt than is good for them if loose barrel salt is kept before them continually, and they know how much salt they need must better than does the feeder. On the other hand, when supplied in large amounts, at intervals of one or two weeks, as is the practice with many farmers, there is danger of the animal eating an excessive amount of salt. This excessive amount of salt consumed after being kept from it for some time greatly increases the amount of water secreted in the urine. This causes an abnormal thirst and the animals will then drink large quantities of water which is apt to injure the digestion and lead to other disturbances in the system. Also, when an abnormal thirst for water has been created, and sufficient water is not supplied, the water content of the body will be lessened due to the increased loss through the kidneys. This causes an increased breaking down of protein and results in a loss of strength and vitality.

In experiment on a number of cows at the Wisconsin Station, it was found that cows would exhibit an abnormal thirst for salt when kept from it for two or three weeks, but the diminishing effect on the milk yield, or detrimental effect on the health of the animals, was not apaprent for a much olnger time. This period varied with different cows from one month to one year. The breaking down in health was always sudden and very extreme. The condition was indicated by a marked loss of appetite, hagagrd appearance, lusterless eyes, rough coat, and rapid delcine in weight and in yield of milk. When the salt was again supplied, they would quickly recover their normal condition. In one case, potassium cloride was given instead of common salt, which is solium chloride. The cows consumed considerable of the potassium salt, although normally, when getting sufficient common salt, they refuse to touch the other, and recovery followed as quickly as when common salt was given. This indicates that it is the solium and not the chlorine which is so necessary for the body to properly perform its functions.—C. O. Levine, in Hoard's.

ROPY MILK.

I have a cow 5 years old that has been fresh about 4 months. She has been giving just as good milk as any till 3 days ago. Now the cream is tough and stringy, acts like paste, and will stretch three inches from spoon and acts like it had rubber in.—H.E.C.

The ropy condition of milk is caused by bacteria which usually get into the utensils from the udder of the cow, the wash water, the dust of stables, or rfom the cooling tank. Sterilize all milk utensils by boiling after cleansing with hypochlorite of soda solution. If the cow in question has been giving milk for 10 months or more and is nearing calving, "dry her off." Eliminate sources of contamination of milk so far as found present.

FOULS.

I have some cows that are sore between the claws, some on the front feet and some on their hind feet. It looks just like thrush on horses and it smells just like thrust does on horses. Some have it on their heels and some in front, right between the claws.—H. F. K.

Manure, straw, or other irritants lodged between the toes start the trouble and then the excoriated skin becomes infected by pus germs or in the worst cases by the filth germ bacillus necrophorus. Perfectly cleanse the foot and then immerse it for two or three minutes in hot water containing 2 ounces of sulphate of copper (blue-stone) to the pint. Afterward cover the affected parts with oakum or cotton saturated with a 5 per cent. solution of coal tar, dip to be help in place by means of a narrow bandage criss-crossed between the toes and tied around the pastern. Renew the drssing daily until grat improvement results. Then apply pine tar twice a week.

HOT WEATHER

the season when a DE LAVAL SEPARATOR saves most over any other separator or skimmiug system

IT'S A GREAT MISTAKE for any dairy farmer without a separator or using an inferior machine to put off the purchase of a New De Laval Cream Separator in the summer months especially with butter-fat at the present unusually high price.

Great as are the advantages of the New De Laval over all other separators, as well as over any gravity setting system, at every season of the year, they are even greater during the mid-summer season than at any other time.

This is because hot weather conditions occasion greatest butter-fat losses with gravity setting and render it most difficult to maintain quality of product wiih any gravity system or unsanitary separator, while, moreover, the quantity of milk is usually greatest, and any loss in either quantity or quality of product means more.

There is the great saving in time and labor wirh the simple, easy running, easily cleaned, large capacity New De Laval machines over all other methods or separators, which naturally counts for more at this time of the year.

Hence the great mistake of putting off the purchase of a New De Laval Cream Separator in summer, whether you already have a poor machtne or none at all, and every dairy farmer should keep in mind not only that a De Laval will pay for itseff in a few months but may, if desired, be bought on such liberal terms as to actually save its own cost while being paid for.

Every claim thus made is subject to easy demonstration, and every De Laval local agent is glad of the opportunity to prove these claims to you in your own dairy, without cost or obligation on your part.

Why not see the nearest De Laval Agent at once ?
If you do not know him, write to the nearest office for catlaogue or any desired information

THE DE LAVAL COMPANY, Ltd.

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50,000 Branches and Local Agencies the World Over

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Lightning Rods

Are scientifically the nearest approach to absolute protection that has ever been devised. Their form gives them 36% greater electrical carrying capacity than old style round cable of the same weight and number of strands—putting them in a class by themselves and making them much easier to sell. There is no competition for Shinn-Flat.

Lightning Can't Strike if Shinn Gets There First

We want good dealers who are interested in a specialty line that sells readily and affords a good margin of profit. Every property owner is a prospect. Ask us how we help you get started.

Shinn Mfg. Co. of Canada, Limited
Prof. W. H. Day, Secretary and General Manager
Manufacturers of Shinn-Flat Lightning Rods
"The Kind That Carry a Cash Bond"
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GENUINE DIAMONDS
CASH or CREDIT
Terms: 20% Down and $1-$2-$3 Weekly.
We trust any Honest Person
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You may enter at any time, because we have no summer vacation. We have no hot summer weather. One of the Principals always in attendance. Up-to-date courses of training same as in winter.

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POULTRY.

EGG LAYING CONTESTS

(Record of Performance AA)

Dominion Experimental Farms.

Announcement.

The Dominion Experimental Farm will conduct a second series of Egg Laying Contests beginning November 1, 1920, to continue for 52 consecutive weeks. The names and locations of the Contests will be as follows:

Canadian Contest.

Canadian Egg Laying Contest, Experimental Farm, Ottawa, Ont.

Provincial Contests

Prince Edward Island Egg Laying Contest, Experimental Station, Charlottetown, P. E. I.

Nova Scotia Federal Egg Laying Contest, Experimental Farm, Nappan, N. S.

New Brunswick Egg Laying Contest, Experimental Station, Fredericton, N. B.

Quebec Egg Laying Contest, Experimental Station, Cap Rouge, Que.

Ontario Egg Laying Contest, Experimental Farm, Ottawa, Ont.

Manitoba Egg Laying Contest, Experimental Farm, Brandon, Man.

Saskatchewan Egg Laying Contest, Experimental Farm, Indian Head, Sask.

Alberta Egg Laying Contest, Experimental Station, Lethbridge, Alta.

British Columbia Egg Laying Content, Experimental Farm, Agassiz, B. C.

NOTE:—The "Canadian" is open to entries from anywhere, the "Provincial" is confined to entries within the Province in which it is situated.

FEES.—The entry fee for the Canadian Egg Laying Contest at Ottawa is $15.00. The entry fee for all Provincial Contests is $5.00. One-fifth of the entry fee must accompany the application which must be received before August 15th. The balance must be paid upon notification of acceptance of the entry, which will be by September 30th. Should the entry not be accepted, the first payment will be refunded, but should the balance of the entry fee not be received by October 10th, the application will be cancelled and the first payment forfeited. Failure to forward the pen when instructed automatically forfeits the fee and the application is cancelled. All cheques or Money Orders must be made payable at par in Ottawa and made out to the "Accountant for Egg Laying Contest".

ENTRIES.—Entry forms and Rules and Regulations will be supplied upon application to the Dominion Poultry Husbandman, Central Experimental Farm, Ottawa, or the Superintenlent of the Experimental Farm upon which the Contest you wish to enter is conducted. (See names of Contests above.) Entries must be made direct to the Contest you wish to enter along with the first payment before August 15, 1920.

Rules and Regulations

1. **Number.** Each entry or pen shall consist of ten birds of a standard variety and each bird must be typical of the breed and free from standard disqualifications.

2. **Substitution.** Each contestant will be allowed to keep his pen of 10 birds up to strength throughout the contest. In the Canadian Contest two reserves intended as substitutes must accompany the original birds and will be housed with them in the pen. The 10 birds for the original pen must be specified before the contest begins. Further substitution will be allowed as deaths occur. In the Provincial Contests substitutes will be accepted when deaths occur.

3. **Acceptance of Entries.** As the accommodation at each contest is limited the acceptance of the pens will be influenced by:

1—Whether the entrant breeds the pen entered or not.
2—The number of birds of the same strain kept by the owner.
3—The Inspector's report of the flock.
4—The time of application.

4. **Inspection** Pens for which application have been received will be inspected between August 15th and September 30th, and those that may be among diseased flocks or in unsanitary conditions will be rejected, and those that do not promise to be mature or those that may mature too early may be rejected.

5. **Declaration of Health**—Each entry of a pen, and each additional entry of a male or female, must be accompanied by a declaration stating that the birds or bird come from a flock that has not been affected with chicken-pox or tuberculosis for at least three months previous.

6. **Banding.**—The birds may be banded by the owner with his own bands before shipment, but will be rebanded with sealed contest bands upon arrivel at the contest and the contest and the original bands removed. The contest numbers corresponding to owners numbers will be supplied him.

7. **Delivery.**—The birds must be delivered at the contest when notified by the management, express prepaid. This will be from the 15th to the end of October. Address the shipping crate plainly with the address of the contest as given in the announcement, and on each crate put your own ad-

SALESMAN

Of ability and good local connections—preferably a tailor or clothing man

Can Earn Big Money

selling Men's Made-to-Measure Clothes in his locality. Style, quality and value of garments known from Ocean to Ocean. Address—in first instance—with full information to P. O. Box 105, Montreal. 1

You've Got to be Warm to be Happy

A COLD HOUSE is more than disagreeable. It is miserable. There is no relief. Warm Air—the simplest and least costly of all heating systems, is the best for cleanliness, health and comfort. Stoves and base-burners throw their dust all over the house and only heat parts of it. They heat the same air over and over again. The Enterprise Blazer combines heating and ventilation and it furnishes the moisture your lungs must have. The

ENTERPRISE BLAZER WARM AIR FURNACE

is a comfort that you owe to yourself and your family—to your pocket-book, too—for it is a money-saver on the coal. After thirty-five years of furnace building, it is the most economical furnace we know how to make.

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Furnaces look alike—but they differ. Talk the matter over with your dealer and write us for our free booklet on the subject—"Warmth and Comfort". It will give you a lot of useful information.

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Limited
SACKVILLE, N. B. 23

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dress which must be the same as the address under which the application was made.

8. **Rejection.**—The management reserves the right to refuse any entries, to reject or return to the owner, or destroy birds suffering from contagious or infectious disease, or are in any way unsuitable for the contest, to clip the wings of any bird that may be troublesome, to reject all birds that show impurity of breeding or standard disqualifications, and to return to the owner pens from which eggs have not been received by December 15th.

9. **Breeding.**—The owner will be allowed to send after February 15th, a suitable male to mate with his pen, and all eggs from a mated pen from March 1st to May 1st will be shipped to the owner or to any other single address which the owner may designate. The eggs will be shipped once a week in bulk and only to the one address throughout the two months. All eggs collected that are not cracked or broken will be included in these shipments. As the mating of the pens is optional, it will be noted that in cost of production awards, a proportionate reduction of feed will be made in the pens having a male bird.

10. **Price.**—Eggs so shipped will be charged for at ten cents an egg and will be shipped, express collect. A bill will accompany each shipment which must be paid and the empty package returned before the next shipment will be forwarded.

11. **Feeding and Housing.**—The birds while in the contest will receive the best of feed and care, and the system of feeding will be mixed grain in litter morning and evening, and dry mash in a hopper before them all the time. Green feed, grit, shell and beef scrap or green bone will also be supplied. They will be kept in houses having glass and cotton fronts.

12. **Eggs Counted.**—The contest shall be decided by the total number of marketable eggs laid by each pen. Exceedingly bad shaped eggs, soft shelled eggs or eggs weighing less than 20 ounces to the dozen will not be given official credit.

13. **Disposal of Eggs.**—All eggs laid during the contest become the property of the Department of Agriculture, and those not shipped as breeding eggs will be sold at market prices.

14. **Reports.**—A report of the trap-nest weekly record of each bird and weekly and total record of each pen will be issued at the close of each week. Copies of this report along with a monthly summary will be sent to each Contestant and to all papers that will publish them.

15. **The Return of the Birds.**—If no notification as to the return of the birds has been received by October 1, 1921, the birds on the completion of the contest will be sent by express collect, to the owner's address from which the shipment was made. Should any of the pens not be laying towards the close of the contest, and not likely to lay before the end, they will be returned earlier so as to make room for birds entering for the next contest.

16. **Sale or Transfer.**—No recognition of sale or transfer of birds during the Contest will be made, nor shall any entry be withdrawn during the contest, except for reasons stated above.

17. **Record of Performance.**—All birds in the contests not otherwise disqualified and whose eggs average 24 ounces to the dozen, that in 52 consecutive weeks lay 150 eggs, will receive certificate of Record of Performance AA, and those that lay 225 eggs will receive certificates of Advanced Record of Performance AA.

18. **Responsibility.**—While every precaution will be taken, neither the management nor any official of the contest will be held responsible should loss occur.

19. **Final Decision.**—In all cases, the decision of the management shall be final.

Get ready to save the Fruits

Outdoors the fruits are ripening today. The Strawberries are blushing in the meadow, and soon the Raspberries will appear, then the Cherries white and red, and after that the plumper fruits, Plums, Pears, Peaches.

But tomorrow the winter comes, and how your folks will miss the fresh fruits of summer's plenty. So decide NOW to make the most of the season's fruit crop. Think what a shelf full of luscious preserves, jams and jellies will mean when canned fruits and manufactured preserves become almost prohibitive.

Do your next winter's marketing now. Provide yourself in time with jars, rings, glasses, utensils. But, above all, do your preserving so that it *cannot spoil*. Cook all your fruit with LANTIC PURE CANE SUGAR, Nature's great heat and energy food. Have everything at hand as the various fruits ripen in your own garden or orchard, or when they are plentiful and cheapest in the market.

FREE—The Lantic Library, *the most complete collection of recipes for sweets ever published. A book on economical preserves, jams, jellies and marmalade. A book on cakes and candies. A book on desserts of all kinds. Sent FREE for a RED BALL Trade-mark cut from bag or top panel of carton.*

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2 and 5 lb. Cartons - 10, 20 and 100 lb. bags

LANTIC is not only the best sugar for preserving, but the most ECONOMICAL on account of its high sweetening power and "FINE" granulation, which dissolves at once in the hot syrup. Get LANTIC SUGAR in original packages in the size best suited to your needs.

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IT HAS NO EQUAL
For the Human Body —It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.
We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.
A Perfectly Safe and Reliable Remedy for Sore Throat Chest Cold Backache Neuralgia Sprains Strains Lumbago Diphtheria Sore Lungs Rheumatism and all Stiff Joints
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Jornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER
Price $1.75 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.
The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

KIND OF HAY HORSES REQUIRE—IT IS THEIR STAPLE FOOD.

Just in the same way that a poor quality of gasoline will reduce the efficiency of an engine, so does a poor quality of hay affect the well being of the horse and reduce his fitness for work. As hay is the staple food of the horse every farmer should make himself thoroughly acquainted at sight with the good and bad qualities of that article. It is imperative that he should make himself conversant with the various points upon which the quality and value of hay depends.

The word hay, when mentioned in the horses's ration, is often a wide term, and its general quality is as varied as the number of farms on which it is made. To get the most out of the horse and at the same time keep him in fit condition for endurance to come again when required, hay of the best quality must be provided. Haymaking is an art that directly affects the horse industry and therefore as such, greatly affects the condition of the horse even where the same care and management is exercisd with prvailing different qualities of hay.

Horses Fed to Meet the Strain.

It is nearing the season when the hay crop will command attention, and those who are careful of the health of their horses during the whole year should be prepared to save its feeding value by adopting proper methods in curing it. For the feeding of all live stock around the farm it is necesary to exercise economy in preserving the nutritive quality of grasses and clovers in hay, but for horses it is more necessary. Their digestive organs are not arranged to utilize a bulky ation of fibrous forage. It is freely stated by observant men that food, nevt to inheritance, is the most potent factor in the improvemen of the horse, but it is equally true that food and its use not infrequently overpower inheritance. The well bred animal cannot fulfill all that its inheritance fits it to accomplish unless it is so fed to meet the strain and exertion of its duties. Injudicious feeding or feeding with a poor quality of hay may prevent the animal from accomplishing its legitimate and desired end. Other things being equal, real efficiency is more likely to accompany superior and judicious nourishment rather than inferior nourishment. Food plays an important part, not only in growth and development, but in efficiency and amount of work done by the horse.

Hay That is Unfit for Horses to Eat.

There is so much difference in the quality and feeding value of hay that it becomes of first importance to the horse, for the farmer to exercise foresight and judgment in its making. As many as thirty different grasses may be found in hay and only a small number of them go to make good hay. Inferior hay may consist of inferior grasses or superior grasses badly cured.

The herbage that grows on poor soil is often luxuriantly tempting in bulk for the farme to include it in the hay crop in a short hay season. But coarse rank stuff that comes from poor soil maks hay of non-nutritious and of small feeding value. This variety of hay is entirely unsuitaole for horses. It is made up with a class of grasses that horses will not eat even in the growing stage, and if forced to eat them as hay they prove positively dangerous to their health. It is only sheer hunger and want that will make them eat hay made from the coarse grass of water meadows, or run-out weedy pastures.

Again, the value of hay is influenced by the time it is cut. This value also refers to the best class of grasses or clovers, for their nutritive value is rapidly lost when cutting is delayed. To be careful in the seeding in choosing the best varieties of clover and gras seeds is not all that is required to produce good hay feed for horses. In a year when the hay crop is a poor one, farmers are tempted to allow it to stand uncut long after it should have been in the mow, in the hope of getting greater bulk.

The greater part of the nourishment of all crops passes into the seeds and is exhausted in their production. The feeding value of straw is comparatively small because the greater part of the nutriment properties has passed into the grains of wheat, oats, or other varieties of grain allowed to ripen; the same principle applies to grass. If, therefore, grass is cut after the seeds are formed and have fallen out—as they immediately do when ripe—the most nutritious part of the crop is lost, and all that is left for the horse o eat is that potrion which has been robbed of its most valuable constituents.

Hay That is Positively Dangerous to Horses.

A source of considerable evil to horses is mouldy and dusty hay. This condition often arises from the manner in which hay is cured after being cut. The so-called dust is in reality the outer layers, or coats, of the stems that have all gone to small pieces because of over drying in the field. In any case dust in hay is an indication that the hay is not in the finest condition. Dusty hay is unfit to use as food for horses, as it tends to indigestion and broken wind. Mouldy hay is caused by the hay heating in the mow throguh the crop being harvested in too green or too damp a state. This quality of hay is apt to act deleteriously on the kidneys of horses if given to them in any quantity.

The characteristics of the best hay are crispness and green color with the great proportion of the grasses in flower and the other just coming to the floweing stage. New

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Fifty-four years in the Harness business is assurance that our goods are right. We manufacture the strongest and best looking harness it is possible to make and we figure our prices as low as they can be sold for. Ask your dealer for Imperial Brand Harness, made by Samuel Trees & Co. He will recommend it. If your dealer does not handle Imperial Brand, write us direct for prices on any style of our guaranteed Harness.
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give your horse Dr. J. Woodbury's Horse Liniment internally—and at the same time, build up the general health and digestion of the horse, with Dr. J. Woodbury's Condition Powders.
Colic in a horse comes from the same cause as colic in a baby—acute Indigestion.
These remedies tone up the stomach, regulate the bowels and kidneys, help the digestion and soon put the animal in the best possible condition.
Dr. J. WOODBURY'S
Horse Liniment and Condition Powders
used whenever an animal is troubled with Cough, Cold, Distemper, Glanders, Splint, Curb, Spavin, Cracked Hoof Enlargement, Cut, Sore, Bunch, Fever, these two reliable remedies will give prompt relief and change the sick, lame animal into a vigorous, healthy one.
Keep these standard preparations always in your stable in case of sickness or accident.
Sold by Druggists and General Stores
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For Heaves, Coughs, Worms, give to your horses the best possible remedy
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Recommended by Veterinary surgeons to fortify and give endurance to race horses as well as to high priced pleasure and draught horses.
On Sale Everywhere. DR. ED. MORIN & CO., Limited, Quebec, Canada. 3

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30 Head
Stallions & Mares
FOR SALE
Come to Grenville and buy the kind with the big, round feet, clean, hardy, dry bone and joints, sloping pasterns and straight, flashy action. Buy the kind with the sloping shoulders, short back and long, level croup. Buy the modern Percheron or Belgian.
Our prices are very reasonable, and we will give up to three years time, to responsible parties.
All stallions government inspected.
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COLIC

International Colic Remedy should be in every farmer's stables. Guaranteed to cure in ten minutes. Thousands of testimonials from people who have used it successfully. Colic kills more horses than all other diseases combined. A bottle of our Colic Remedy on hand is the cheapest insurance you can buy. $1.00 in regular drenching bottle, ready for instant use, from your dealer.

International Stock Food Company Ltd.
Toronto 5

HORSE AILMENTS

of many kinds
quickly remedied with

DOUGLAS'

EGYPTIAN LINIMENT

The best all-round liniment for the stable as well as for household use. Cures thrush, sprains, bruises. STOPS BLEEDING INSTANTLY AND PREVENTS BLOOD POISONING. Keep it handy.

Price 35c.
At all Dealers and Druggists.

Manufactured only by
DOUGLAS & CO., NAPANEE, Ont.

hay should be fed very sparingly to horses. With firms that use horses for hard work in cities, new hay of the season is never used before Christmas. It is apt to cause scouring, and for race horses, well saved hay is at its best when one or two years old. When older than this it loses much of its feeding qualities. Good clover hay is fattening, and in every way suitable for draft horses, but has not been found so well adapted for the fast race horse. Hay is worthless as a feed to any class of stock if not thoroughly cured, and to horses it is positively dangerous.—Otaawa Valley Journal.

IRREGULARITIES OF GAIT.

(By Dr. G. H. Conn, in Farmer's Advocate)

General Observations.—There can be no doubt in our mind since inspecting several thousand horses in the large markets of the U. S., but that irregularity in gait is more often overlooked than any other feature of our work horse. A small pecentage of draft horses have a very good gait, but there is a large percent. that is hardly passable. Too many people are content to overlook a poor gaited stallion or mare, if they happen to have a good body conformation.

Too much stress cannot be brought to bear upon the importance of breeding draft horses to insure a good open, active trotting gait. In buying horses for the British army, their officers paid particular attention to the gait of the horses that they bought, often over-looking other defects if the animal was well gaited. They are to be commended for this foresight, for the use of the large number of horses in our army during the last war has taught us lessons that should be profitable to our breeds, as it brought out the type of the utility draft horse. Army work is in itself much different from farm work, as it often makes necessary fast work and at times irregular feeding periods. At times extreme speed is required for some little time and this requires that the horse be very active and well gaited.

Causes of Falty Gait.—Irregular or faulty gait in the horse may be caused from faulty conformation of the feet and legs, or from bad shoeing. Many such cases are the result o lack of attention to the feet during the colt days. Not enough attention is paid to growing colts' feet. They should be kept well trimmed and level at all times. Most of the defects in gait that are due to the neglect of the feet during the colthood days, could and should be prevented.

Indications of Irregular Gait.—Many of the irregularities of the gait can be foretold from the conformation of the animals legs; thus a "base-narrow" or "rugger-heeled" horse will often interfere. A hose that is "based-wide" or "pigeon-toed" will usually paddle when he trots. The one that stands with the points of the backs very close together, will often forge when trotting.

Gaits of a Work Horse.—There are really but two gaits of the average work horse, and they ae the trot and the walk. Of course they are sometimes used at the gallop or at the running gait, but the trot and the walk is a slow four-beat and should be executed with snap and vigor and should by breeders be considered the most useful gait of the draft horse, for it is the only one at which he can be worked with the greatest degree of satisfaction. The trot is a more rapid two-beat gait in which the diagonal front and hind legs act together. It is possible by close attention to the conformation of the feet and legs of draft horses to breed animals with more style and speed at the walk, and with an asy open active trotting gait.

Interfering.—Is the singeing of the fetlock of the supporting leg with the foot of the striding leg, and occurs with about the same regularity in the front and hind legs.

Forging.—Is the striking of the bottom of the front foot or the shoe of the front foot wih the toe of the hind foot on the corresponding side. It occurs during trotting mainly.

Scalping.—Is the sinking of the hind foot at about the top of the hoof or at the junction of the skin with the hoof, on the ends of (or the heels) of the shoes of the corresponding front foot. This gait occurs only at the trot, and occurs just after the foot has left the ground. If it occurred later in the stride it would be "forging."

Over-Reaching.—Is a defect of the trotting gait in which the hind foot is brought forward before the front one has left the ground, and it strikes the front foot in the region of the heel, but may strike the leg anywhere from the heel to the knee in some animals, but the usual location is the heel. Not a common fault in drafters but sometimes seen.

Paddling.—Is an outward swinging of the leg in the direction of travel and occurs in "toe-narrow" or "pigeon-toed" horses. Very unsightly and common in heavy drafters .

Rolling.—Occurs in horses that are very wide between the front legs and consists in excessive side motion of the shoulders, and is more often noticed at the trot. Very unsightly and also quite common.

Pounding.—Is an irregularity of the trotting gait that is quite often seen in drafters; it consists of a very short, snappy step, with extreme flexion of the knees, and a bringing down of the feet with considerable force.

Winging.—Is very similar to "paddling" only more exaggerataed due to the fact that it is usually associated with considerable action or flexion of the knees.

Winding.—Is the placing of the striding leg around and in front of the supporting leg, much the same as rope walkers do when walking the rope. The tracks made by this gait are almost in a straight line.

Working the draft horse at a trot should de discouraged as much as possible, but there are some classes of horses that must be worked at a faster gait, and that is the reason that we feel that horses should be bred with the idea of improving both of the natural gaits, the walk and the thot. This can be accomplished by carefully selecting animals with the desirable conformation of feet and legs and then properly caring for the colts' feet during their growing period.

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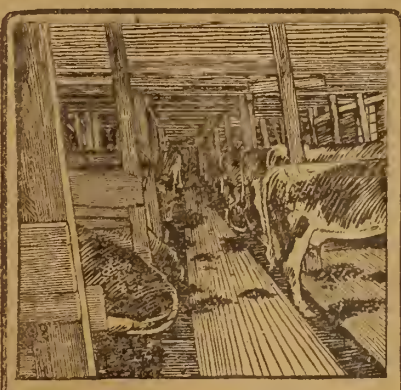

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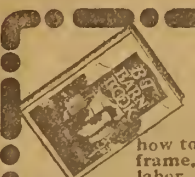

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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Shbjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N. B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

When you are so devoted to doing what is right that you press straight on to that end, and disregard what others are saying about you, there is the triumph of moral courage.

—Philip Brooks.

INHERITANCE OF PIGS.

Lucile kept under the shelter and as close to the buildings as she could to avoid the drizzle and puddles formed by dripping over and between awnings. Close to the wall were occasional dry spots.

But it was not to keep her shoes dry. They had been soaked in the morning and remained soaked all day. Now the bottoms seemed to be giving way and she feared more water might cause them to drop out entirely. The shoes had been purchased only two weeks before, very cheap, to be in harmony with the margin over the month's board, and the soles had proved to be paper instead of leather.

At the corner she sneezed, and within the next block she sneezed again, two or three times. She thought of the wet feet, of the 20 cents in her pocket. But she could not afford a cold. She went into a drug store and exchanged the 20 cents for a dozen five-grain aspirin tablets.

"Hello, Luce," called a girl at a side table. "Come on over and have some soda. Bob's setting 'em up."

"No, thank you. My feet are wet and I must hurry home to dry out."

"Aw, come on. What's wet feet when there's free soda?"

But Lucile hurried out. All were strangers to her except the speaker, who was a remnant girl at her own counter.

Passing through a bright glare in the next block, she recognized several of her shopmates just entering a cheap movie. They were accompanied by flashily dressed men and were talking loudly. One was a girl who worked at the next counter. Her feet had been wet all day and her clothes, too, for she had complained of being caught in a hard shower. Now she was going to a movie before making a change. Lucile could hear her cough punctuating the loud talk and laughter.

How cheap it all was and how pitiful! It was so different from what she had pictured the wonderful city. When an acquaintance had written she had felt the world opening at her feet. That was less than a year ago. The awakening had been rapid. And yet she never once thought of returning to the few rocky acres on the mountain side, where her father and mother had existed and finally died of work and lack of nourishment. Back there would mean greater hardships and slow starvation. As a girl she had gathered and sold wild things for a meagre education, and worked some for an uncle to get clothes money. The uncle owned a better farm—good enough indeed to afford a sort of living. Besides he had paid his taxes, while she could not get enough offered for the involved home place to pay her fare to the city. She had earned that by working for her uncle.

The first thing on reaching her room was to turn up the wick of a little oil stove and touch it with a lighted match. Then she turned the flame down to slower consumption of money-costing oil, fished from under the bed shoes that were beyond outside wear and exchanged them for her wet ones and placed a wire-legged pan of water-covered cereal on the stove as a promise for supper. Then happening to glance toward the door, she noticed two white squares that had been thrust under it.

The first letter brought a little flush to her face. In the city year she had been to three dances, the first as an awkward beginner, essaying a few steps with a messenger boy who had openly laughed at her. Albert Yost had introduced himself at the second and monopolized her company because no one else asked for it. Albert was a country boy, working in the basement shipping room of a crockery store, lonely and homesick and already loathing the unfriendly city. He told it so simply and with such droll pathos that Lucile's heart was warmed towards him. The third time he had called for her and again monopolized her company because he was the only one who wanted it.

The letter was from him and read:

"Dance at the Academy hall next Saturday. Will you go with me? Let me know. I'm dead tired of the cheap old city and you're the only thing in it that reminds me of country flowers and running brooks. Maybe it's because you like to talk about them. Please.

"ALBERT."

Lucile glanced at the bulging soles of the shoes she had placed on edge near the wire legged pan to dry out, and sighed. She had a conviction that the first shuffle would scatter the paper frouds over the dancing floor. If only it was a Saturday later her pay envelope would intervene, and she could buy a new pair. She must refuse, and couldn't explain the reason why.

The other letter opened her eyes wider and caused her to ignore the danger signal of the cereal, from which the water had evaporated. The letter was from a girl friend. It ran:

Hello, Lucille! I'm rsuhing this off to get the news to you before anybody else. My Uncle Ben's the lawyer here, you know, and I happened to be over there and heard him mention the will to Aunt Charity. Then I just flew. Uncle Ben is likely to write to you this evening or tomorrow, as he has charge.

"But there! I'm forgetting to tell what I'm telling. Your Uncle Caleb died, and ordered that noboby should come to his funeral. He hated folks, he said, and didn't want them looking at him. And, oh, Lucile, he left the farm and pigs to you. He told Uncle Ben that you were the only one of his kin who dared to look straight into his face and speak out, and he liked you for it. And pigs! You've no idea! You've no idea! They squeal from end to end of the farm, 40 or more big ones and over 200 little ones! Just think! Your uncle thought that Hoover in the paper is the greatest thing ever, and lived up to it. He scraped up what money he could, and sold horses and things, and bought pigs. He kept back $100 to help carry through feeding them, and had sheds and sheds of corn and small potatoes for what Uncle Ben calls stock feed. And the squealers are all yours, Lucile. Wouldn't I just like to see you with a drum major's baton marching ahead of them all.

"Of course you couldn't come back to this poky desolation to live, but of course you will come back to sell off the pigs. Just think! It will set you up so you can leave forever that awful store—at the Hoover conservation pig price, you know. And it will give me a chance to see you, and to talk with you about the enchanted city. Oh, that my people were so poor that they would let me go away to earn a living. Then I'd join you."

Lucile's dreams that night were a jumble of shoe soles and Alberts and pigs. They were fighting in trenches, with bursting shells keeping them in whirling leap frog motion. Once her eyes popped open and the bursting shells simplified to a violent sneezing. Half awake her hand groped out to a chair that held a glass of water and a pill box, and she swallowed two more tablets. But with the closing of her eyes the leap frog chorus went on.

In the morning she lingered half an hour about her breakfast until the first mail came, but it brought no confirmatory letter from the lawyer. At the store, however, she found a sharp reprimand, with an intimation that a repetition of such tardiness would lose her the job.

But when she came back to her room at night the letter was on the floor under the door. She snatched it up quickly. If her friend was right she would give up her job, go down and sell the pigs, and then—what? She had lost her illusions about the city, but could she live back there, even on her uncle's farm? It was six miles from her friend who wrote the letter, and half that from the nearest neighbor. Could she stand it? Could she—a girl—go there and make a living, even with pigs? Or, for that matter, wouldn't she need a lot of help to take care of the pigs, and where would the money come from to pay them? And then, there was Albert Yost.

Suddenly her face changed, for the last part of the first paragraph read: "Only on condition that the said Lucile Speers comes to the farm and takes care of the pigs herself, or overlook its being done. This for her own good, for she is by rights a country girl and not a city one. And the farm is not to be sold or rented."

As she read her mind settled things rapidly. Of course, she must accept the farm. There was no other way. But wtih the decision came a curious relief, and even exultation. No more drudgery. No more paper soles and aspirin. She would wear clodhoppers—anything—for back there they would not be critical like in the city. The department owed her a week's wages. She would draw that, deducting a pair of new shoes, strong ones. Her cheap watch would sell or pawn for two or three dollars and her oil stove for half price. Yes, she could go back. If—if—only——.

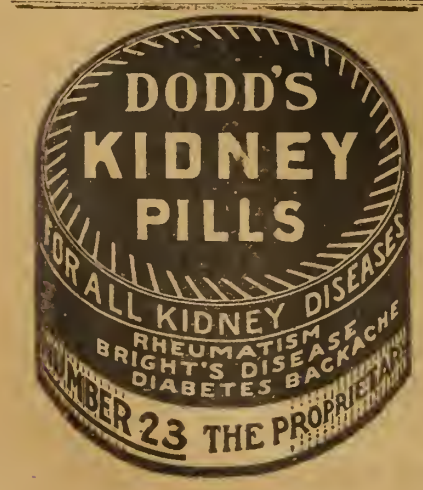
It was as though it were a question which he answered promptly. The rap was imperative and the response to her "Come in" impetus.

"I got your note, Lucile, and—— and it knolked me so I understand at once how it was with us—with me, I mean. Will you marry me right off? There's that little afrm you spoke of, swamped with taxes. I've got $80 saved up—not enough to buy everything, of course, but maybe we can fix up to hire till I can work the taxes clear. Will you, dear, right off?"

"Do you like pipgs?" she asked inconsequently.

"Yes—that is, I don't know from practice. I used to run a milk wagon for a dairy farm. But I like anything that's farm and country, pigs and all. We'll buy one, and——"

"Oh, I mean dozens, hundreds"—spreading out her arms—"but it's all right. Yes, I'll maryy you, right off, for we must start to the farm in the morning. Now you can walk with me to the department sore while I draw my wages and buy a pair of shoes."



McClary's

Make good stoves and Cooking utensils.

ANNUAL CONVENTION OF THE WOMEN'S INSTITUTE OF N. S.

(Continued from page 743)

At the close of the afternoon session the delegates were invited to a garden party given by Dr. and Mrs. Cummings on the beautiful grounds surrounding their residence. A bountiful and delicious tea was served and a delightful social hour was enjoyed, which added greatly to the pleasure of the visitors.

Wednesday, 7.30 p. m.

The Wednesday evening session opened by community singing conducted by Mr. H. A. Wellard, A.R.C.M., in which all the delegataes joined most heartily. Mr. Wellard prefaced the demonstration with a few remarks on the benefits of music and the influence it asserts in our lives. "We cannot all sing like Caruso," said the speaker, "but singing is not for the few; we can all use the voice we have in the best way we know how." We should choose the best in music; we demand the best in other things, why not in music? He commented on the way the National Anthem is so often sung and said it should be sung as the National Anthem of a live nation, not as a funeral dirge.

Dr. Cumming, the chairman of the evening, then introduced Dr. B. Franklyn Royer, director of the Massachusetts-Halifax Health Commission. Dr. Cumming explained the aims of the commission ,telling of the wonderful assistance given by the State of Massachusetts to Halifax in her time of need. Of the large sums of money given about $70,000 had been left and it was the wise expenditure of this money of which Dr. Royer now had charge. This fund had shown in a tangible way the bond of international friendship which exists between the United States and Canada.

Dr. Royer then explained to the audience the work which is being carried on in Halifax. With the conclusion of the armistice and the end of Red Cross activities there was found much to be done in the salvaging of wasted lives. With the money now available by the surplus in their favor it was planned to start a campaign of preventative measures, by spending a great deal of time in seeking the cause of and constantly watching for symptoms of disease. Great strides have been made in Paris in this direction since the close of the war. Two health centres are planned, one to be located in Halifax and the other in Dartmouth. The campaign will be started with the exppectant mother soon after conception and close supervision will be given until birth and will continue until the child reaches school age. It is in this period that the development of the child should receive close attention. The nurses in these centres will discover the causes of any defects before the untrained mother can realize the trouble, and will know if this is the result of wrong diet or what ever the cause. In connection with such a health centre there will be a clinic which will largely be a campaign of education in the home. There are defects in regard to the lack of fresh air, bad diet and the faulty methods of living in general, which must be corrected. Tuberculosis, too, is a problem in the province and all should be taught the proper methods to resist this insidious germ.

In the city of Halifax a suitable building will be at hand where the Women's Institute and Local Council of Women will organize to teach classes of young married women how to cook: so many young girls are entering married life without this knowledge. On the grounds will be established a camp for children in which they may spend a day and get a good square meal. One centre will be near the Dalhousie University and will enable the medical students attending that institution to get the proper home touch in preventitive measures and the cause of disease under local conditions. Dr. Hattie, the very efficient health officer of the province, is to organize a health clinic in each county. The County Council will bear part of the expense and the Red Cross came to the rescue and offered to place one health nurse in every county.

Dr. Hattie is planning a pre-natal clinic in every county. Hants, Pictou and Yarmouth counties have already one of these clinics under way. Dr. Royer told of the wonderful travelling clinic being established throughout the province by the Red Cross. This clinic will consist of a travelling caravan equipped with all modern appiances for combating disease. Health talks, illustrated by moving pictures of wonderful educational value, will call attention to wrong methods of living. Each caravan will be out six weeks, and a public health nurse will be stationed in each centre.

After this interesting address, Miss Jean Creelman, of Truro, entertained the audience with a delightful reading, which was splendidly rendered and heartily encored.

No Baby No Nation.

Dr. Helen MacMurchy, Chief Child Welfare Department, Ottawa, was next intorduced by Prof. Cummings. Dr. MacMurchy is one of the foremost women of Canada, a real friend of the children and herself largely responsible for the fine system of health supervision and fedical inspection in Ontario. "No finer selection," said Prof. Cumming, "could have been made by Canada in placing her at the head of this new department."

Dr. MacMurchy said that there was no audience that she would rather come before than that of the Wowemn's Institutes, they are the salt of the earth. Their community work is almost unestimable in value. They know the needs of the community and are able to meet them. There is room in national service for all, with ample scope for everyone's work. Speaking of this new department in the government, Dr. MacMurchy said there had always been a board or department of health but this particular department had been asked for just immdiately after Confederation and they had gone on asking until at last in 1919 it had been given them.

For many years they had been working for this in England. Edward Chadwick, a wonderful man who had made vital statistics his life work there, said that we ought to get at the very cause of things.

At last in 1918 they had secured their department, for the establishment of which fourteen departments had to be displanted. England is the greatest nation in the wolrd, in sanitary science as well as in war.

In Canada only seven departments had to be displanted. Immigration, medical inspection of immigrants, opium and drugs, patent medicines, housing and other departments of government all had to be re-arrarnged and properly welded into one Child Welfare Department.

Canada does not know enough about her children; she knows not the number that she has, nor the number that die in infancy; she does not know if we need to worry over the the child labor question, but must find out.

It was at first thought that there were not many mentally defective children until that department was organized. England has her registration system—the United States, too, but not long enough to have counted her children.

What Canada knows of her children is not very satisfactory. Doctors count children by the one, two or three thousand born. During the year, in Canada, hardly a city saved more than 900, some cities lost two and one city five out of every one hundred born. These are poor records. In London, England, at the last record, all but 91 out of one thousand were saved. New York's record is almost as good. New Zealand has lowered her child mortality to 38 per thousand. How did they do it? By knowledge, hard work, and the Grace of God. Get it before yourself that this good record can be attained in Canada.

Dr. MacMurchy said one cause of the great infant mortality was the artificial feeding of children. The greatest insurance on a baby's life was the nursing of the baby by the mother. Nurse the baby within the first 24 hours. Do not wait too long, for the baby soon seems to lose the vitality with which it is born. In the four years and three months of the war, 60,000 men were lost from Canada. In the same period infant mortality under one year was 70,000.

These statistics helped largely in establishing the department of which she is chief. Although you may not have these figures at your finger ends, Sir Robert Borden and those at the head of affairs have and they know the need for a drastic move to better conditions. The birth rate in Canada is not satisfactory, except in wise, sagacious, Quebec. No baby, no nation.

Then, too many mothers are being lost in Canada, the Child Welfare Department and the Women's Department are par eminent. This department has been established to remind the nation of the supreme value of the child and she would, too, remind them of the supreme value of home life.

All present listened with rapt attention to Dr. MacMurchy, who so ably handled her subject.

Meeting adjourned with the singing of the National Anthem.

Thursday, 10 A. M.

The Thursday morning meeting opened with the supervisor in the chair. Miss McDougall briefly referred to Dr. MacMurphy's excellent address of the previous evening and the splendid tribute she had paid to the Women's Institutes.

The report of the nominating committee was given by Mrs. Hamilton. The following were recommended as convenors of standing committees to work with convenors of national executive:

Agriculture—Mrs. DeWolfe, Truro; Home Economic—Mrs. Collins, Port Williams; Education—Mrs. L. A. Moore, North Sydney; Health—Mrs. Lovitt, Bear River; Publishing—Mrs. Geo. A. MacIntosh, Oxford; Legislation—Mrs. Wallace, West Gore; Finance—Miss Annie Stuart, Grand Pre.

Miss Stuart explained the responsibility Nova Scotia will have to assume in regard to the financial committee of which she is now convenor. No organization can be managed without funds, and it will be incumbent on the members of the Women's Institute to help bear the expenses of the Federation. Miss Stuart thought that perhaps a set sum would be voted by each institute.

Miss McDougall here explained that the Federation is not financed by the governments although they had received some support from them. The initial entrance fee, $100, had been paid by the government of Nova Scotia, also the expenses of Miss Stuart and herself to the recent convention in Toronto. Some of the other provinces had refused to assist to this extent. The Dominion Minister of Agriculture was approached by a committee to ask for a Dominion grant, to be used as a reserve fund. The committee was received cordially and promised support in this measure.

The expenses connected with the work of the Federation are numerous. Expenses are incident to the work of the publishing committee, the paying of a stenographer for the president and the carrying on of the work plan throughout the provinces in the interest of the institutes along such lines as lectures and talks on Institute Technique.

Dr. Patterson has offered a splendid manuscript giving instructions and talks on Personal Hygiene and First Aid. This book is invaluable and the offer a generous one, but it will take money to publish this pamphlet, which will be another form of well merited expense.

Each province will be asked to raise a sum in accordance with the financial strength of the province. Each province has been allowed equal representation and therefore can not afford to refuse to bear a share of the expense.

Miss Stuart chose the following members to work with her on the financial committee and devise the best way of raising Nova Scotia's share of the funds: Mrs. Ogilvy, Glace Bay; Mrs. Balcom, Northtown; Mrs. Meisener, Brigdewater;; Miss McDonald, St. Andrews; Mrs. Salus, Port Maitland.

Miss Fraser suggested the institutes be taxed according to membership, which seemed the fairest way of assessment. Miss Stuart said she $300 would be a fair share for Nova Scotia.

Miss McDougall, speaking of the work of the publicity committee, urged the institutes to keep her supplied regularly with news to send out. An official organ of their own was at first talked of by the Federation, but at present the cost of operating it is considered to be prohibitive.

The Nova Scotia Institutes have never officially adopted an organ, although they had sent news items to several magazines. The Canadian Home Journal will at present print the news of the Federal Institutes.

Miss McDougall then read a mess-

(Continued on page 760)

LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid. and put you in touch with women in Canada who will gladly tell what my method has done for them.

A MESSAGE TO WOMEN!!

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.

Mrs. M. Summers, Box 309 Windsor, Ont.

MINARD'S LINIMENT

King of Pain

The old reliable remedy for Rheumatism and Neuralgia, Sore Throat, Sprains, Strains, Swelling of any sort and Bruises

RELIEVED THE PAIN

Miss Ruth Tarkington, 12 Trafalgar St., St Thomas, Ont. "My grandmother was subject to rheumatism and used to call me from my playmates to go to the druggists to get Minard's Liniment. I was often unwilling and declared I hated that old stuff, but I soon found out how good it was. I got neuralgia. Grandma came with the Liniment and applied it to my head and I was very much surprised to feel how quickly it relieved the pain."

Minard's Liniment Company
Limited

YARMOUTH NOVA SCOTIA

Kidneys Were Bad After The "Flu"

Sat Up to Turn in Bed.

That awful epidemic, the Spanish influenza, that swept Canada from one end to the other a short time ago, left in its wake a great many bad after effects. In some cases it was a weakened heart, in others shattered nerves, but in a great many cases weak kidneys have been left as a legacy.

Where the kidneys have been left weak as an after effect of the "Flu," Doan's Kidney Pills will prove to be just the remedy you require to strengthen them.

Mrs. Harvey D. Wile, Lake Pleasant, N.S., writes:—"Last winter I was taken sick with the "Flu," and when I did get better I found that my kidneys were very bad, and at night I had to sit up to turn around in bed. I used Doan's Kidney Pills, and found that they did me a wonderful amount of good. I also recommend them to my husband, and he started in to use them. I will always recommend them to anyone who is bothered with kidney trouble, for they are wonders."

Doan's Kidney Pills are 50c. a box at all dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

See that our trade mark, a "Maple Leaf," appears on the box.

CANNING STRAWBERRIES AND CHERRIES.

Strawberries are such a delicate fruit that their successful preseva-tion always offers difficulties. They consist of more than ninety per cent. water; their covering is very thin and easily boken; from their position close to the ground they are literally covered with bacteria, which quickly enter any break in the skin and cause decay; and withal the flavor is so delicate and the fruit so tasteless and uninviting once the flavor is lost that the task of canning is never easy.

Nevertheless, careful selection and intelligent handling enable the house-wife to retain in the canned pro-duct the bright red color, the unusual shape, and the delicate flavor that make the fresh fruit so attractive. For canning purposes only straw-berries that are large, firm, and slight-ly underripe should be chosen. Then it is important that the fruit be handl-ed carefully so as not to break the skin. The berries should be washed by gently lifting them in and out of water. Finally, it is necessary that strawberries be canned very soon af-ter picking; the best results are se-cured only if the fruit is in the jars within two hours after leaving the vine.

The selection of large, firm berries slightly underripe is not so expensive as it at first seems. Of course the first cost is greater; but well-chosen berries can so much better that the final cost per jar is less than if cheap-er and pooer fruit is selected.

It need hadly be said that such a delicate fruit as the strawberry can-not retain its natural color, shape and flavor if boiled; but if great care is used, they may actually be preserved without the addition of any heat what-ever. Most housewives will find it easier and more satisfactory to use the syrup method. This method not only insures the preservation of the fuit in all its natural delicacy, but also makes the labor of canning much less than if the boiling method were used.

In spite of all care, it will always happen that there is more or less small and overripe fruit. Though this should never be canned, it need not be thrown away. It can be used very successfully for both jams and mar-malades. Often, too, it can be used in combination with other fruits with real economy. Rhubarb is usually much cheaper than strawberries; and as a small amount of strawberries flavors a large amount of rhubarb, the combination is often advant-ageous. Likewise even the best strawbrries can be combined econo-mically with higher priced pineapple; a very little pineapple juice gives a decided pineapple flavor to a con-siderable quantity of strawberries.

In many respects cherries are very different from strawberries. While strawberries are often allowed to be-comeoverripe, cherries are usually picked long too soon. At best they contain too much acid to have the best flavor; but if the fruit is allow-ed to remain on the trees two or three or even four weeks after it is originally picked, the amount of acid materially decreases. At the same time there is a great gain in sugar, and in addition the fruit becomes larger and juicier.

Cherries are also unlike strawber-ries in their qualities. Even if very ripe they remain in good condition fo twenty-four or thirty-six hours af-ter picking. This allows ample time to can them without undue haste.

Like strawberries, cherries should be heated as little as possible, in the process of preservation. However, the reason is different. Heating pro-duces in cherries a very strong and disagreeable flavor by bringing about chemical changes in thei composition.

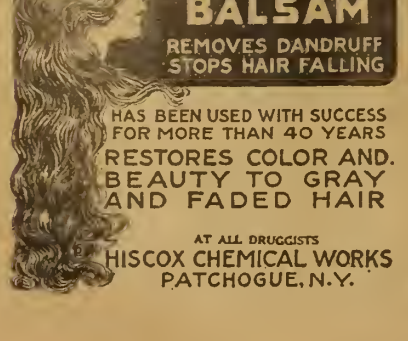
The problem of pitting is trouble-some in preserving cherries. Some women solve it by leaving the stones in. This is an easy solution, but the pits cause trouble when the fruit is served. It must be said, however, that they give the fruit a peculiar spicy flavor that most people like very much. In no case should the cherries be seeded by hand; seeders are so cheap and so ffectiv in these days that no woman can afford to use the old hand method.

Following are exact directions for preserving strawberries and cherries in a vaiety of ways:

Canned Strawebrries (Syrup Meth-od)—Select firm slightly underripe berries; reject absolutely all overripe and soft fruit. Wash the berries by gently lifting them in and out of wa-ter. Do not allow them o stand in wa-ter even for a few minutes, as this quickly causes softening. Stem the berries and drop them at once into jars that have been sterilized by boil-ing for twenty minutes. FHl the jars as full as possible without crushing the fruit; gentle shaking causes suf-ficient settling. Put a new rubber on one jar, stand it in a clean plate to catch all overflow, fill the jar to over-flowing with a heavy boiling syrup made by boiling together for twenty minutes equal amounts of sugar and water, and seal the jar at once with-out first wiping off the overflow syrup. Proceed likewise with the oth-jars; when all are sealed they may be washed off with a moist cloth and wiped dry.

Preserved Strawberries — Prepare the berries as for canning. Place two quarts in a wide-bottomed preserving kettle and cover them with one and one-half quarts of sugar. Place the kettle over a slow fire. Do not stir the berries to prevent burning, but shake the kettle ferquently as if pop-ping corn. Gradually the sugar dis-solves and the liquid covers the fruit. As soon as this happens, increase the heat enough to produce boiling and continue the boiling slowly for fifteen minutes. Put a new rubber on a jar, stand it in a clean plate, fill it to overflowing with the boiling berries and syrup, and seal it at once. Pro-ceed likewise with the other jars. Strawberries heated thus, scorch very easily, so it is necessary to watch the

Clean to handle. Sold by all Drug-gists, Grocers and General Stores.



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JULY 6-16, 1920

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Superintendent Women's Institute,
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I am a woman.

What I have suffered is a far better guide than any MAN'S experience gained second-haud.

I know your need for sympathy and health.

And the treatment that gave me health and strength, new interest iu life, I want to pass ou to you, that you, too, may enjoy the priceless boon of health.

Are you unhappy, unfit for your duties? Write aud tell me how you feel and I will send you ten days' FREE trial of a home treatmeut to meet your individual needs, together with references to women in Canada who have passed through your troubles and regained health; or you can secure this FREE treatment for your daughter, sister or mother.

If you suffer from pain in the head, back, or bowels, feeling of weight aud dragging down sensations, falling or displacement of internal organs, bladder irritation with fre-quent urination, obstinate constipation or piles, pain in the sides regularly or irregu-larly, bloating, dyspepsia, extreme nervous-ness, depressed spirits, melancholy, desire to cry, fear of something evil about to happen, creeping feeling up the spine, pal-pitation, hot flashes, weariness, sallow com-plexion, with dark circles under the eyes, pain in the left breast or a general feeling that llfe is not worth living, I invite you to send to-day for my complete ten days' treat-ment entirely free and postpaid, to prove to yourself that these ailments can be easily and surely overcome at your own home. without the expense of hospital treatment, or the dangers of an operation. Women every-where are escaping the surgeon's knife by knowing of my simple method of home treatment, and when you have been bene-fited, my sister, I shall only ask you to pass the good word along to some other sufferer. My home treatment is for all,—young or old.

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Read My FREE Offer.

To Mothers of Daughters. I will explain a simple home treatment which speedily and effectually dispels green-sickness (chlorosis). irregularities, headaches and lassitude in young women, and restores them to plump-ness and health Tell me if you are worried about your daughter. Remember it costs you nothing to give my method of home treat-ment a complete ten days trial, and if you wish to continue, it costs only a few cents a week to do so, and it does not inter-fere with one's daily work. Is health worth asking for? Write for the free treatment suited to your needs, and I will send it in plain wrapper by return mail. Cut out this offer, mark the places that tell your feelings, and return to me. Write and ask for the free treatment to-day, as you may not see this offer again. Address:

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Don't think of OLIVEINE EMULSION solely as a medicine for Heavy Colds, and Deep-seated Coughs. It is more than this. It is the best tonic you can take to purify the blood, give you an appetite, improve the digestion, make flesh, and renew your vigor and vitality.

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is the ideal spring tonic for the whole family: for pale, thin children as well as for men and women who are tired, worn-out and all run-down.

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9

fire carefully, a large-bottomed kettle to secure success, but the excellence of the preserves justifies the extra pains.

Preserved Strawberries — (Boiling Method)—Prepare the berries and a heavy syrup as for canning. While the syrup is boiling rapidly, drop in large, firm berries until the syrup is thick with them, but not crowded. Lower the heat somewhat and continue the boiling slowly for fifteen minutes, or until the berries are a rich red color and the syrup is thick. Put a new rubber on a jar, stand it on a plate, fill it to overflowing with berries and syrup, and seal it at once. Proceed likewise with the otber jars. This method cannot be used with a large amount of berries at one time; usually two quarts is the limit.

Sweet Pickled Strawberries—Prepare two quarts of berries as for canning. Add two cupfuls of sugar and slowiy heat the mixture to the boiling point. Add half a pint of vinegar and continue the boiling ten minutes. Then keep the berries over a slow fire, but below the boiling point, for an hour. Place the berries in jars and boil syrup until it thickens. Put new rubbers in place, fill the jars to overflowing with the boiling syrup, and seal them at once.

Strawberry Marmalade—Marmalade affords the best means of utilizing small and overripe strawberries that are free from decay. Wash the berries quickly, stem them, place them in a peserving kettle, crush them, and add three-fourths as much sugar as there is crushed fruit. Boil the mixture over a slow fire for twenty minutes, stirring it often enough to preventvent scorching. Seal the marmalade in jars.

Strawberry and Gooseberry Marmalade—Use any proportion of the two fruits. Crush the gooseberries, cook them until they are tender, and remove the skins by running the fruit through a fruit press. Measure the pulp and juice, add an equal amount of sugar, and bring the mixture to a boil. Crush the strawberries, add half as much sugar, and bring the mixture to a boil. Mix the gooseberries and strawberries, boil the combination slowly for twenty minutes, pour the marmalade into jelly glasses, and cover it with melted paraffin.

Canned Cherries—(Syrup Method)—This is the easiest and best method for canning cherries. Wash the fruit carefully, remove the seeds, and drop the fruit at once into jars that have been sterilized by boiling for twenty minutes. Pack the cherries into the jars closely. Put a new rubber on one jar, fill it to overflowing with a heavy boiling syrup, and seal it at once. Proceed in the same manner with the other jars.

Canned Cherries—(Steaming Method)—This method requires more time and labor than the syrup method, and the canned product is seldom as good; yet some women prefer it. Wash and seed the cherries, place them in jars, and shake them down carefully. Put the covers in place loosely without the rubbers, set the jars in a wash boiler on a false bottom of cloth or shingles, surround them with a few inches of warm water, put the cover in place, and boil the water until the cherries are heated through. Then remove a jar, put a new rubber in place, fill the jar to overflowing with a heavy boiling syrup, and seal it at once. Proceed in the same manner with the other jars.

Preserved Cherries With Currants—Mix together four quarts of seeded cheries, one quart of stemmed currents, and five quarts of sugar. When the sugar dissolves, cook the mixture slowly for half an hour. Pour the preserves into jelly glasses and cover them with melter paraffin.

Preserved Cherries—Put two quarts of seeded cherries into a wide-bottomed granite pan with three pints of sugar, and proceed as per directions for preserved strawberries. Howevee, let the mixtue simmer slowly for twenty minutes instead of fifteen. Cherries preserved thus have an attractive bright red color and a very mild flavor.

Sun-Peserved Cherries—Place the washed and seeded cherries in the preserving kettle with an equal amount of granulated sugar and proceed as per directions for sun preserved strawberries.

Pickled Cherries — Select cherries with an inch of stem attached and place them in jars with alternate layers of powdered sugar until the jars are three-fourth full. Then fiill the jars with cold spiced vinegar and seal them at once.

Pickled Cherries — (Non-heating Method)—Wash and seed perfect cherries and then weigh them. Place them in a stone jar, cover them with vinegar, and let them stand over night. In the morning drain off all the vinegar and add to the cherries as many pounds of seeded fruit. Stir this mixture frequently until the sugar dissolves; this requires about three days. When the process is complete, pour the fruit and syrup into jars that have been sterilized by boiling in water for twenty minutes and seal them at once.

Cherry and Pineapple Marmalade—Wash, drain, and seed the cherries, and run them through a meat grinder. Much of the juice is lost in this process; but long continued cooking makes the flavor strong, and removing part of the juice remedies this in part. Peal and slice the pineapple and run it through the meat grinder. Mix with the ground cherries a fourth to a third as much ground pineapple Place the mixture on the fire, add two-thirds as much sugar, and cook the whole slowly until it becomes thick (almost constant stirring is necessary to prevent burning). Pour the marmalade into jelly glasses and cover it with melted paraffin. The flavor of this marmalade is almost as good if a considerably smaller proportion of pineapple is used.

Sun Preserved Strawberries—Select large, firm berrise, wash them carefully, place them in a ganite preserving kettle with an equal amount of granulated sugar, heat the mixture until it boils, and continue the boiling for five minutes. Then place the berries in platters so as to have a single layer. Set the platters outdoors in the sunshine and leave them all day (it is necessary, of course, to protect the fruit from insects and dirt by using netting or by some other device). Remove the platters to the house at night, but replace them in the sunshine next day. Continue the sunning until the berries are of the consistency of jam. The put the preserves in jelly glasses and cover them with melted paraffin. It is some trouble to preserve strawberries in this way, but the flavor of the product is so exceptionally pleasing that the result is worth the effort.

Found Relief When Doctors Had Failed

MANITOBA WOMAN PRAISES DODD'S KIDNEY PILLS.

Mrs. Murmylo Says to All Who Suffer From Bladder Trouble: "Try a Box of Dodd's Kidney Pills."

Brokenhead, Man., July 4—(Special.)—Strong in her praise of Dodd's Kidney Pills is Mrs. Mary Murmylo, a well known and esteemed resident of this place. And Mrs. Murmylo gives her reasons.

"Two years ago I suffered from bladder trouble," she says. "I tried all kinds of medicines and two doctors in Winnipeg. All the doctors and medicines failed to help me.

"I turned to Dodd's Kidney Pills and used eight boxes of them and found them satisfactory. I give every praise to Dodd's Kidney Pills, and to any person suffering from bladder trouble I say, 'Try a box of Dodd's Kidney Pills.'"

Dodd's Kdiney Pills act directly on the kidneys. By putting them in condition to do their full work they relieve bladder troubles and send pure blood and good health coursing to all parts of the body.

Ask your neighbors if Dodd's Kidney Pills do not relieve kidney ills and those diseases that spring from sick kidneys.

SELF CONTROL.

Did you ever add comfort and happiness to your lot by trying to get even with the fellow that you thought had treated you in an unfair way? Of course you have because that seems to be a part of human nature. But did you ever stop to think that nothing is gained by being mean just because you think that someone has been mean to you? The minute that you forget yourself and think that you are getting even by returning the unkind act or word, then you are placing yourself upon the same level with your supposed enemy. And no matter what he has done, any act or word upon your part cannot remove the damage if done in a spirit of revenge. This is true whether you think so or not and revenue for an unkind act or word always harms you.

No one has ever gained anything by repeating the gossip which he is bound to hear about others. Repetition usually means addition of untruths and the first thing that you know things are being said which hurt the charactre and reputation of some one. It isn't fair to yourself nor to the other fellow. It does neither of you one bti of good.

You may think that it makes you feel good for the time being. But does it? Think it over. Go back to some case in which you were involved and ask yourself if you received any comfort for your rash act. I think you will agree with me that it didn't get you anywhere, but, on the other hand, you made yourself very unhappy. It is a pretty good rule, old though it ma be, not to say antyhing about the other fellow unless it is something good. There is no better wa to gain the confidence and friendship of others than to follow this rule. People learn to love and respect that person who is ever thoughtful of the other fellow.

No one can be eminently successful who is continually fault finding and seeking revenge. It means time taken from the very things which should be receiving attention in order to be successful. There never has been a really big man or woman who was considered a gossip. Trouble makers are rarely successful and the minute you form the habit of trying to harm the other fellow, you become a trouble maker. It's a bad habit and we should all attempt to keep from forming it.

Head Ached So Bad

HAD TO GO TO BED.

When the liver becomes sluggish and inactive it does not manufacture enough bile to thoroughly act on the bowels and carry off the waste matter from the system, hence the bowels become clogged up, the bile gets into the blood, constipation sets in and is followed by sick and bilious headaches, water brash, heartburn, floating specks before the eyes, and painful internal, bleeding or protruding piles.

Milburn's Laxa-Liver Pills regulate the flow of bile so that it acts properly on the bowels, and stirs the sluggish liver into activity.

Mrs. E. Bainbridge, Amherst, N.B., writes:—"I take pleasure in writing you of the good I received by using Milburn's Laxa-Liver Pills for headache. I was so bad I had to go to bed, and could not sit up. A friend told me about your wonderful medicine, and two vials have made me as well as I can be."

Milburn's Laxa-Liver Pills are 25c. a vial at all dealers, or mailed direct on receipt of price, by The T. Milburn Co., Limited, Toronto, Ont.

GOOD HOME-MALE SOAP.

To make homemade laundry soap, dissolve one can of lye in three pints of rainwater. Add two ounces of borax and a half cupful of ammonia. Take two and two-thirds quarts of grease and heat until likewarm.

When the lye liquid gets lukewarm pour gradually into the warm grease, stirring for about 10 minutes. Use an old dishpan to put it in. When cold, cut squares and pack in an old stone jar. This makes from twenty-two to twenty-five good sized cakes. For best results in the laundry shave it up fine in a dishpanful of cold water and bring to boiling point, then add to the clothes in the washer as needed. The borax and ammonia are great cleansing agents, and our clothes are beautifully clean and sweet when washed with the soap.

RELIEF AT LAST

I want to help you if you are suffering from bleeding, itching, blind or protruding Piles. I can tell you how, in your own home and without anyone's assistance, you can apply the best of all treatments.

PILES TREATED AT HOME

I promise to send you a FREE trial of the new absorption treatment, and references from your own locality if you will but write and ask. I assure you of immediate relief. Send no money, but tell others of this offer.
Address

MRS. M. SUMMERS, Box 309
Windsor, Ont.

ANNUAL CONVENTION OF THE WOMEN'S INSTITUTES OF N. S.

(Continued from page 757)

age from the Duchess of Devonshire, their patroness, expressing interest in the convention and wishing it every success. A message from Judge Murphy was also read, extending greetings from the Federal Institutes, and another from Mrs. Muldrew, who sent best wishes for a most successful convention.

Problems of The Rural Schools.

Mr. L. A. DeWolfe, Director of Rural Science for the province, addressed the meeting in a general way on the problems of the rural schools.

The Rural Science Buleltin was shown and explained to be free to all who desire it.

Mr. DeWolfe spoke of the bill recently before the House re women being eligible for trustees on the school boards, only rate payers are allowed at the present time. This bill was turned down and the excuse given was that the women had not asked for it. The proposition had been framed by Hon. Mr. Wickwire, of Kings. He told this so that they might go after it next year by interviewing their local members and see that they get the right to vote at the board. Mr. DeWolfe then explained the work in which he is engaged. The school life of the children is being made more interesting and they are being taught that which will help them in after life, such as a knowledge of cooking, gardening and practical work with literature for reference. The children were taught to make gardens—not only the growing of vegetables but flowers to please the eye and a pride in making their school grounds prettier is instilled in them.

There is more to education than that which is learned from the text books of the schools. Education has been said by some one to be "that which you get after you have forgotten all you have learned." If the teacher teaches that disease germs are carried it must be seen that these hygiene lessons are carried out in practice. This will condemn and do away with the open drinking bucket and common cup.

If the need of fresh air is taught, see that they get it and not be cooped up in ill-ventilated rooms. These things must be followed up.

The institutes can be of great help to the teachers. If the teacher is not conpetent of teaching the rudiments of cooking or sewing, let some good cook in the section or some woman handy with the needle come in and give this instruction. The equipment may be donated.

Have a doctor come in and talk on the care of the eyes and teeth. This instruction coming from the doctor, the children will take greater interest. Let some man, with a knowledge of carpentry, teach the boys the use of common tools, and do not use sme old, worn-out saw but see that proper tools are provided.

The Women's Institutes should express the intelligent opinion of the section. Talk over matters with the teacher, see that the children are taught promptnes and punctuality.

The institutes may provide pictures for the walls, soap, towels, hot lunches or introduce a library corner in the school room.

Mr. DeWolfe also told of the good work that is being done in the remote districts by the travelling teachers Upper North Sydney has sent in a letter highly commending that effort. tion.

After the reading of a few extracts from one of his bulletins by Mr. DeWolfe, the meeting adjourned.

Thursday, 2.30 P. M.

The report of the finance committee was read by Miss Stuart, asking the Institutes to pay $300 into the Federation fund and asking authority to present this matter to the various institutes and raise this money by allotment.

This report was moved by Miss Schafheitlin, Canning, seconded by Mrs. McQuarrie, and carried unanimously.

The supervisor then reported the sum of $10 raised by the subscription list for the Austrian relief.

Soldier Settlement.

Miss Campbell, of Ottawa, then addressed the meeting on the subject of the Soldiers' Settlement Board. Mrs. Muldrew, who was to have taken this subject, being unable to be present.

Miss Campbell was thoroughly conversant with her subject and explained in a very full manner the workings of the board—how when the period of reconstruction was first considered it was realized that many of the returning soldiers would never be able to take up the work in which they had been engaged before the war, and so the government determined to make it easy for those who wished to go on the land. To that end money is loaned to returned men wishing to buy a farm at the low rate of 5 per cent. with a period of 25 years in which to pay this back. Money is also loaned for equipment, payable in 6 years. The man chooses the land, submits his plans to the government and his claim is investigated. If married it is necessary to obtain the wife's consent to settle there or he is not allowed to take it up. Many are willing of course to do so, but many are not used to farm life and it was to help these soldiers and their wives that the Home Board was established, with Mrs. Muldrew as director, Miss Campbell as assistant, and soon there will also be district directors.

In no two district in Canada can the work be carried on alike as the local conditions, in the different parts, must be considered. It is therefore the work of this branch to go into the homes and find their needs, and work directly in a manner best suited to the most pressing demands.

In some places it is found that the greatest work lies in saving the mothers and babies. Mrs. Muldrew got in touch with the Victorian Order of Nurses, also the Red Cross, and received generous aid from them. The Red Cross in Saskatchewan made the splendid offer of financing nurses for this work for a period of two years if a suitable building was put up. The medical profession was also helping greatly in this work.

In some cases it was found that just a little more community spirit was needed more than anything else. There are so many English brides in the west who just long for the sight of some one from their own home land and who are lonesome and unhappy. The Red Cross was applied to for help in the holding of a convention of soldiers' wives. They gladly gave them transportation and the universities took up the entire cost of instruction. The members of Local Council of Women received them as guests in their own homes; some of the women could not leave their babies, so they were told to bring them, too. Seventy-two mothers and 22 babies attended. There they met friends and made lasting friendships. A happy time was enjoyed by all and their lives were brightened wonderfully besides the courses were of inestimable value to them in their new life, as many of them knew nothing of working under rural conditions. These courses were put on just before the spring work, and were repeated in many places in the west. Personal work is the aim of this branch and they are meeting with cordial treatment on the whole.

District directors are soon to be appointed in New Brunswick and Nova Scotia. Very little has been done in the east as yet, except in Prince Edward Island. The first courses have been put on there, where they had the hearty support of the Rotary Club and other organizations and received free tickets for all of the delegates from the managers of the moving picture houses good for the entire six weeks of their stay.

There are over 400 of these settlers in Nova Scotia where it is hoped to begin work soon and the Women's Institutes will probably be called on for ors for Nova Scotia. They, already, have five in British Columbia, four in Alberta, one in Ontario, one in Prince Edward Island, one in New Brunswick, and one in Quebec. These directors work closely with the immigration officials. They will instruct in pre-natal care, seek out expectant mothers and give help, teach sewing, the making of layettes, canning, and many other branches of work.

Miss Campbell closed her remarks by wishing the Women's Institutes all possible success and thanked them for the help which they had rendered one of their soldiers in Alma.

Children's Aid.

Mr. E. H. Blois, Supt. Children's Aid, Halifax, then adressed the meeting. The Children's Aid Society is an incorporated body with definite objects to work for. Their work is of a special character—they are caring for 2,000 children altogether with 1,000 actual wards. The first aim is to prevent cruelty and although it is probably not generally known, there have been 100 cases in the province of Nova Scotia in the last seven years since this society has been formed. They removed the children from these evil homes, where, in some cases, conditions were almost unbelievable. In some cases a warning followed up by repeated visits was sufficient. Then there are the run-away boys and girls who they look after, for many are leaving home at the age of 13 and 14 years.

There is also the orphan class of children, many of whom were left so by the flu and also a large number soldiers' chidren.

Much time is taken up listening to family quarrels and in many cases a little advise is successful in keeping the home together, but in other cases this is not always wise.

Mr. Blois said although public opinion was to the contrary, the worst conditions were found in the rural districts. The lowest morals and degrading conditions are without dispute there. They gave help to young girls, their belief being to give all a fighting chance.

The Aid Society found foster homes for many children, also boarding homes.

Then there is a branch for the delinquent children who have committed some offense against the law—usually theft. A large number of

(Continued on page 764)

Minard's Liniment Co., Limited.

Dear Sirs,—This fall I got thrown on a fence and hurt my chest very bad, so I could not work and it hurt me to breathe. I tried all kinds of Liniments and they did me no good.

One bottle of MINARD'S LINIMENT, warmed on flannels and applied on my breast, cured me completely.

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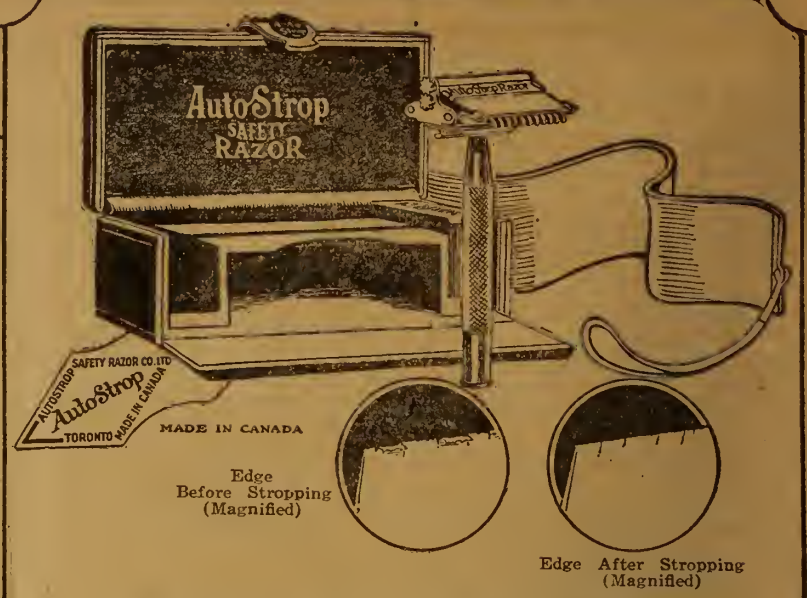
Rossway, Digby Co., N. S.



ALL safety razors seem alike because of the similarity in size and appearance. As regards the AutoStrop Razor, however, the resemblance ends there. Its peculiar and additional advantage is that, without being larger than any other safety razor, it combines within itself a self-stropping feature that enables the user to keep the blade sharp without taking anything apart. It thus prevents dull blades and the expense of buying new ones.

You may not be interested in economy of blades, but surely you want a good shave and that is only possible with a stropped blade.

Any dealer will demonstrate the AutoStrop Razor to you, guarantee satisfaction, or refund of purchase price. Only $5.00—complete with strop and twelve blades in an attractive assortment of cases.

AutoStrop Safety Razor Co., Limited
AutoStrop Building, Toronto, Canada

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AutoStrop Razor
—sharpens itself

NO fabric serves Madame as often, as effectively and as cheaply as cotton. No cottons are better—price for price, or cheaper, quality for quality—than "PRUE COTTONS."

The ultimate choice of the Prudent housewife

Ask your retailer

Dominion Textile Company,
Limited
MONTREAL, TORONTO
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14

METHODS OF GROWING TOMATOES.

(Experimental Farms Note)

Tomatoes should be kept growing from the time the seed germinates until the fruit is ripe. If sown in the hod-bed very early they are likely to receive an injurious check when held back until it is safe to plant them out. When the seed is sown about the middle of April the seedlings are ready to prick out into flats about the 10th of May and should be ready to set out immediately after the early June frost, which usually occurs in Prince Edward Island the first week in June.

They are ready to prick out into the flats when they have the third leaf. In setting them out they should be planted so that the first leaves are about level with the ground. A little clay may be mounded around them to protect them from the wind.

Any good garden soil is suitable for tomatoes. It is usually best to delay manuring the plants until after the first fruit has set. Most amateurs make the mistake of planting in soil that is too rich in nitrogen manure which produces great vines with late fruit or a very large percentage of green fruit. Once the fruit has set, then liquid or other forms of manure may be applied generously.

A series of experiments were conducted with two varieties, "Bonny Best" and "Sparks Earliana," for several years at the Charlottetown Experimental Station, to determine the best method of growing tomatoes. Five methods were used with each variety as follows:

No. 1. The plants were set four feet apart each way and the plants allowed to spread over the ground. They were unpruned and left lying on the ground.

No. 2. Planted two feet by four feet apart. The tomatoes were pruned to two stems and tied to wires.

No. 3. Planted two feet by four feet apart. The tomato plants were pruned to one stem and tied to stakes.

No. 4. Planted two feet by four feet apart, pruned to one stem and tied to wires.

No. 5. Planted two feet by four feet, pruned to one stem, tied to takes and one-half of the foliage removed during the pruning period.

The first method produced the greatest quantity of fruit each year with both varieties. The tomatoes were later ripening than with the other methods and the total quantity of ripe fruit from the plot was less than on the plot grown by the second method, where the plants were pruned to two stems and fastened up with wires. The second method gave the largest returns of ripe fruit. This was closely followed by method No. 3, which produced the most early ripe fuit though not the greatest total quantity. The removal of the foliage in method No. 5 decreased the quantity of both ripe and green fruit, but greatly increased the percentage of ripe fruit on the plants.

Large quantities of tomatoes can be produced by planting four feet apart each way with the least amount of labor. A good percentage of ripe fruit can be obtained if the plants are not supplied with nitrogenous manures until after the tomatoes have set. The method that was most successful in producing ripe fruit early in the season was that of tying the plants to stakes placed two feet apart in the rows.—J. A. Clark, Superintendent, Experimental Farm, Charlottetown, P. E. I.

MANGEL GROWING.

(Experimental Farms Note.)

The growing of mangels has received a great impetus in many districts owing to the serious loss among turnips, caused by club-root. The mangel is attacked by very few insects or diseases, and when successfully grown produces immense yields of suoculent food, so necessary for live stock during the winter and spring months.

Sound fresh plump seed should be secured and large quantities of the very best home grown seed are now on the market. The mangel requires planty of moisture and should be planted in good well tilled land early in the season. It works in very well with the following five year rotation: Barley or mixed grain, mangels, grain seeded down with clover and grasses, hay, pasture. About one-half of the manure (12½ tons) is applied to the barley stubble and plowed under in the antumn the balance (12½ tons) is worked into the land as soon as it is fit to work in the spring. When the land has been worked so that it is mellow and fragile it is thrown up into low drills 30 inches apart and the tops of these dragged off with a pole or fence rail. The seed is then sown about 1½ inches deep, at from 4 to 6 lbs. per acre, according to the quality of seed. The "Planet Jr." cultivator and seeder is a very satisfactory implement for this work. This is followed by a heavy roller firming the earth about the seed so that it may get sufficient moisture for germination. During a dry period it is well to seed in the evening so that the earth may remain damp about the seed for a longer time. The most important point in getting a good catch is to have the seed deep enough, so that it will not dry out, and to have the soil pressed firmly about the seed. It pays to take extra time and trouble to put the seed in right even if it is necessary to make a trench with a hoe for the seed and to cover and pack the earth down with the feet.

As soon as the plants are up in rows they should be edged with a hoe or hand cultivator. The latter will straddle the row and do both sides at once. The horse cultivator should then be run through the rows every week or after every heavy rain until the tops cover the ground. Thorough persistent cultivation will add greatly to the crop by conserving moisture and by desrtoying weeds. The plants should be thinned to about 10 inches apart in the rows by the time they get four leaves, and hoed a second time before the roots swell.

Mangels should be harvested before severe frosts occur. Thy should not be topped so close that they will bleed, and should be handled carefully if they are to be stored for a long period. They should reecive plenty of ventilation when in storage. The "Yellow Intermediate" is easily harvested. It is one of the best yielders and contains a large percntag of dry matter.—J. A. Clark, Superintendent, Dominion Experimental Farm, Charlottetown.

USE OF SEAWEEDS.

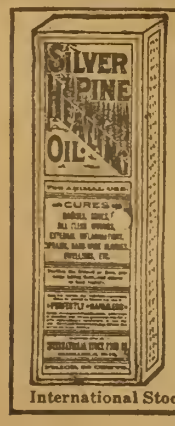
There are three types of seaweed used for fertilizers in the Maritime Provincs. The most common is known as eel-grass, and comes ashore in large quantities along the bays and rivers the others are rock-weed, which comes on shore along the seacoasts, and kelp, a large, coarse seaweed, that comes in from the deep sea.

A chemical analysis of sun-dried eel-grass gives it about the same fertilizing value as stable manure per ton. Those who have used it, however, for a unmber of years, know that it is not radily available as a plant food, and when ploughed under it often remains in the soil to be ploughed up again, with very little apparent change, seven or more years later. Eel-grass, when applied to the land for the first time, will usually greatly increase the crop. The salt present may be one of the factors in improving acid lands. It opens the soil for potatoes, and not only increases the crop, but acts as a preventative of some diseases, producing splendid, clean potatoes. It is most useful, however, when used in conjunction with barn-yard manure. It is a good absorbent when dry, and soaks up large quantities of liquid manure about a stable or barn-yard. It can be usefully added to a compost to increase the bulk and prevent the hotter manures from wasting.

The kelp and rock-weeds are mush more readily available, as they will rot when composted by themselves, and are valuable sea-manures, contain at certain seasons a considerable quantity of potash salts. They are used it as a mulch around trees in an ly, and greatly supplement other fertilizers.

The eel-grass is used a great deal as banking for buildings and root cellars, as it is a good non-conductor, and keeps out the frost. It is also now extensively used for upholstering, and when properly saved and cured is quite valuable. It is one of the best mulches for strawberry plantations, keeping down the weeds, and preventing the berries from coming in contact with the earth. Some have used ot as a mulch around trees in an orchard left in sod to keep down the grass.

Experiments have been conducted at the Charlottetown station with



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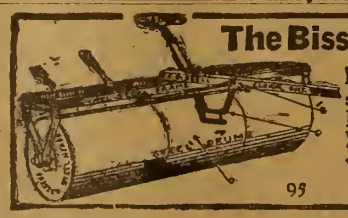

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both sun-dried eel-grass and the ground sea-weed fertilizer that was put up by the government at Clark's Harbor, N. S. The ground sea-weed fertilizer was also tested on ten other farms in Queen's county, under the supervision of the writer. On four farms increases were reported in the yield of potatoes; two farms showed a loss where the fertilizer was used, and four farms did not show any difference from the application except in the color of the foliage, which was darker.

The seaweeds are useful as absorbents about a barn-yard. They add to the bulk of manure about the farm, enabling a more even distribution to be made over a greater area each year. They are fairly rich in fertilizing constituents, which they give up slowly to the plants through several seasons.—J. A. Clark, Superintendent, Experimental Station, Charlottetown, P. E. I.

UNITED FRUIT COMPANIES HOLD IMPORTANT MEETING.

The United Fruit Companies of N. S. held their director's meeting on Saturday last at the office of the company at Kentville. It was a well attended gathering and was the most successful and harmonious gathering ever held in the history of the Central Company. The discussion over the financial statement of the year was given without adverse criticism of any kind and the directors were highly pleased with the success of the year's operations.

The financial report showed that the company had taken care of old potato claims and apple claims from 1918 to 1919 amounting to about $110,000 and had a good cash bank account and $5,260.00 paid-up capital and still had a balance in the profit and loss account of the year just closed of $22,[illegible]0.10.

The year turnover of business is an immense one and was reported as follows:

Turnover Season 1919-20.

Apple account	$1,695,118.19
Flour and feed	509,427.53
Fertilizer	192,964.58
Merchandise	47,197.87
Spray material	57,331.02
Seeds	57,393.58
Potato account	434,559.57
	$2,994,032.34

Gross Expenses

Advertising ....$	466.50
Board of Management .	1,322.15
Delegate expense	909.23
Office expense	6,491.57
London office	3,555.66
Organizaion expense ..	28.05
Salary account	11,600.39
Telephone, etc	3,588.41
Transportation	1,483.38
Havana office	4,438.36
Inspection	2,773.84
	$36,711.54
Percentage of expense	1.22

The directors took definite action at this meeting to provide means of disposing of the poor class of fruit so as to keep it off the export markets. The Board of Management were instructed to take measures for the erection of a canning factory and also a vinegar plant and also for the purchase of an exapporating fctory. Towards these different plants the board was authorized to spend a sum not to exceed $50,000.

This will be a most important move on the part of the Central Companies, and when arrangements are completed will dispose of a great quantity of fruit which otherwise might be forced on the markets.

UNITED FRUIT COMPANY MEETS.

The quarterly meeting of the Board of Directors of the United Fruit Company Limited, opened at Kentville, on Saturday, June 11th.

President Bishop was in the chair. The reports show that the affairs of the company are in excellent shape, there was a lengthy and enthusiastic discussion with reference to the establishment of canneries, as well as vinegar factories in the valley for the purpose of taking care of apples that are not strictly up to the Nova Scotia standard for shipment abroad. The Board of Directors unanimously adopted the proposition, and instructed General Manager A. E. McMahon to proceed accordingly.

Saturday night was a great night in Port Willliams, the occasion being the annual banquet of the Port William Fruit Company, Limited, which was attended by over seventy ladies and gentlemen. The president of the company, George Starr, made an ideal presiding officer, and delivered one of the best speeches ever heard in Temperance Hall.

T. L. Harvey, the European representative of the United Fruit Company in England, gave a very interesting talk on his experience in that market, as well as his views on the future of the Nova Scotia apple in Europe. Albert E. McMahon, the general manager of the United Fruit Company, Limited, made a splendid speech. Another excellent address was by Professor W. Saxby Blair, superintendent of the Experimental Farm and Mayor of Kentville. The affable professor is always a popular speaker, and was thoroughly enjoyed.

Clean a few more acres of rough ground.

A cream separator because it will bring greater profits.

An appreciation of the fact that hogs can be kept clean.

Consider every rat about the place an enemy.

Give the boys about the place enough genuine responsibility to make them love to remain there.

Keep all machinery under some sort of shed.

Nothing but best of stock after this.

Cement or concrete wherever it can be used.

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ANNUAL CONVENTION OF THE WOMEN'S INSTITUTES OF N. S.

(Continued from page 760)

these children throughout the province are on probation and are making good. All assistance possible is given them by the Aid to overcome environment conditions.

Another branch of the Society looks after the feeble minded child. This is a work in which the ladies must take a part. The Women's Institutes can help in the maintenance of this work. As the work affects every man, woman and child in the province, "you don't know where you may be hit; at any time one of these children may move into your neighborhood and menace your child." A few cases in a district are far more deadly than small-pox. The influence radiates and touches every home in the community.

The Institutes can help, if there is an Aid Society in their neighborhood, by joining it or by sending 50 cents per member to the General Society. Help by suggesthing foster homes for children or homes that will partly support one. Children are physically examined and no diseased children are sent.

Mr. Blois made it very clear, as Miss McDougall afterwards expressed it, that there was lots of work for all to do.

Mrs. Ogilvy expressed the opinion that some action should be taken by the convention on the prohibition question and a discussion followed. Mrs. Balcom thought the responsibility rested with the women.

Miss Stuart, when called upon, said she was much interested and thought the Women's Institutes could crystalize opinion by taking a stand.

Mrs. McQuarrie said the voting list should be looked after so that all names would be recorded.

Miss Fraser thought our hope was in the training of the future generation, although she would say for prohibition that it had helped the men who occasionally drank, but who having too much honor to break the law of the land, have cut it out.

Mrs. Hamilton was against the present provincial act.

Mrs. Balcom thought the paramount question was, "Are we going to allow Montreal to send all the liquor they choose into our provinces?"

Miss Stuart, speaking again, said prohibition must do some good. It has kept the liquor from those who are indifferent. Those who are drunkards will not be here long and those coming on will not follow in their foot-steps.

Miss McDougall brought the discussion to a close by saying that this is a matter that should be well discussed in the various institutes before the plebiscite comes to ascertain the voice of the different societies and then take action as a body and register their opinion.

Thursday Evening.

Miss McDougall presided at the Thursday evening sesison, which opened with community singing led by Mr. H. A. Wellard. Dr. C. S. McArthur, Truro, then gave an interesting address relating to the teeth.

Teeth: Their Importance and Care.

The Supervisor, he said, had written to the Dental Association for some one to address them and he had been asked to do so.

Primitive man existed for himself. The law of the jungle was the only one recognized. Sickness was virtually unoknown. He chose his home where he could most easily provide for his family. Contrast our modern civilization. We exist to combat disease, the resiult of this so-called civilization, and it is only by co-operating and mutually banding together that we can defend ourselves.

Of the three most widely spread diseases of the world, decayed teeth is one. Conditions primarily the cause of these diseases are unsanitary living condition, bad air, unsuitable food, etc. Steps are to be taken immediately by the Red Ceoss through the travelling clinics to remedy the primal cause of the disease.

We have it on the authority of Mayo Bros. and the late Dr. Osler that in the next decade the dentist will more than ever be looked to, to combat diseases. It is worth while to care for the teeth, especially the first teeth of the child. It must be remembered that a child has its whole first set of teeth, twenty in number, at the tge of two years. Any teeth afer that are permanent teeth. At 6, 12 and 18 the child cuts the first, second and third molars. The 6 year molars are the first permanent teeth and come in behind the temporary teeth.

The primary teeth should be shed naturally. At four years of age the end of the roots begin to absorb and it takes 3 years to complete this process when, the tooth is ready to be assistance. There will be two directshed. During this time as the nerve absorbs ,the permanent tooth comes down.

When a child looses these temporary teeth the tendency is that nature fill the space so that the permanent teeth have not proper room to come down, except in an irregular way. Every child with the first 20 teeth shoold be taken to a dentist regularly for examination.

Irregularity is not the worst result. Although, when once one tooth is out of place, that side of the jaw will be malposed.

The care of the teeth has proved to be worth while. The Canadians had the honor, during the recent war, of being te first nation to equip a dental corps. A man turned down on account of his teeth could be speedily put right. They were able to put 10 per cent. more fit men in the front line trenches as a result of this dental corps and consequent good mouth conditions. Fifty business concerns in the United States demand periodical dental treatment of their employees. Swift and Armours being two of the firms, who employ a dentist to look after this. This is a hard and fast business proposition.

In the Cleveland public school an experiment was made on two classes of fifty pupils. One class received dental attention, had no liquid allowed them with their food, and brushed their teeth regularly after each meal. The other class had no attention given their teeth. This was carried on for one eyar. At the end of that time they were examined in writing, arithmetic, spelling and other subjects. The class having their teeth cared for were 16½ points ahead of the other class and it was noticed that their deportment was also better. The children must be educated either through the teacher or dentist giving talks or by moving pictures.

Reports should be sent to the parents after examination advising them of the condition of the child's mouth. If cost figures here, these cases should be attended to by the municipality.

Truro has done this and patients accompanied by a nurse are received each month on certain days by the dentists.

We hear much of pyorrhea which is caused by an uncleanly mouth. Tartar, which a tooth brush will not remove, bad-fitting bridges and temporary teeth not fitting properly and allowing the food to collect underneath, are the cause. This can be cured but probably not to stay cured. The cause can be corrected by keeping the teeth in as good a condition as possible.

Public Health.

This instructive address was followed by Dr. Hattie, of the Provincial Health Department, who took the place of Mrs. W. H. Dennis, whose name was on the program, but who through illness in her family, was unable to attend

Dr. Hattie said he was pelased to apepar before the convention and endorsed all that Dr. McAarthur said re the importance of the care of the teeth and its relation to the general health. He spoke of a personal experince bearing this out, in the case of his own son having been stricken sudednly with acute rheumatism, which entirely subsided with the removal of two decayed teeth. He then outlined the peace time program of the Red Cross Society and urged that the women co-operate with them in the carrying out of the public health campaign.

The Red Cross was formerly a war time organization, but at the conference in 1919 it was decided to organize for peace time work and carry on as the American Red Cross does, to be ready for any great crisis that might confront them. The Canadian Red Cross has already encouraged public health work by contributing large sums of money for its maintenance. They have new quarters in Sherborne street, Toronto, and have there all equipment for any sudden emergency that may arise. Provincial branches also have supplies in case of sudden need. The Child Wlfare Association is planning to have, through the help of the Red Cross, a child welfare week in the near future.

The Department of Health in each province is to head all health work. Each province is to undertake its own work, but not to over-lap any work benig done by existing organiztaions. Outlining the program for Nova Scotia, Dr. Hattie said twenty scholarships of $200 each have been offered to graduate nurses to take a course in public health nursing.

A travelling clinic has been organized and $25,000 voted by the Red Cross to put in every county a public health nurse for one year. It was hoped by that time that they will so prove their usefulness that the provincial government and county councils will take a hand to finance them. It will take time for the nurses to establish themselves. Tell others of this work and see that the nurses are notified of cases needing care.

When the nurse is not in the clinic she will be carrying out medical inspection in the schools and will be followed by the doctors in the public health service. A dental clinic will also be established. It will be necessary that the Red Cross shall have funds to carry out this program. The next Red Cross drive will take the form of a drive for membership at $1.00 per year.

Dr. Hattie closed his address by appealing to all to lend all aid possible in this health campaign.

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FIRST TERM BEGINS SEPTEMBER 6.

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Col. F. V. Woodbury, organizer of the travelling clinics, then addressed the meeting. He explained that the health caravans are primarily for public health purposes and that is a very wide field. They consist of physicians, surgeons, nurses and child welfare workers who are being paid to go around and preach and teach the gospel of health, especially for children.

There will be a motor truck, two ambulances and two touring cars. Each caravan will have a dentist with the most modern dental equipment on wheels, an ear, eye and throat specialist, operations will be performed free and there will be a certain number of beds in which to care for patients. Specialists for tuberculosis will also be along to confer with the local doctors and to go to remote places for consultation—a specialist that will be able to give a definite opinion.

All will do as much work as possible and give advice. The day will end with a public health meeting in the evening.

Dr. Woodbury asked the Institute members to pick out the place where they could work best, get in touch with their Red Cross Society and be prepared to help.

The local committee is expected to have ready a suitable, clean building, in which to establish the clinic, a church or hall for the public lecture, a large number of posters will be provided and must be distributed. A liberal supply of hot water must be available and the billeting of the personnel attended to. A supply of gasoline, about 40 gallons, and 5 gallons of motor oil, must also be available for the refilling of the motor cars.

These caravans will leave Halifax on July 12th and 14th respectively. Following is the itinerary subject to change:

ITINERARY

Route ONE Leaving Halifax July 14.

Brooklyn, Hants Co.—Arrive July 14th P.M. Leave 16th A.M.

Gaspereaux—Arrive 16th P.M. Leave 17th P.M.

Kentville & Wolfville—Sunday 18th.—Limited No. speakers available for churches, Sunday Schools, etc., on application.

Hampton—Arrive 19th P.M. Leave 21st A.M.

Church Point—Arrive 21st P.M. Leave 23rd A.M.

Tusket—Arrive 23rd P.M. Leave 26th A.M.

Yarmouth—Sunday 25th.—Limited No. speakers available for churches, S.S., etc. on application.

Pubnico.—Arrive 26th P.M. Leave 28th A.M.

Barrington Passage.—Arrive 28th P.M. Leave 31st A.M.

Shelburne—Sunday, August 1st.—Limited No. speakers available for churches. S.S., etc., on application.

Port Mouton—Arrive 2nd P.M. Leave 4th A.M.

West Dublin—Arrive 4th P.M. Leave 7th A.M.

Lunenburg—Sunday 8th.—Limited No. speakers available for churches, S.S., etc. on application.

Arrive 9th P.M. Leave 11th A.M.

Halifax—August 12th. Meeting.

Tangier.—Arrive 13th P.M. Leave 16th A.M.

Sheet Harbour—Sunday 15th—Limited No. speakers available for churches, S.S., etc., on application.

Sherbrooke—Arrive 16th P.M. Leave 18th A.M.

Isaac's Harbour—Arrive 18th P.M. Leave 21st A.M.

Boylston—Arrive 21st P.M. Sunday 22nd—Limited No. speakers available for churches. S.S., etc., on application.

Garden of Eden District—Arrive 24th P.M. Leave 26th A.M.

South Maitland—Arrive 26th P.M. Leave 28th A.M.

ITINERARY

Route TWO Leaving Halifax July 12.

Truro—Arrive 12th P.M. Public meeting only. Leave 13th A.M.

Five Islands—Arrive 13th P.M. Leave 15th A.M.

Advocate Harbour—Arrive 15th P.M. Leave 19th A.M.

Amherst—Sunday 18th—Limited No. speakers available for churcres, Sunday Schools, etc., on application.

Malagash (or Wallace Bridge)—Arrive 19th P.M. Leave 21st A.M.

River John—Arrive 21st P.M. Leave 24th A.M.

Pictou and New Glasgow—Sunday 25th—Limited No. speakers available for churches, Sunday Schools, etc.

East River St. Mary's.—Arrive 25th P.M. Leave 28th A.M.

Antigonish—Arrive 28th P.M. Leave 30th A.M.

Harbour Au Bouche—Arrive 30th P.M. Moving pictures only.

Mulgrave—All Day 31st August. Sunday 1st.—Limited No. speakers available for churches, Sunday Schools, etc., on application.

St. Peters—Arrive 2nd P.M. Leave 5th A.M.

Gabarus—Arrive 5th P.M. Leave 7th A.M.

Sydney's—Sunday 8th—Limited No. speakers available for churches, Sunday Schools, etc. on application.

Little Bras D'Or—Arrive 7th P.M. Leave 10th A.M. for Ingonish District via. Road or S.S. Aspy.

North Sydney—Sunday 15th.

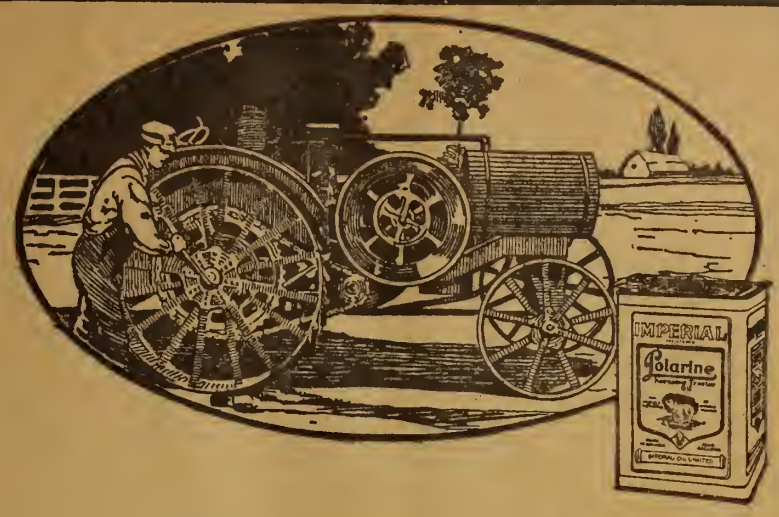
Wycocmagh—Arrive 16th P.M. Leave 18th A.M.

Baddeck—Arrive 18th P.M. Leave 20th A.M.

Margaree Forks—Arrive 20th P.M. Leave 23rd A.M.

Inverness—Sunday 22—Arrive 23rd P.M. Leave 25th A.M. Limited No. speakers available for Churches, S.S., etc. on application.

Mabou.—Arrive 25th P.M. Leave 77th A.M.



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For worn and loose bearings—a thick oil.

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For steam cylinder lubrication—tractors and stationary engines.

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For stationary and portable engines using either kerosene or gasoline.

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Imperial Farm Lubricants were developed to meet the peculiar requirements of farm machines. Each is scientifically formulated and standardized for a particular service—an oil or grease that has proved its value under actual working conditions.

For correct automobile and tractor lubrication, follow the Imperial Charts of Recommendations—on display wherever Imperial Lubricants are sold. When in doubt, ask the Imperial Oil Man; or write to us.

IMPERIAL OIL LIMITED

Power · Heat · Light · Lubrication

Branches in all Cities

Possibilities of Bee Keeping in Nova Scotia

Prof. W. H. Brittain then took up the subject. The Possibilities of Bee Keeping in Nova Scotia, and gave valuable information along this line, recommending the Italian Bees as the easiest to handle, most prolific and generally considered to be the best strain, although the black bee is perhaps the hardier for this climate, but possessing a very ugly temper.

Prof. Brittain had all the equipment necessary for the keeping of bees, to illustrate his remarks. He also showed an observation hive in which the bees could be seen at work and a sample of extracted honey the most profitable way to market this product. The ladies were impressed with the very interesting and instructive manner in which he depicted the possibilities of bee keeping.

Prof. Brittain's address was followed by a series of educational moving pictures, portraying various subjects of interest to all present.

Thanks.

The planning, arranging and conducting of this interesting and inspiring convention was the work of the efficient and untiring Supervisor, Miss Helen McDougall. It was a well planned Convention, harmoniously conducted under her wise leadership. Nova Scotia is to be congratulated on her choice of leader to carry on the indispensable work for Home and Country so well begun in that province by the former Supervisor, Miss Jennie A. Fraser.

Unanimous, therefore, was the vote of thanks tendered the indefatigable Supervisor by Mrs. A. B. Wallace of Hants County, in behalf of every member of the assembly.

The Bible Hill Women's Institute deservedly received a hearty vote of thanks at the hands of Miss Stuart, for hospitality, which helped so materially in making the convention sociable and enjoyable, and thus giving an added zest and a keener interest in the great work that lies within the scope of the women and girls who are banded together for the betterment of home and the consequent upbuilding of country.

MRS. M. A. MacLEOD.

Lawndale Stock Farm

Jerseys and Shorthorns (Pure Bred)

Our Present Offering in Jerseys is as follows:—2 splendid young bulls, both from R. O. P. mothers, 1 dropped in June 1919, the other in July, 1919. They are beauties and the right sort.

Write soon for information to

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The address must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue, which will always be found on the editorial page of the proceeding issue. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex N. B.

FOR SALE—Ten Pure Bred Yorkshire Pigs, Price $10. unregistered. Apply to WENDELL WARD, WEST BATHURST N. B.

THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and other premises. Price $4.00 per 100 lbs. Apply by mail to "NAILS," care of Office Maritime Farmer, Sussex, N. B.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up. Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T. D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

"Carleton County Holstein Breeders' Club, R. W. Maxwell, Woodstock, Secretary."
F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B

Ayrshire Cattle

McIntyre Bros., Springbrook Farm, Sussex, N. B.
R. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.
C. A. Archibald, Truro N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

YORKSHIRE PIGS

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
C.A. Archibald, Truro, N. S.
J. James Ross, Pictou, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

THINNING APPLES.

By C. W. ELLENWOOD.

In order to show something of the activities of an apple tree during its season's work and to secure evidence on the need and value of thinning, J. B. Keil, of the Ohio Experiment Station, a few years ago made some careful observations and experiments.

A careful estimate made by Mr. Keil of a Moyer tree nineteen years from planting indicated there were 60,000 blossoms on the tree. About 11,500 finally developed into apples and survived the June drop.

Just after the June drop was over half the remaining apples were removed. Fifty eight hundred apples, or a total of thirty-six bushels, were finally harvested, a good crop for this nineteen-year-old tree.

Counts made on other vareities gave similar results. These observations showed that about one blossom in ten on a tree well laden with bloom is required for a good crop. These observations also show that the June drop does not always remove a sufficient number of apples to permit the remaining fruit to develop good size and quality.

After what seems to be a disastrous spring frost has visited an orchard in full bloom and has apparently ruined the prospects, it is well to remember that if ten per cent. of the crop is still alive this is sufficient for a good crop.

The best time to thin is four to eight weeks after the trees are in full bloom or just after the June drop. Winter apples may be thinned later but the best results are secured by thinning within the period indicated.

The apples ought to be thinned so as to be spaced six to eight inches apart or even farther in the case of large winter varieties. Several years' experience in thinning shows in a large number of cases net gain in quantity while the quality in nearly every case is improved.

The good results from thinning, however, do not all show up in a single year's crop. Large losses from broken branches always accompany heavy crops of fruit and to a large extent this can be avoided by proper thinning. Some trees will set a heavy crop on one side and light on the other. This can be corrected by thinning.

Examinations made in storage on some varieties susceptible to storage scald have shown that the fruits from thinned trees were much freer from this trouble than specimens from unthinned trees.

Nature in many years eliminates enough of the crop to make thinning unnecessary and pruning to some extent serves the purpose of thinning; yet it is safe to say that thinning out to be included as one of the regular operations in an up-to-date apple-orchard program.

HOW TO USE THE COMMON POTATO POISONS.

(Continued from page 743)

not blue. The poison contained is copper aresnic which is near to Paris green, but is more gelatinous, more adhesive and a more rapid killed.

The Bordeaux made in this manner is just as good a fungicide as ordinary Bordeaux. In using the soluble arsenates, one should aim at combining the arsenic with the lime, as arsenates are safe in combination with lime on the potato, while combining an arsenate with copper renders it very low in killing value.

The value of this last formula can be realized from the following: Last year Mr. A. A. H. Margeson, of East Centreville, N. B., used it on his potatoes. On the first application it cost him six cents per acre. On the second application it cost him the same while on the third it cost him eight cents per acre. He secured excellent control of potato beetles and the total cost of his poison for the season was twenty cents per acre.

One pound of white arsenic which costs less than twenty cents, will poison 100 gallons of Bordeaux mixture.

A man can buy his bluestone, lime and white arsenic to make a white arsenic or green Bordeaux for less than he can buy arsenate of lead or Paris green for the same area.

One pound of white arsenic is equal in killing value to two pounds of Paris green, and costs about one-tenth of what two pounds of Paris green costs.

Canada uses about one million dollars worth of Paris green annually. One hundred thousand dollars' worth of white arsenic can be made to do the same work in a slightly more efficient manner.

SUNNYSIDE STOCK FARM

Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

HIGHLAND LAKE HOLSTEINS

Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.

We have young bulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yonge St. Radial) JEFFERSON, ONT

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for sale calves of both sexes, sired by Dutchland Pieterje Count, a bull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Johona Lad, who was 101 A. R. O. daughters 4 over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice, come and see these calves or write for further particulars.

We will also book orders for young Yorkshire pigs for the next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - CANARD, N. S.

COBEQUID FARM HOLSTEINS

We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows have in turn been bred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter each in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a heifer calf or two. Get your orders in quick, they won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

THE CROW.

The loss occasioned by the crow in Oklahoma led to the study of this bird and the preparation of Oklahoma Station Bulletin 128. A discussion of the damage done by crows, their winter prevalence in Oklahoma, and the location of crow roosts in the state is followed by a brief discussion of their general habits. Studies thus far have shown that grain, peanuts, and pecans are the principal diet on the state during the fall and winter, when available, and at other times animal offal, weed seeds, and insects. From the data at hand it is estimated that at lest 10,000,000 crows were present in the state during he winter and consumed one bushel of grain daily per 1,000 crows, or $1,200,000 worth of grain during the winter.

ELMHURST STOCK FARM

Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S.

Shorthorn Cattle

High grade registered stock for sale

J. E. HETHERINGTON
CODYS, :: :: N. B.

Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages. Have some good cows to freshen soon. Am booking orders for ram lambs for fall delivery. Write or phone for prices and description.

J. ROBIE MacDONALD,
Shubenacadie, - - Nova Scotia
Successor to J. MacDonald & Son

AYRSHIRE CATTLE AND OXFORD DOWN SHEEP

G. A. TAYLOR & SON
Salisbury, - - - N. B.

Present Offering—Two Ayrshire Bulls, 12 and 12½ months old. Their sire's dam is "Rose" with a 4 yr. record of 12,913 lbs. of milk and 485 lbs. fat. The dam of their sire's sire was "Milkmaid 4th". Prices right.

Gesner A. Taylor Austin C. Taylor

Elmwood Stock Farm

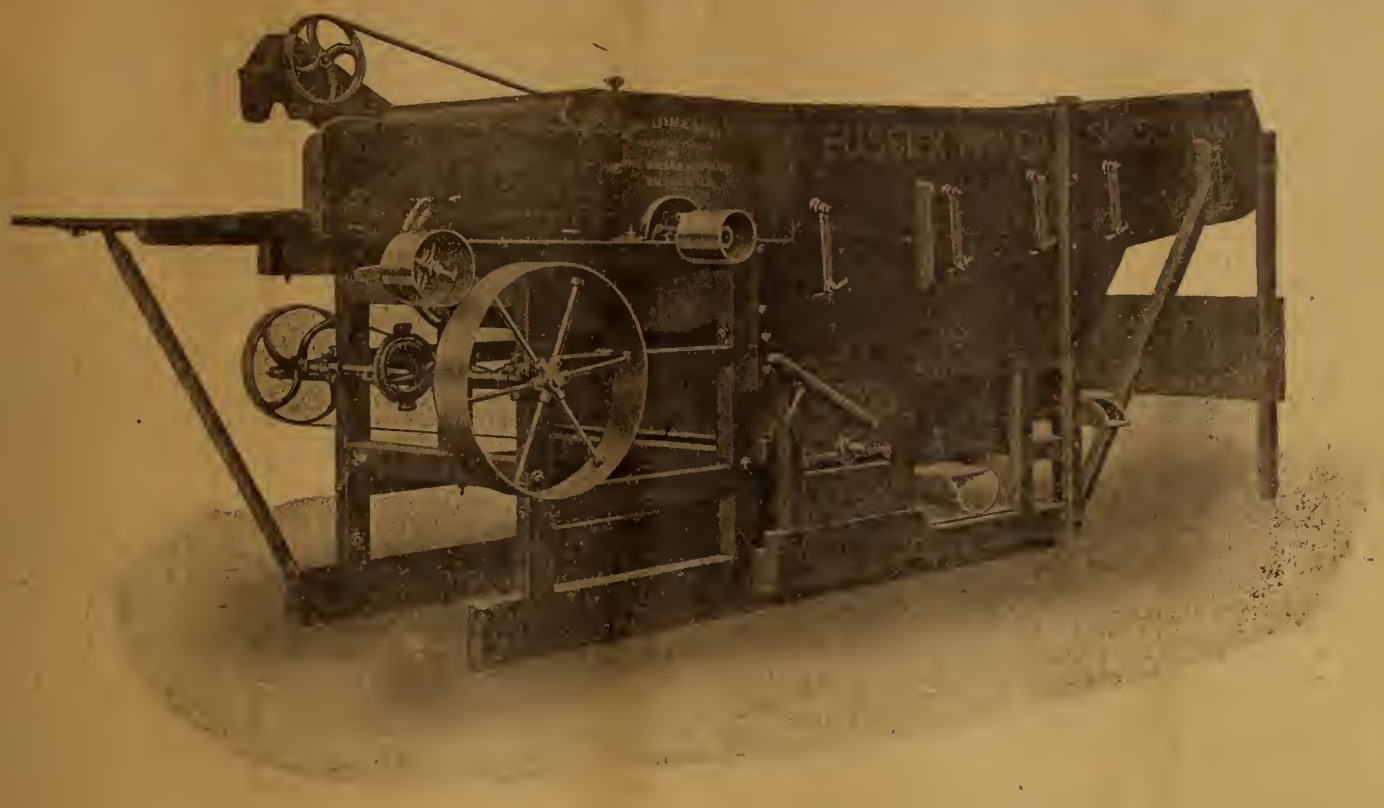
We have a few young bulls to offer, sired by Dutchland Colantha Sir Rag Apple, a son of Colantha Johanna Lad. His dam is a granddaughter of Pontiac Korndyke. Thus combining the blood of two of the greatest bulls the world has ever seen.

The dams are daughters of Dutchland Pieterje Count. These calves are a nice straight growthy lot.

W. L. ETTER, Shubenacadie, Hants Co., N. S.

Butter Parchment at Farmer Offiec

THE INDEPENDENT FARMER OWNS HIS OWN THRESHER!



No. 1 and 2 with Tailings Elevator

Order your Little Giant early and be ready for a good season. A Guarantee of Satisfaction goes with every Sussex Little Giant. Ask for Special Catalogue.

WALLACE MACHINE WORKS, Limited, : Sussex, N. B.

Holstein Herd Averages 18812 lbs. Milk

A herd of 13 purebred Holsteins last year averaged 18812 lbs. milk and 638.57 lbs. fat.

Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in

HOLSTEIN CATTLE

send for booklets—they contain much valuable information.

Holstein-Friesian Association of Canada
W. A. CLEMONS, Secretary.
ST. GEORGE, - - ONTARIO

FOR SALE

We have to offer a nice bunch of Shorthorn bulls and heifers ages 1 to 3 years.

Also span 4 year old horses, span 5 year old horses span of brood mares and a choice driver

For further particulars apply to

FRANK C. FAWCETT
Upper Sackville - - N. B.

AYRSHIRES BULLS!

fit for service, bred from heavy producing stock.

FRED S. BLACK & SONS,
Springvale Farm,
AMHERST, - - - N. S.

Chester White Pigs for Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

COSSAR STOCK FARM
Lower Gagetown, N. B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

We are presently offering, one imported Clydesdale Stallion "Dunure Crag" sired by the famous breeding horse "Baron of Buchlyvie."

Also

One Canadian bred Clydesdale Stallion "Baron Cossar", rising 5 years old.

Further particulars on application.

G. C. Cossar, Proprietor. J. Melklejohn, Agent.

HOLSTEIN BULL CALVES FOR SALE

I am offering for sale 5 bull calves from a week to 18 months old, While the dams of these calves are not tested, the dam's dam and the sire's dam of each calf has a record, some as high as 32 lbs in 7 days. The sire of these calves has 14,000 lb. 2 year old daughter. They will be sold at a bargain prices if taken within a month.

ROBERT HICKS
Glenrane Farm, West Bathurst, N. B.

W. E. B. TAIT

DORCHESTER, N. B.
Breeder of
DUAL PURPOSE SHORTHORNS
and
BRED-TO-LAY BARRED ROCKS

Eggs for Hatching from winners of P. E. I. Egg Laying Contest 1919, mated to Pedigreed Cockerels imported from Oregon Agricultural College. Price $4.00 per 15.

Eggs for Hatching from high producing Pens, $2.50 per 15.

SUPERIOR GUERNSEY COW FOR SALE

Berwick's Blossom, Record of Performance No. 14, with heifer calf.

JOHN N. CHUTE,
Berwick, N. S.

Advertise in the Farmer

WISH-TON-WISH STOCK FARM

Have 4 good bulls fit for service, that are well grown and are extra choice individuals, and out of gold, big, heavy producing cows. Also 4 or 5 good bull calves from one to two months, as well as a few good heifers ready to breed, and some already bred to Sir Johanna Ormsby of Hickory, whose dam has a yearly official record of 22,159 lbs. milk asd 971.25 of butter in 365 days. For description and prices write, or come and see our herd.

HARDING BROS., Proprietors, WELSFORD, New Brunswick.

Firshade Farm Dual Purpose Shorthorns

P. R. L. FAIRWEATHER
Rothesay, N. B.

FOR SALE

Two yearling Gurnsey bulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

SARAH E. M. SMITH,
Woodwards Cove, Grand Manan, N. B.

AYRSHIRE CATTLE. KARAKULE-ARABI SHEEP

We are offering two Ayrshire Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

For particulars and prices write
THE EASTERN KARAKULE-ARABI SHEEP CO., LTD. WINDSOR, N. S.

A. T. McLEAN, . V. Sc.

Veterinary Surgeon and Dentist,
late of Can. Army Veterinary Corps.

Graduate of University of Toronto and Ontario Veterinary College, 1910.

Treatment of diseases of all domestic animals.

WEST MARKET ST., MONCTON, N. B.
'Phones, Office 979, Residence 1079

Springbrook Farm Ayrshires!

We have to offer one bull, 24 months, 1st prize at Woodstock, Fredericton and Chatham, 1919. Six choice bulls from 8 to 20 months, sired by the prize winning bulls "Morton Mains", Amanth Imp. and Cherrybank Cicero. Also females, all ages.

McINTYRE BROS.
SUSSEX CORNER, - - N. B.

GUERNSEYS!

For Sale—Registered stock. Male or female.

T. D. BLAIKIE,
Great Village, N. S.

Willow Glen Shorthorns!

Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

A. N. GRIFFIN,
New Mines - - - N. S.

Columbia Grafonola

Scientifically Right, Artistically Correct

The best designers in the country make Columbia Grafonolas. Their acoustic design is as scientifically right as their cabinets are artistically correct.

The acoustic design permits the full, free development of the sound waves and gives them a tone of exquisite clearness and purity.

The grace and beauty of their cabinets make it certain that any Columbia Grafonola will harmonize perfectly with any design of furniture.

Fortunate are the Children

in homes made musical by the Columbia Grafonola. An honest liking for good music comes to them naturally; and quite without conscious effort or teaching.

You need not worry over the children spoiling your valuable records. The ***Non Set Automatic Stop,*** an exclusive Columbia feature, is a big advantage in this respect. There's nothing to move or set or measure. Just start the Grafonola and it plays and stops itself.

Standard Models up to $360

Ask a Columbia Dealer to Play These Records Over for You

My Isle of Golden Dreams and On Miami Shore (Jacobs) Eddy Brown, Violin Solos.
A2924 10-inch Symphony, $1.00

Lazy Mississippi, Campbell and Burr, Tenor Duet, and Rose of Virginia, Henry Burr, Tenor Solo.
A2909 10-inch $1.00

Emmet's Cuckoo Song, and Emmet's Lullaby, Frank Kamplain, Yodler.
A2904 10-inch $1.00

Dardanella and If You Could Care (Waltz) from "As You Were" Sascha Jacobsen, Violin Solos.
A2912 10-inch $1.00

Baby Mine and Mammy's Song. Lucy Gates.
A2911 10-inch $1.00

Swallow Tail and Greenfields of America (Irish Reels) and Liverpool and O'Neil's Favorite (Irish Hornpipes) Patrick J. Scanlon, Accordion Solos.
A2902 10-inch $1.00

NEW COLUMBIA RECORDS OUT THE 10th AND 20th OF EACH MONTH.

"Play this one, Mother"

COLUMBIA GRAPHOPHOE CO., TORONTO

The
MARITIME FARMER
AND CO-OPERATIVE DAIRYMAN

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JUL 28 1920

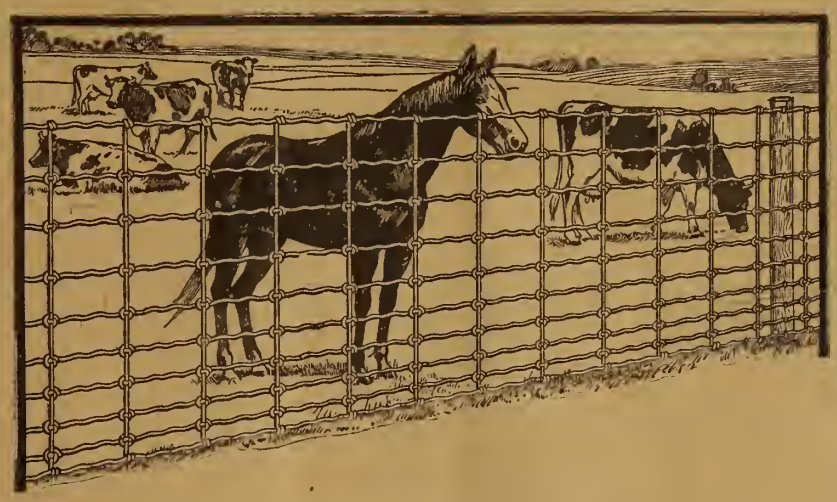
TRADEMARK REGISTERED

Published Fortnightly in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., JULY 20, 1920 No 21.

Maritime Fences

Stand the Strain of Man, Beast and Weather



The Maritime Fence is made of extra heavy, hard drawn steel wire of 9 gauge. Each Fence is rigidly tested in our factory, so we know that they have more strength than they are ever likely to need.

Yet the price of Maritime Wire Fence is no higher than you must pay for ordinary fence. But the life of the Maritime fence is far longer---and it's wear value much greater.

On the extra quality wire we put a smooth, even, heavy coat of galvanizing. We put on more than enough, so that the greatest strains of time and weather will not impair it. We lock laterals and upright wire rigidly, yet springily with a cross leverage lock that simply cannot let go under the hardest strain. The superior stretching power of No. 9 wire keeps the strands from snapping in the severest frosts.

A Maritime fence is of lasting strength, sightly appearance, and is a necessary improvement on all Canadian farms.

For sale by agents and dealers in nearly every section.

If you don't know the dealer write today to

The New Brunswick Wire Fence Co., Limited

MONCTON, NEW BRUNSWICK

MARITIME WIRE FENCE

Don't Hesitate About Preserving This Year

JUST think how your folks will miss the fresh fruits next winter! Manufactured preserves will be unusually scarce and almost out of reach, and compared with their cost your home-made preserves will be a genuine economy.

A pound of sugar is enough for three jars of fruit. The increased cost of sugar really makes but a small difference on each jar you put up. On the other hand, the value of the jar of preserves is greater than ever before owing to the increased cost of other sorts of food. Remember that in preserving you get the value of the sugar twice, first as a preservative of your fruit and again as a delicious and nourishing food.

Last year very similar arguments were advanced against preserving, but those fortunate housewives who invested in neat rows of jars filled with a variety of fruits were well repaid for their foresight. The prudent housewife will again preserve as much fruit as her time and means permit.

For preserving the fine natural colour and flavour of Raspberries and all other fruits, buy LANTIC SUGAR in original packages.

2 and 5 lb. cartons
10, 20 and 100 lb. sacks

The "FINE" granulation which dissolves instantly in the hot syrup does away with the long cooking, and it is long cooking that fades fruit. On account also of its absolute purity and high sweetening power, LANTIC is the best sugar to use for all preserving.

FREE—BOOK OF PRESERVING LABELS. Send a Red Ball trademark cut from a bag or from a top panel of a carton, and we will mail you a book of assorted preserving labels, gummed and ready to attach to the jar.

ASK FOR LANTIC LIBRARY

The most complete collection of receipts ever published. Three separate books on Preserves, Cakes and Candies, and Desserts.

ATLANTIC SUGAR REFINERIES, LIMITED
MONTREAL

Lantic Sugar

"The Seal of Purity"

QUANTITY OF SALT TO FEED THE COW.

It has been shown, by experiments, that for ordinary live stock three-fourths of an ounce a day for one thousand pounds of live weight is about the amount of salt required.

However, with the dairy cow it is a difficult proposition. Experiments in which producing cows were allowed to consume salt at will show that they require considerable more salt, in many cases several times as much, as do dry animals. The amount of salt consumed varies greatly with individual cows, and the only system of giving salt that allows for this is where the cows are allowed free access to it daily or have a supply in the manger continually before them.

Another important factor to be taken into consideration is that salt requirements will vary greatly with feed from different localities.. Soil which contains large amounts of salt produce more salt than soils low in salt. The water of streams and wells also varies in salt content. The farmer who keeps salt before his cows at all times need not worry about whether his feeding stuff and water supply contains a high or low salt content.

Barrel salt or compressed dairy salt should be used for salting cows. Never use crystal rock salt. Because of its extreme hardness, it requires too much licking to get enough of the crystal salt, and the sharp edges produced in the rock by the licking frequently cut the tongue severely and cause eating to become a painful process. There is no donger of the animals consuming more salt than is good for them if loose barrel salt is kept before them continually, and they know how much salt they need much better than does the feeder. On the other hand, when supplied in large amounts, at intervals of one or two weeks, as is the practice with many afrmers, there is danger of the animal eating an excessive amount of saft. The excessive amount of salt consumed after being kept from it for some time greatly increases the amount of water secreted in the urine. This causes an abnormal thirst and the animal will then drink large quantities of water which is apt to injure the digestion and lead to other disturbances in the system. Also, when an abnormal thirst for water has been created, and sufficient water is not supplied, the water content of the body will be lessened due to th increased loss through the kidneys. This causes an increased breaking down of protein and results in a loss of strength and vitality.

CROP FEEDING INSTEAD OF SOIL FEEDING.

The resutls of a chemical analysis of a soil do not, as a rule, afford a satisfactory basis for determining manurial requirements. The chemist, it is true, can determine what the soil contains, but no ordinary analysis determines with exactness what proportion of the several elements present is in available form for the crop. Indeed, there is no such thing as a constant ratio of availability. While one crop finds in a given soil all the plant food it requires, another may find a shortage of one or more elements. Further, on the very same field one crop may find an insufficient amount of potash; another may find enough potash for normal growth, but insufficient phosphoric acid; while a third may suffer only from the insufficient supply of nitrogen.

Most of our soils are of mixed rock origin and, as a rule, possess similar general chemical characteristics, providing they have been farmed under usual conditions. The manurial and fertilizer requirements are determined more largely, in most soils, by the crop than by peculiarities in the chemical conditions of the soil.—Massachusetts Experimental Station.

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTESED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 25. SUSSEX, NEW BRUNSWICK, JULY 20, 1920. Number 21.

Who Wants Wheat Controlle? Some Stunt

United Farmer's Guide Has Had So Many Versions as to Who Really Wants Wheat Controlled That the Reader May Accept any of the Various Reaeons Given

The United Farmers' Guide is geting into deep water. It is grasping at straws to pull itself out, and in its short life, inspired doubtless by its Winnipeg owners, is trying to explain away a situation, which the Maritime Farmer repeats will cost the farmers of the Maritime Provinces tens of thousands of dollars this year, when they come to pay their feed bills.

This paper, from the drop of the hat, has opposed the control of Canadian wheat by the government, unless the same protection was afforded the farmers of eastern Canada. The experience of the past few months has not suggested any good reason for a change in our opinion.

What are the facts? The western wheat grower, under government con trol, received, first, a boost of fifty cents per bushel in the price of wheat, while not one additional cent was paid for the wheat of the rest of Canada. Second, the western farmer got another boost to $3.05 per bushel for wheet, Quebec and Ontario farmers received smaller concessions, but not one cent of increase was given for one pound of wheat produced in the Maritime Provinces.

What are the results? We have seen the wholesale price of flour in the Maritime Provinces hold at $15.80 and $16.00 per barrel at St. John and Halifax, respectively. There has been no reduction and there will be no reduction because wheat was advanced in price at the demand of western growers, in keeping with the price offered on the Minneapolis market. That market wanted a certain amount of hard wheat for mixing purposes and was willing to pay high prices for a limited quantity. Now flour in the United States is dropping in price and has been showing a steady decline. But in Canada flour has remained just where it was and the result is that Canada must continue to pay the piper. The farmers of the Maritime Provinces are paying a price that has been inflated by the payment of artificial prices for wheat. And as the Wheat Board has also fixed the price of flour, we in the Maritime Provinces must continue to carry the burden. There is no good of blaming the millers. They have their prices controlled by the very same Wheat Board, and they sell for what they are told to.

This is rather an awkward situation for the United Farmers' Guide to explain. Being controlled by Winnipeg and professing to serve two masters—its real owners and the farmers of eastern Canada, it must come across with some explanation. So in its issue of June 30th it blamed the whole business on Mr. R. W. E. Burnaby, of Ontario, and mildly suggested that Mr. Burnably was born in Nova Scotia.

In our last issue we simply remarked that the statement that Mr. Brunaby was responsible was just a plain everyday lie. We suggested that the managing director of the United Farmers' Guide, Mr. George F. Chipman, knew better. We therefore propose to call Mr. Chipman as a witness. In a letter addressed to this paper under date of March 13th, Mr. Chipman, over his own signature (see United Farmers' Guide of April 21st, page 20) says:

"In order that you may have no doubt as to what is the truth I will give you in detail on the five above mentioned charges which you have falsely made for the purpose of creating antagonism against the western farmers.

"1. The Canadian Council of Agriculture at its meeting in Winnipeg on January 5th, 1920, (long before Mr. Burnaby was elected president of the Canadian Council of Agriculture), passed the following resolution which was afterwards endorsed by the three provincial conventions in Manitoba, Saskatchewan and Alberta:

" 'Whereas, the abnormal conditions of the war have rendered its necessary for the governments of importing and exporting countries to exercise measures of control over shipments of foodstuffs, particularly wheat;

" 'And, whereas, possibilities of government control over the grain markets of the principal importing countries of Europe, including Great Britain, still exist;

" 'Therefore, be it resolved, that the Canadian Council of Agriculture while not at this date declaring upon the principle of governmental control as a permanent policy, believe it is desirable to continue national marketing of Canada's wheat product, at least so long as the principal countries importing Canadian wheat retain governmental control of their imports and distribution.'

"This is the resolution which you have used as the basis of your charge that the Western Grain Growers are seeking a fixed price on their wheat for the future to the disadvantage of the rest of Canada. You apparently do not see any difference between 'National Marketing' and 'fixed price' or perhaps do not want to see any difference.

"The fact is that the Western Grain Growers through this resolution asked only that a national marketing system for wheat be continued so long as national buying continued in Europe. They did not ask, nor suggest nor expect that he power of the government was to be used to secure one extra cent above the price that the law of supply and demand upon the world's markets would warrant."

This letter is signed:

"The Grain Growers' Guide,
"Limited,
"G. F. Chipman,
"Editor and Managing Director."

Again in its issued of May 12th, the United Farmers' Guide, on page six, editorially, explains in an innocent sort of way the method of handling wheat and says:

"It appears that the western grain growers will pay this Government Board, instead of other marketing agencies, for handling their grain."

How perfectly plausable this sounds, particularly the "thus is appears" part of it. Mr. Chipman, the managing editor of the United Farmer's Guide, from his close association with the grain growers, knew perfectly well that it has been the consumer who has been paying the way of the Wheat Board, and not the grain grower. So we suppose that it was for this reason that the "shifty" statement of "thus it appears" was made. Possibly it did "appear" from the Guide's version that the grain grower was paying, but every time a farmer in the east buys a ton of feed, or a barrel of flour, he is the one who does the paying.

Then to cap the climax, in its issue of June 2nd, published an article and a telegram from Hon. George E. Foster, representing that no application for government control of wheat has been asked for. It dubbed the Maritime Farmer "The Sussex Annanias" for stating that government control had been asked for. Yet on that very date formal application for government control was made by the Canadian Council of Agriculture from Winnipeg. And at the request of that organization backed up by the resolutions of the grain growers of Manitoba, Saskatchewan and Alberta, government control was adopted.

But the United Farmers' Guide did not stop there. Not content with the control of one article of farm produce to the detriment of all other branches of agriculture, it editorially supported the de-control of mill feed prices and openly advocated eighty dollar bran for the coming winter. However, the government at Ottawa did not go that far and thus were the farmers of the Maritime Provinces protected to a certain extent.

The Maritime Farmer asks its readers which of the many stories told by the United Farmers' Guide they are to believe? If the Guide is right, its managing editor, Mr. Chipman, is wrong. There are his signed statements in absolute contradiction of the Guide's editorial in its issue of June 30th. Which of the duett are we to believe? What game is the United aFrmers' Guide trying to play anyway? What interest has it in advocating that the farmers of the Maritime Provinces be forced to pay eighty dollars per ton and a like in- eighty dollars per ton for bran and a like increase for shorts and middlings, for the coming winter?

The answer is not far to seek. The Guide is controlled in Winnipeg. It wants the last possible cent it can get for the grain growers, who, according to Mr. Chipman, are in favor of holding up prices on their product alone. The Guide, acting under the direction of Mr. Chipman, knows that feed prices this winter will be away in the air, unless a miracle intervenes and so it is trying to break the news as gently as possible.

If the farmers of the Maritime Provinces only realized it, there never was a time when they needed organization in their own interests more than they need it now.

Already harvest excusions, the curse of eastern Canada for years, are being arranged to take still more of our young men west. Our labor troubles are as nothing. Farms in New Brunswick have been sold this year by the score because we have no farm labor. And now we are again to be milked dry for the benefit of the grain growers. We have been passing resolutions for years against the practise, but organization and a united front in our own interests would do more to put an end to this parasite, which thrives on the farms of the Maritime Provinces, than anything else that can be devised.

We ask our readers to weigh carefully the contradictions offered in explanation of wheat control. They need a lot of explanation. It is an insult to the intelligence of our farmers that such rot should be successively printed with the idea of getting away with it.

Wipe the cow's udder and flanks with a damp cloth before milking; this will prevent a large quantity of dust and dirt from falling into the milk pail. Clipping the long hairs on the flanks, udder and belly will make cleaning much easier and faster.

Notes From the Nova Scotia Agricultural College

NOVA SCOTIA CROP CONDITIONS.

The Secretary for Agriculture has received from correspondents in various parts of the province, returns up to July 10th. All correspondents refef to the inadequate rainfall to date, and state that the crop outlook is serious if the drougth continues much longer. With a moderate rainfall during the next few weeks, however, present conditions are such as to warrant the expectation of at least a good average harvest of practically all farm crops.

Hay, which looked very unpromising three weeks ago, is now averaged at 85 per cent. of last year's bumper crop. Last year's hay crop, by the way, was about 25 per cent. larger than that of the previous year. There are some local areas, such as North Inverness, where the rainfall has been unusually light, and the hay is consequently in a very poor condition. Even with the most favorable weather from this out, little more than two-thirds of a crop can be expected in these areas.

Oats and other cereals, potatoes and root crops are reported to be, in the main, well up to the average. With favorable weather conditions during the remainder of the season, these will yield bumper crops.

The apple prospect is variously estimated in different districts from 45 per cent. to 90 per cent., with a general average of 65 per cent. as compared with 1919. It will be remembered that the apple crop of last year was about double that of any previous year for some time back. With respect to apples it may be well to point out that there is sure to be a heavy drop in yield, with smaller fruit, should there be long continued dry weather.

Pastures are reported slightly below last year's quality, averaging 90 per cent., with some districts giving a much lower estimate. Notwithstanding this, creamery managers report an increase of 40 per cent. over last year's business. While some of this gain is due to an enlarged patronage, there is also a marked increase of output from former patrons.

Taking it all in all, present crop reports must be regarded as reasonably favorable, with a very great deal depending upon weather conditions during the next month.

UNUSUAL INSECT OUTBREAK.

The Entomological Division at Truro announces as a matter of curious information an outbreak of an unusual character, whereby a field of nine acres sown to mangles was entirely wiped out just after they appeared above ground. The field was then sown to turnips and those suffered a like fate.

The culprit is a very tiny insect, scarcely larger than a pin point and seldom noticed by the casual observer, although always present in enorgous numbers. It is known as the Spring Tail, taking its name from a rather long apendage to its body which acts as a spring, enabling its possessod to jump about with great rapidity.

The insect is usually harmless, and there is little danger that it will prove to be a new foe to fight. Its ability to do the damage recorded above is due to a combination of circumstances. Extremely dry weather prevailed just as the tender plants were emerging from the ground. This induced a spindly growth and such softness of stem that this insect, with its weak jaws and poor equipment, was able to seat them off at the surface of the soil.

SHORT COURSE FOR 'TEEN AGE GIRLS.

A new venture which promises to be a great success, and certainly opens up great possibilities is the short course in Home Economics, now going on at the Agricultural College under the direction of Miss Macdougall, Superintendent of Women's Institutes.

Sixteen 'teen age girls from different parts of the province are in attendance. Thy lodge in the neighborhood of the College, at pirvate homes and prepare and serve their own meals in the Science building. Thus their instruction takes a most practical form.

The girls are divided into groups, as cooks, waitresses and stewards, these groups interchanging so as to give all experience in care of food supplies, cooking and serving, as well as the use of utensils and equipment.

The course of instruction within the limits of so short a period, covers the preparation of cereals, vegetables, starchy foods, meats, eggs, fish, quick breads, yeast breads, cake, cookies, ices and gelatine desserts, also the canning of vegetables and fruits.

In the evenings social features furnish the main interest. Instruction is given in folk dancig. There are sing songs, tennis and other amusements. The impression of the visitor is that he is in a very busy, happy place where every one knows her work and does it.

A typical menu, picked up at random ,runs thus: Breakfast—Farina, toast with cheese, milk, cauce; dinner—Shepherd's pie, tomatoes, junket ice cream; supper—Cream soup, stewed rhubarb.

The present short course runs from July 6th to 16th. Miss Macdougall is to be congratulated on the interest manifested and the succes already attained. Doubless this is but the beginning of much greater things.

FIRST NOVA SCOTIA EGG LAYING CONTEST.

Report of Contest from Period November 1st to July 9th, 1920.
Hens are number consecutively from 1 in Pen 1 to 150 in Pen 30 (5 birds.)

Pen No.	Owner and Breed.	Eggs produced by hens.					Eggs on Floor.	Total to Date.
1.	E. C. Griffin, R. C. Rohde Island Whites	120	118	73	127	104	28	570
2.	John R. McDonald S. C. White Leghorns	124	112	129	139	116	24	644
3.	John R. McMullen B. Plymouth Rocks	103	138	145	150	144	20	700
4.	William A. Reynolds White Wyandottes	95	55	44	76	54	28	352
5.	J. W. Williams White Wyandottes	41	103	142	150	145	2	583
6.	Robert M. Reid White Wyandottes	86	80	95	102	150	23	536
7.	Dr. H. W. Cain R. C. Rhode Island Reds	104	94	94	82	72	25	471
8.	William Beazley Buff Wyandottes	54	85	87	125	125	68	544
9.	J. Everett Spencer S. C. White Leghorns	116	77	125	83	82	45	528
10.	Evangeline Poultry Yards White Wyandottes	63	76	103	108	74	31	455
11.	W. W. Osborne S. C. Buff Leghorns	120	114	89	108	102	12	545
12.	E. C. Giffin R. C. Rhode Island Reds	107	133	56	4	139	18	457
13.	F. E. Jackson B. Plymouth Rocks	145	125	110	133	131	20	664
14.	James McIntyre S. C. White Leghorns	116	115	113	176	28	16	564
15.	W. J. McKinnon S. C. Anconas	123	131	131	113	118	6	622
16.	Duncan C. Fraser B. Plymouth Rocks	95	103	103	134	131	41	607
17.	C. F. Gallant W. Wyandottes	107	118	131	140	128	18	642
18.	Nat Doherty B. Plymouth Rocks	138	90	145	134	185	9	701
19.	Miss Helen King S. C. Buff Orpington	73	38	62	84	64	73	394
20.	Mrs. Jos. Milligan W. Wyandottes	108	67	80	117	147	11	530
21.	Messrs. Parry & Sim S. C. Brown Leghorns	162	164	132	136	89	9	674
22.	Edison E. Eagles S. C. White Leghorns	84	46	78	95	83	7	393
23.	H. H. Hull S. C. Anconas	144	14	106	112	99	16	491
24.	A. A. Sutherland S. C. Rhode Island Reds	115	83	107	122	129	31	587
25.	C. B. McMullen S. C. Rhode Island Reds	180	128	60	108	132	68	676
26.	William Guy R. C. Brown Leghorns	100	124	102	37	62	21	446
27.	John Retson R. C. Rhode Island Reds	166	197	149	124	182	10	828
28.	W. H. Henry S. C. Rhode Island Reds	113	117	124	132	122	19	627
29.	Robert H. Evans S. C. White Leghorns	131	131	113	122	133	23	653
30.	W. A. Warren B. Plymouth Rocks	105	113	98	124	128	10	578
								17,062

NEW BLOOD IN COLLEGE HERD.

A bull calf has recently been purchased from Mr. B. R. Brown, York, P. E. I., by the college management at Truro. If individual characteristics and heredity count for anything he should prove a very valuable addition to the College Ayrshire herd.

The sire of this, as yet unnamed, young aristocrat, is Fairview Milkman 2nd. No. 47647, whose dam in turn, Milkmaid 7th, holds the Maritime Provinces record for milk production. As a two-year-old she produced 11,673.5 lbs. of milk, yielding 492.75 lbs. butter fat. As a mature cow she is chedited with 17,985 lbs. milk, and 758 lbs. butter fat.

The dam of the calf is Queen's Own, No. 35989, a very heandsome cow, weighing about 1,600 lbs, a show cow as well as a heavy producer. She took first prize at the provincial exhibition in Charlottetown, in an aged cow class number 18 entries. Queen, No 24703, the dam of Queen's Own, now 17 years old, is producing at the present time 50 lbs. of milk per day.

The sire of Queen's Own, Howie's Crusader, 26363, has a splendid record. Besides being a magnificent show bull, an unusual number of his daughters have proven to be record makers.

The young bull will follow along the line of the present head of the Ayrshire herd at the college, Jean Armour Lotus Laddie, and will be mated with his progeny.

THE APPLE SUCKER.

The Apple Sucker, which was first discovered in this country at Wolfville last year, has proven to be more widely distributed than at first supposed. It is another of the undesirable immigrants form the continent of Europe. While the main infection still centres about the point of discovery, it is found in greatly reduced numbers along lines radiating out into parts of Cumberland, Colchester and Hants counties.

The areas in which it has made its appearance are along the North Mountain to Blomidon, whence it has doubtless blown across the Bay, and is found along the Cumberland-Colchester shore from Parrsboro to Bass River. In Hants county there is some infection along the shore from Newport Landing to Tennecape, also along the Midland to Clarkesville and as far East as East Gore and Rodin. The area between Wolfville and Windsor has more or less of it, and it runs along the Windsor-Halifax route almost to Mount Uniacke. Other lines of radiation are directly south of Kentville almost to New Ross, and along the Bay Shore from Hall's Harbour to Scott's Bay.

The only notable damage done as yet is at Wolfville. Tt is only when the insect is present in enormous numbers that measurable harm results. and in these outlying districts it would take several years to multiply sufficiently to be a serious menace. The time to combat it effectively, however, is while the area is comparatively small.

Life history and habits. The Apply Sucker develops from a very small reddish brown egg, which is just large enough to be seen by the naked eye. Hatching takes place in the spring, after the buds have burst, and the young insects immediately penetrate the buds, where they remain hidden and secure against sprays until the clusters open out. They feed at first in the exils of the leaves and in the blossom pedestals, the flattened form of the body enabling them to penetrate quite deeply into these situations. When almost fully grown they come out and feed under the leaf or on the stem. At this time they are green in colour and resemble the aphis, except for their lfatness. They are broadly rounded behind, and provided with small wind pads which give them the appearance of a "spread chciken." The adult has four transparent wings, and is a strong jumper. They feed by sucking the juices of leaf and blossom.

When sufficiently numerous they cause the blossom to wither and die. The leaves are dwarfed, and many of them turn yellow and finally drop off. It is only when present in maximum

numbers, however, that they cause such notable injury. Lighter infestations are scarcely noticeable. The signs of this pest which are most likely to attract attention are globules of whitish, sticky material, secreted by the insects. These gather on leaves and blossoms, and even drip from the tree in severe cases.

Control. The Entomological Division has made exhaustive tests with a view to finding out the cheapest and most effective methods of control. Fortunately they are more susceptible to sprays than many native insects. On the other hand, their habit of penetrating the buds right after hatching makes it impossible to reach them in the early stages. As soon, however, as the blossom pedestals have spread apart and the petals show pink at the tips, a thorough spraying, using as much pressure as possible, with Black Leaf 40, at a strength of ¾ of a pint to 100 gallons of water will readily destroy them.

In very badly infested orchards, a supplementary treatment is advised, in the form of a dormant spray of heavy lime wash, applied just before the buds burst. This wash is made by mixing 100 lbs. of hydrated lime, free from all lumps and grit, 20 lbs. of salt, and 100 gallons of water. The success of this wash depends entirely on the thoroughness with which it is applied. Its action is mechanical, covering the eggs on the small twigs with a coating which prevents them hatching. The best results have been obtained by applying a second coast immediately after the first has dried. The utmost care must be taken to cover the smaller twigs and shoots, as it is in these situations the eggs are located.

If the lime is properly strained and a coarse nozzle used, with sufficiently high pressure, little trouble need be experiencd from clogging. This wash, if proprly applied will destroy 90 per cent. of the eggs. The great advantage of it is that it forestalls any damaging outbreak.

In no case, however, should the Black Leaf 40 spray be neglected. It will clean up the infection, and will always destroy green apple bugs and other sucking insects which may be present.

A full account of the Apple Sucker is now being prepared, with coloured drawings showing the different stages of its life, and its work. This will be available before another season.

HOW TO CONTROL A FARM FIRE.

As an ounce of prevention is worth several tons of fire-fighting equipment, every farmer should realize the great sources of fires and know how to guard against them. The principal causes of all rural fires include: Carelessness with pipes and matches, kerosene, gasoline, burning bresh and rubbish, defective flues, spontaneous combustion, flying sparks and lightning. When a fire starts on a farm it usaully makes a good job of it, and burns until everything combustible within reach is consumed. Fire insurance companies take note of this lack of fire protection, and many will not insure farm property except at righer rates.

It is an amazing fact that 75 to 80 per cent. of all rural fires result in total losses, as compared with but 5 per cent. of the losses in cities. These bare figures mean but little, but when it is stated that in the Province of Ontario, 836 barns burned in the year 1918, each representing an average loss of $1,300, or a total loss of allomt $1,100,000 in cash, we can gain some real idea of the awful ravages of rural fires.

The Fire-Bug Smoker.

The most common cause of rural fires is the careless handling of matches and smoking around inflammable material. Smoking should be absolutely forbidden around barns and outbuildings. And regardless of who it is, the person who enters a barn with a lighted pipe or cigar should be run off the place. He is as great an enemy as an anarchist, and individually far more dangerous.

Fires from kerosene and gasoline explosions are getting common. These combusibles should never be stored inside a building. The best place is underground. The next best is under a bare cover, protecting the tanks from sun rays, out in the open, 50 yards from any building. Lamps should always be filled in the daytime, and kerosene should be used sparingly. It is well to remember that kerosene, although very dangerout, is much less dangerous to handle than gasoline. With the former a lighted match can be dropped in it and no danger will result, as heat is first required to form a gas. But the smallest opening of a gasoline container exudes vapor that is highly explosive, and a spark may carry yards in this vapor to the supply. Being heavier than air, the vapor lies close to the ground, so that it may be a menace little expected.

The great danger from brush and trash burning comes from assuming it is out when there are live coals buried in the ashes. A wind may then rise, blow off the ashes, fan the coal and scatter them to inflammable objects. If care is taken in fully extinguishing all the live embers before evening, the greater danger of spreading fires is done away with.

Testing Defective Flues.

Defective chimney flues play a large part in destruction of farm property. The soot forming in the flue frequently catches fire, and if the flue is not tight, sheets of flame are sucked through the cracks, setting fire to timbers and the room. Practically all the large cities have building laws requiring that flues be tightly lined before the house can be completed. If such a rule is a necessity to safety in the city home, protected as it is by fire engines and a high pressure, inexhaustible water supply, how much more necessary it is that the country home should be at least as well guarded!

Flues can be tested for cracks by building a smudge fire and stopping the top of the chimney. Smoke will quickly emerge from any cracks. These can then be tightly sealed. The flues should be tested at least once a year, and all soot cleaned out.

Spontaneous Combustion.

The most common example of spontaneous combusion is fire that results from the heating of improperly cured hay stored in barns or stacks. If it is a little damp from the rain or dew, it will heat rapidly down in the depths of the mow, gradually work up to the top, and then suddenly burst into flames that are almost sure to destroy all within the barn. Proper handling of the hay is the only preventive, although a thorough salting of each layer of hay at the time it is stored will usually prevent too great heating. But even this will not prevent the hay from molding some and thus spoiling its palatability.

Old dirty rags piled together also may cause fire by spontaneous compustion. Green manure may heat and set fire to buildings, although this is not common. Grain stored away when damp may heat, as will piles of sawdust, and even dirty and oily trash. Knowing the causes and dangers of this source of fires, the remedy is apparent.

The one and only safeguard against lightning is the lightning rod. The number of fires from lightning striking properly rodded buildings is almost infinitesimal, as compared with unrodded. The actual figures show from 89 to 99 per cent. reduction in fires by lightning as a result of using lightning rods of the right kind. No rural home should be considered coflplete without them. But one should make sure that he gets good material and that they are put hp right. Ootherwise they are actually worse than none, and a menace instead of a safeguard.

Wire fences should be grounded every few rods. This is easily accomplished by running a number nine wire at least three feet into the ground at every ten or twelve posts, and stapling it tight over each fence wire. If allowed to extend several inches above the fence, it gives added security. Properly grounded, the lightning, should it strike the fence, will run into the ground quickly, and cause little damage to livestock that may be against it or nearby.

How to Control Fires.

A fire in its early stages is easily controlled. A bucket of rater thrown on then is worth a tankful ten minutes later, which is about the time required to find a bucket, rush to the fump, prime the pump perhaps, and get back to the blaze. The obvious thing then is to have a supply of water near each building. As this is required by fire inspectors in inflammable buildings in the cities, it s surely necessary on the farm. A fine arrangement s to geep a barrel in each main building, filled with water and covered so as to keep out trash and avoid evaporation. Two fire buckets, painted red to mark them, hanging near, and religiously kept there, provide a wonderful "first aid."

Next to a water supply and really more effective in some classes of fires, particularly burning oil, gasoline or kerosene, is the chemical fire extinguisher. These, supplemented by a covered barrel of water, provide material which, quickly applied, will subdue all small blazes before they reach the all-consuming stage. It is equipment such as this that puts out the majority of the city fires.

There is one other very essential accessory to successful fire fighting, and that is a long ladder that will reach to the roof of the house. Without it, one would many times stand by utterly helpless, while a fire from the flue gathered headway and got beyond control.

In fighting fire, coolness and quick thinking are valuable. Headlong dashing here and there, throwing water widely, results in a nine-tenths waste of effort and material. Water and chemicals should be directed at the spot that is actually burning, and not merely at the flames. And it is well to emphasize that water will not put out a flame of oil or gasoline, but only scatters it. These fires must be literally smothered with ashes, sand, sawdust, chemicals, etc.

SAVING HOME GROWN SEED.

(Experimental Farms Note.)

Although the cost of seed that is used in planting a vegetable garden is small compared with the returns, it is very easy to grow the seed one's self and moreover, if pure seed of a good strain is produced at home, one is surer of having what is required.

Seed of most varieties of vegetables can be grown at home of as good or better quality than is the imported seed, but to ensure having good seed it should be saved from the best plants rather than from those which happen to have been left in the garden unused.

A few plants of peas left to mature without picking any green pods from them will furnish enough seed for the garden next year.

Reserve a few feet of the row of beans for seed, or, better still, mark a few productive plants, which are free from disease and do not pick green beans from them. Quickness of drying is important with beans and peas, as with most seed, and it should be cleaned and kept dry until the following spring.

If seed is damp it is liable to mould and lose its germinating power. For this reason it is particularly important in the case of corn to dry the seed thoroughly and rapidly. When corn becomes ready for use, a few of the earliest and best developed ears should be marked to be left until ripe for seed.

One cucumber will contain enough seed for the wants of the home gardener. A specimen which is typical in shape and colour of the variety grown or the type desired should be left on the vine until it turns yellow, when it is cut open and the seeds spread out thinly and dried and put in an envelope until needed.

Seed is readily obtained from lettuce. One plant will produce more than enough seed for home use, and no doubt some radish plants have gone to seed, which may be left until the seed ripens.

The seed of tomatoes for home use should be saved from the plant bearing the largest crop of early and best fruit. The tomatoes are cut in half and the pulp pressed out into some vessel, adding about one-third its volume of water. Put in a dark room until fermentation sets in, which will be in about two days, when the seed will separate readily from the pulp. It is then washed out and spread out to dry but not in the sun. When dry, store in paper bags until needed.

The seed of other vegetables can also be saved, and there are many persans in Canada who have their own specially selected strains of different sorts.

W. T. Macoun,
Dominion Horticulturist.

CO-OPERATIVE WOOL NOTES.

Since our last letter very little change has taken place in the wool market. Possibly the most interesting fatures to be noted since July 1st are: (1) The fixing of a definite date for the re-opening of wool auctions in Australia; (2) the current London wool sales; (3) the shut-down of a number of mills owned by the American Woolen Company; (4) the effects of the trade to forecast the return of confidence; (5) the slight increase in trade activity on the American market.

It is estimated that approximately four million bales of Australian wool will soon be available to manufacturers. This includes Australian wool previously bought by the Imperial government as well as the new Australian clip. Interest is attached to the fact that the Ausralian Prime Minister has announced "that public auctions of the ensuing wool clip will open in Melbourne about Oct. 1st. Heavy withdrawals at recent London sales are leading to the belief that some big movement is on foot to unload large British government holdings on the continent. If such takes place the situation will be materially relieved.

Outside of certain plants owned by the American Woollen Company, there is not much tendency on the part of mills to close down. Every day sees manufacturers and others buying on the American market according to their immediate needs. There seems to be increasd activity in the Western States where many houses now have men in the field taking wool on consignment. Advances on this wool are being made at 20 and 25 cents.

As to this organization, we beg to advise that grading of the eastern clip nears completion. Garding of the western clip is now in full swing at our Weston warehouse. Cars are arriving daily from the west and there is every indication that we will handle considerably more wool than we did last year. The Canadian trade seems quite interested in our grades and speaks very highly of the closer grading being practised this season. We have made numerous quotations and have recently made several good sales of eastern wool at most encouraging prices.

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DATES OF ISSUE.

July	—20
August	3—17—31
September	14—28
October	12—26
November	9—23
December	7—21

JULY 20, 1920

FARM PAPER FOR P. E. I.

Th farmers of Prince Edward Island are talking of establishing a farm paper of their own, which will be devoted to the interests of the farmers of Prince Edward Island. The idea is a good one. The paper would serve as a stimulus to the splendid co-operative movement which the P. E. I. farmers have built up. They have demonstrated a practical system of co-operation which benefits the farmers. There have been no big rakeofls in their methods of handling goods. They sell their own produce direct and they get all of the profits. It is the producer that benefits and not the few who have money to invest. Likewise, when they buy, it is the customer who derives the benefits. There are no millions of dollars of concealed assets, as is the case of the Grain Growers. That sort of graft has been eliminated in the Island. The Maritime Farmer has been pictured as a paper opposed to the interests of farmers. We have saved farmers of Prince Edward Island this year a good many hundred dollars by assisting them in their buying. We expect in the near future to be able to assist them still further.

The Maritime Farmer wishes the farmers of Prince Edward Island every success in their new venture. We hope they do start a paper, to be dictated along the lines of their own interests.

If the Maritime aFrmer can assist them in any way with its experience, we shall gladly offer our help. What we would like to see are papers run in the interests of the farmers of the Island. There is too much west and too much Winnipeg in evidence in the east today.

A. E. McMAHON'S STAND.

The Halifax Chronicle, in its report of a political meeting at Berwick, N. S., notes the appearance of Mr. Albert E. McMahon, manager of the United Fruit Companies, on the platform with the Liberal candidates. Not content with doing that, Mr. McMahon's speech, as reported, was a direct attack on the United Farmer movement, as at present directed from Winnipeg in the Maritime Provinces. Mr. McMahon said he did not believe in it and he condemned a policy which had as its object the creation of antagonism between farmers and other citizens of Canada. Mr. McMahon needs no special introduction in these columns. He has done as much for organized farmers in Nova Scotia than probably any man in that province. Mr. McMahon will now have to take his medicine, if the organizers from Winnipeg get after him, and if reports that reach the Maritime Farmer are correct, certain persons have already been working quietly with a view to getting control of the United Fruit Companies. Outspoken men like Mr. McMahon are not admired. Independence is something that is not tolerated. Mr. McMahon probably recognized that the Winnipeg game has more thought of political advantage than it has of the welfare of the farmer.

FIGURING TIME FARMER WORKS.

From every industry or occupation, from the shoe shine shop in the village to the Member of Parliament in the Legislative House, the all absorbing topic is a fair day's pay for a fair day's work. The butcher, the baker, the candle stick maker and all the host of per hour per day workmen have it all figured out nicely in black and white and know exactly how they can face their indebtedness and pay taxes, interest, insurance, grocery bills, etc., but the farmer in figuring his income has also to offset his expenses and these must include wages to himself. We do not grudge the laborer his hire nor do we think many of them, skilled and unskilled, are getting more dollars per week for their labor than are necessary to rear families and live in any degree of comfort, but we are certain that if all the skilled and unskilled labor that is undertaken by farm families on farms were paid at the same rate the farmer himself would not make wages for the hours worked.

It is while the farmer is going over his expense accounts for 1919 and comparing items with similar items of previous years that the question arises "What did I get per hour for my labor last year? Was it ten cents, twenty-five cents, thirty cents, or what?" To decide this question he will have to know two things, how much money he made and how many hours he worked during the year. The first, that of excess of receipts over expenses, plus the increase in value of farm and the products consumed by family, is easy to anyone who wades through an income tax statement; but the second is not so easy unless one has kept tab on the number of hours he worked during the year. There were rush times when he worked from 4.30 a.m. to 9 p.m., which, allowing a half hour for meals three times a day, gives him credit for fifteen hours a day. Then there were the stormy winter days, when nothing could be done but chores. There were Sundays and wet days when nothing was done but the chores, and these reduced the total hours he had to work nearer to a civilized figure. But, practically speaking, he was "on deck" all the time, in fact every farmer has to be, from rising time to quitting time.

The farmer who works only ten hours a day and five on Sundays and holidays works 3,375 hours in the year, more than half as much again in time as a union man, and for barely $1,000 at 30 cents an hour. If he is a dairyman he may average twelve hours a day and six on Sundays, or 4,050 hours for little more than half as much money. At times the work day may run to sixteen hours, occasionally even higher. The farmer is constantly "on the job," he can't get away from it. He can't get extra pay for overtime work, but if he doesn't do what needs to be done when it "needs doing," he is liable to suffer serious loss.

It is no use for a farmer to try to check up income and expenditure until he knows what he gets and how long he has worked. He will find it is best to work out the rate of pay per hour (per day is too uncertain a quantity in farming), even if it is only a rough estimate of either income or time. Doing it this way for the past year has guided many men to do it better in 1920. You will not need to use any special form as only the total actual time worked is all that is wanted. Just mark the calendar each day and you will get the total of your time from that at the year's end.

A REAL TEST OF A BULL'S VALUE.

In selecting a bull, the most important thing to consider first is his breeding. This means that he has a good pedigree. His dam and grandams should be good producers. He should come from a family of consistent producers. Pedigree, however, is not everything.

The bull must be a good individual. Many a bull with an excellent pedigree is occasionally so poor an individual that no good breeder would use him. Type is essential if we ever expect to sell any of the offsprng. As far as young bulls are concerned, breeding and individuality are all we have to judge from. With a bull four years old, however, we should have another index of his value.

Good offspring is the real test of the value of a bull. His ocspring should show uniformity and be good individuals. The daughters should also be good producers, at least as good as their dams at the same age.

If a bull has these three qualities he is a good bull. If he possesses the first two and it turns out that he does not have good daughters, he is no good and should not be used longer. If on the other hand, his daughters prove to be better producers than their dams, you have the kind of a bull every breeder is looking for—one that builds up the herd.

* * *

The time has come when the dairy farmer, producing milk for city trade, who wants efficiency cows must breed and raise them. If he depends upon buying new cows to replace the onces discarded from his herd he will never succeed in getting any further ahead. In order to raise efficient cows he must adopt a system of breednig and selection and stick to it until the desired results are accomplished.

* * *

In many instances crop returns could be increased considerably if a more complete job of harrowing were done and if more cultivation were given where this is possible. Labor spent in this way is seldom lost. As stated, Nature makes an effort to respond whenever the soil is stirred. If the response is not evident it behooves one to locate the circumstance which is restraining Nature from showing just appreciation of one's effort to assist here.

* * *

Education should lead to understanding; should prepare one for some useful service and should make one more efficient, so that he can do more work than th person who has not had the school training. It should lead to a desire for useful knowledge, a desire to read good books and magazines, because the mind does not grow unless it is fed properly. Education should lead to higher standards of living and to higher ideals.

BOYS' JUDGING COMPETITION.

The first boys' judging competition to be held under the supervision of the New Brunswick Department of Agriculture took place July 6th and 7th. This was the ultimate result of agricultural short courses which were held during March of this year at Chatham and Moncton, under the superivision of the gricultural representatives. The courses were of 2 weeks' duration, and were open to young men interested in agriculture. Instruction was given in all lines pertaining to agriculture including stock judging. At the conclusion of the course, three boys were selected from each 10 to make up a team to compete in the contest between the two short courses. This was held July 6 and 7th, when the teams and instructors, accompanied by E. P. Bradt, Secretary of Agriculture, and F. W. Walsh, Acting Supt. for Livestock, motored to Napan Evxperimental Farm, where most of the judging was conducted and the following classes judged:

Draft brood mares.
Beef cows.
Dairy cows.
Dairy calves.
Breeding sows (bacon type).
Butcher class hogs (bacon type).

The following day the Oxford sheep flock, owned by Burden Goodwin, Baie Verte, Westmorland county, was visited and two classes were judged: Breeding ewes and butcher class lambs. Written reasons were required in all classes and although the boys had not had a great deal of training, their papers showed that they had grasped the work exceedingly well. The fololwing is the result, giving individual scores and team results:

1st, John Bateman, Shediac, West. county, 684.

2nd, Fred F. Fowlie, Little Branch, Northumberland county, 647.

3rd, Willie Trueman, Aulac, R. R. No 3, 643.

4th, A. McDougall, Hexhan, Northumberland county, 637.

5th, Blair Collier, Moncton, R. R. No. 2, 561.

6th, John Beattey, Nash's Creek, Restigouche county, 504.

1st—Moncton, 1888.

2nd—Chatham, 1788.

A silver cup was offered for the team having the highest score and this goes to the Westmorland team.

Prizes offered for the highest individual standing were two books, "Types and Breeds of aFrm Animals," by Plumb, and "Judging Livestock," by Craig. John Bateman, Shediac, received this. Second prize, a book, "Judging Livestock," was won by Fred Fowlie, Little Branch, Northumberland county. Although this is the first contest of this kind that had been held in New Brunswick it proved a success, and opened a way for more work along this line. It is hoped next year will see a larger number of teams compete.

Special mention is due to J. H. King, Agricultural Representative, Moncton, and Jas. Bremner, Jr., of Chatham, who instructed the teams.

In accordance with the policy adopted by the Women's Institute Division of the New Brunswick eDpartment of Agriculture, demonstrators will, during the summer months, visit each and every Institute in New Brunswick.

For the past few years the maporify of the demonstrations given were on cookery, with occasional ones on home nursing and dressmaking.

Requests for more information concerning home nursing led to the decision to send out a nurse as one of the demonstrators for the 1920 summer campaign. For this purpose the department fortunately secured the services of Miss Alice Landry, R. N., who did such splendid work in the Women's Institute Short Courses in Household Science in both English and French speaking districts of the province.

Miss Elizabeth Nutter, graduate in Household Science from Acadia Seminary, Wolfville, N. S., who has so efficiently conducted oWmen's nIstitute demonstrations during 1918-19. will again visit the Institutes, demonstrating vegetables—food values, practical uses and methods of preservation.

POTATO SPRAYING ECONOMY.

(By J. A. M., Ashton, Ont.)

With the present scarcity of efficient labor or in fact labor of any kind, it is predicted from many quarters that the bugs and the blight will have an unlimited opportunity to play their destructiveness on our already highly expensive potato production. Indeed if this should happen the lowly spuds might be again at a premium during the coming winter, and the growers in general be at an enormous loss. The writer is aware of one who last season planted fourteen bags of the cobblers and only dug sixteen, an increase of only two bags; it is quite apparent that should the increase have not been more than doubled it still would have meant loss; this failure was chiefly caused by not spraying for blight; it is acknowledged that the farmer was busy at the time and did not feel disposed to stop his harvest work, but it is easily seen that it would have paid him to hire help if it was at all possible to secure it. Now at the outset of this article it was intended to investigate the means by which the spraying could be done in the most efficient manner at the lowest possible cost, because that is the fundamental principle of economy. As to efficiency in the matter of Colorado beetle destruction, I can revert to a period when they were viewed as a very poisonous insect, and shortly after that there appeared an advertisement in an American paper as a sure remedy for them had been found; now this only cost fifty cents although that amount is worth about as much in buying powers as three dollars is today; so off we sent it by registered letter, and in a few days arrived the sure cure for these bettles; it consisted of two small blocks of wood numbered one and two; the directions read something like this: "Remove beetle from foliage, place on block number one, and then tightly press no two against it; scrape clean and proceed as before.' 'Undaunted by this first potato fraud we purchased some Paris green to afterwards learn that it was unsafe to apply it to the leaves as it would poison the potatoes and finally ourselves; so with our usual presence of mind we mixed up a pailful of the mixture, picked off the bugs and threw them into it. After this came the brush method of applying the green, then the watering can and finally we are in the era of the sprayer, which to the present moment has furnished the most scientifice method of applying all kinds and varieties of spray mixtures. Unlike the watering can the liquid is omitted from the sprayer nozzle under high pressure in the form of a fine mist which has the capacity of entering the most slender crevices and the most remote corner of plant foliage, and of buildings, etc., when used for disinfecting and other purposes. This film-like liquid spreads over the entire foliage and dries thereon resulting in the most satisfactory results that are possible to be attained. Besides this only about one-third the water, and half the Paris green is used, with a comparative saving in the consumption of all other materials for different infections. There are three standard varieties of sprayers whose efficiency is about equal and the results identical, the only material difference being that according to size and style they are suited to variously sized plots, and the second consideration arrives in should one desire their use for other purposes than spraying potatoes. The smallest implement is what is known as the shoulder tank; this tank holds a few gallons and air is compressed into it by a hand pump which is a component part of the machine; as one walks along the rows the mixture emerges from a pipe connected to the tank; thus by manipulating this rubber pipe or hose it is possible to spray all kinds of small vegetables and shrubs, disinfect stables and barns, does small amount of whitewashing, besides look after the potato plot. It is well suited for small areas of perhaps an acre or so, but over that the two-row sprayer is by far the most economical as it sprays two rows at a time and does not require to be filled with compressed air; the tank of this I would imagine would hold possibly about eight gallons so one can readily see that it will cover quite a space without being refilled. It is a very handy little machine for washing the buggies or car, windows, or giving the buildings a coat of whitewash. It has been used with good success for large acreages up to ten or twelve, but as time is valuable during the spraying season it is merely a matter as to whether that amount of time could be utilized, because if the area is over three acres the four-row sprayer certainly will accomplish the work in less time with very infrequent refilling as it holds a barrelful; it can be easily appreciated to be a much swifter outfit, and is especially adopted, by the use of a small extra attachment, for orchard spraying as well as other miscellaneous work. The writer is aware of a party who sprays nine acres after supper and his supper was not very early either. It is quite feasible to cover the ordinary sized plot of a grower who does not specialize in production of potatoes, of say about five acres, in two hours or so. It is well when purchasing to buy a size suited to your requirements as many who first bought a smal lsprayer, after finding out the exceptional qualities of the work done, have wished that they had purchased a laregr outfit and gone more into the business, as they claim that by the spraying method the work is reduced to a minimum with almost a certainty of a good crop, as the entire field can be covered just as frequently as required without the dread of a back breaking job. In some sections the four-row sprayer is used for applying iron sulphate to growing crops; this will destroy any wild mustard that may be in them, and it has been found to give very satisfactory results by various persons, although the writer personally has had no experience with the spraying for destruction of mustard. The large machine is, of course, horse drawn, and the two-row apparatus can either be pushed by hand power like a wheel-barrow, or also drawn with a horse. During this labor scarcity, and the general prevailing high prices of potatoes for the last few years, the sprayers should materially increase the annual yield, and prove to be one of the most necessary and best paying pieces of machinery around the farm premises. The Dominion and Provincial oGvernment Departments of Agriculture have prepared some very good information on potato, vegetable, and fruit spraying, which can be had for the asking, or one can also secure this from a sprayer manufacturing concern without charge; the latter generally gives you a small booklet on the subject when you purchase a sprayer.

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HORTICULTURE.

A STRAWBERRY SUCCESS IN NOVA SCOTIA.

By J. H. McDonald in Farmers' Magazine.

Growing strawberries of first class quality, putting them on the market with the flavor still as fresh as it was in the field and creating a demand for them in the local market at a price that guarantees more than an ordinary profit is the achievement of John Huntington and Sons, of Salmon River, N. S.

When John Huntington began experimenting with strawberries, a number of years ago, he had a first-class stock farm and four sons to help him. He was looking for a cash crop that could be carried to market over twinty-two miles of bad roads without having all the profits leak away in wagon and harness repairs. This was before the boat-line on the Mira came into being and brought the market for heavy produce close to the gates of the farmers of this section.

Potatoes were out of the question for they were too heavy. No one had ever attempted to grow small fruits on a commercial scale in this section. But Mr. Huntington had gooseberries, raspberries and strawberries in his kitchen garden, and he knew they did well on a small scale.

He selected the strawberry. Having grown strawberries in the garden on a small scale, he was spared several of the many mistakes of those who go into such a venture "with both feet."

The farm itself is on a low hill in a bend of the Salmon River. On three sides of it are the marshes on which many tons of wild hay are cut each year, ideal material for a winter mulch.

The first year the plants were set out on sod turned under the fall before. They were carefully planted and cultivated and the soil was well fertilized, in fact as far as his knowledge of the work extended no pains were spared to make a success. However, th previous year the May beetle had laid a gooodly supply of eggs in the sod land ant during the summer months the white grub paid full attention to the juicy roots of the new strawberry bed. When fall came only a small percentage of the plants had survived.

This was one lesson learned and a mistake that did not occur again. It has been this role of only making the same mistake once that has helped, more than anything else, to bring "Huntington's strawberries" into suih local fame as they at present enjoy.

The writer has "talked strawberries" several times to one or other of these men and they say that doing the work thoroughly from start to finish is the secret of their success. This is how they go about it:

Cultural Methods.

The land is always in a hoed crop the year previous to setting out the plants. Usually it is potatoes and the soil is heavily fertilized with barn yard manure. The more humus the soil contains the better it is from a strawberry point of view. No commercial fertilizer that has yet been tried here has given as good results as manure. If applied in the spring, well rotted manure is the best. Fresh manure applied in the spring leaves the soil too loose allowing it to dry out more quicqkly. This is more apparent on lighter soils. The south side of the Huntington farm is rather a sandy loam, while the north slope of the hill is a heavy clay loam. Nitrate of soda, applied at the rate of about one hundred pounds per acre at time of flowering, has been found to give good results.

The land for the new plants is well worked as early in spring as possible. While plants may be set out in the fall and give fairly good results, it is found that spring is the time for ploughing. The treatment the soil receives prior to setting out the plants has a lot to do with the ultimate success or failure of the plantation. Thorough discing, followed with a smoothing harrow and a light roller will put the soil in good mechanical condition. The use of the roller gives the soil a level surface that is a great help toward getting all the plants set at the proper depth.

In planting, the matted row is the only system used. Other methods are left for the experimenter. Special methods may at times give a heavier yield but for economy of time and labor the batter row is found best.

The rows are set three feet and a half apart and the plants about twenty inches apart in the rows.

After planting is over cultivation is commenced at once. An effort is made to keep a good dust mulch on the surface. All weeds are kept down. All blossom stems are pinched off as soon as formed, the plants are forced to direct all their energies toward leaf and runner growth.

Considerable care is taken to have the runner plants well spaced and not overcrowded. With such heavy runnering kinds as Warfield, a few are cut off if there are too many.

In the late fall after the ground has frozen solid the winter covering is put on. For this, heavy marsh hay from the adjoining marshes is used. This is put on to a depth of from three to four inches. The marsh hay is considered the best material for covering as it carries no weed seeds to pollute the soil. The Huntingtons have never used any cover crop between the rows as such a crop draws too heavily on the supply of fertilizer and moisture. The mulch prevents much of the alternate thawing and freezing of the soil in spring. It is left on the rows until all danger of hard frost is over. It is removed before growth starts. It also prevents too early a start being made by the plants in the spring and

(Continued on page 788)

Fruit Packages

We Manufacture Strawberry Boxes and Crates for same, 6 qt. Baskets, Apple Boxes, Box Shooks, Apple Graders, Wheelbarrows. Now is the time to lay in a supply of Fruit Packages for the coming season. We have a good stock on hand, order early and ensure prompt shipment. Price on application to

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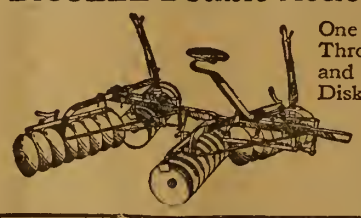

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ADJUSTING CULTIVATOR TO ITS WORK.

Many farmers pay little or no attention to the proper adjustment to the shovels of the cultivator. They assume that the culivator is all right if it is going through the ground reasonably well and is tearing up the weeds. But it may be doing poor work, and at excessve labor to both team and operator because of faulty adjustments.

The points to be observed particularly in adjusting are: lubrication, balance of frame, position of seat, hitch, spacing and alignment of gangs, feiders or shields, springs and depth adjustment, and shovels. Too many operators ignore all of these except that of the shovels, and adjust the latter very poorly. It should be unnecessary to state that the cultivator wheels should be well lubricated, as well as all the other parts, if the cultivating work is to be done with the least effort of man and team.

The Proper Balance.

In most of the latter types to riding cultivators there are adjustments for balancing he weight of driver against that of the implement, so as to get just enough weight at the end of the tongue to hold it from tipping up, and still get no appreciably weight on the horses' necks. This adjustment will need to be changed whenever a change of operation makes a marked change in either the weight on the seat or the position of the seat, as the latter is moved back for a tall man or forward for a short man or boy. Care should be taken that, with the gangs down in position to work, the driver can just tip the tongue a trifle by leaning far back in the seat. If the driver wishes to use the implement as a walking cultivator, he should try, either by a readjustment of the balance or by putting a weight on the seat, to make up for this change in the distribution of the weight.

Two things should be kept in mind in adjusting the hitch on a cultivator. One is to hitch the single tree to such a height that the horse can pull the load with the least draft and the greatest comfort. In general, the sigle tree should be at such a height that it will be on a straight line extending from the shovels in the ground to the point where the traces are attached to the hames. This is more nearly the natural pull for the horse than to have the single tree at such a height as to make the traces horizontal.

The other thing to be watched is the point where the draft is applied to the gangs. On some cultivators there is a vertical clevis adjustment at the front of the gangs, so that by hitching higher or lower, the gang will run shallower or deeper in the ground. The proper adjustment here will make consideable difference in the labor of getting the shovels to run at the desired depth.

Gang Adjustments.

The gangs should be adjusted first to the proper distance apart. Obviously they will need to be closer together the first plowing and wider apart after that. In some models, especially of the two row types, the gangs are spaced by means of a lever. In others, this spacing must be done by loosening a set screw and moving the front of the gang in or out along the axle. Whatever the method, it should not be neglected, but care should be taken that when the gangs are the proper distance apart the gang beams should run parallel.

Many cultivators also have an arrangement whereby the shovels are held perpendicular to the row no matter how far the gangs are pushed to one side. and occasionally this will need checking up to see that it is in proper adjustment.

The gange should also be so adjusted that the shovels will run at the proper depth with little or no pressure from the operator. The depth is really a combination of several factors, such as spring tensions, hitch at front of gang, sharpness of shovels, nngle at which shovels are set, and so on.

Shovel Adjustments.

Above all things the shovels themselves must be kept properly sharpened and scoured. No money spent for repair work will bring better returns than in having the cultivator shovels pointed and sharpened and polished each spring, and some heavy grease or oil should be kept with the implement constantly and a little applied every night to be sure that no rust collects.

It is also important that the shovels be set at the proper angle and that this be uniform on all of them. In some cases his angle is fixed, but in most models there is some adjustment whereby it can be varied slightly.

It is hardly possible to give any figures which will apply to all implements and all conditions, as the best angle will be affected by the length of the shovel, the amount of curve it has, tie charactr and condition of the soil and so on. Obviously, the best angle may be changed slightly on the same cultivator by a difference in the length and curve given to the point. By trials, however, the angle for the best results can be determined, and the shovels can be set to this angle in lase they become loosened.

If difficulty is experienced in getting a sharp shovel to penetrate, setting the blade to run a little flatter should give a little more suck and overcome the trouble. If set too flat, however, it will not penetrate so well. Shovels set too straight up and down usually will jump or skip along and will require more effort to hold them in the grohnd and hence cause heavier draft. Under such conditions they usaully will not scour well.

Also the shovel must be set to throw the dirt properly. If the inner shovel is set to throw the dirt towards the rows, the tendency will be to crowd the gangs out, and the outer shovll should be set to throw the dirt slightly in the opposite direction, so that the gangs will tend to run practically straight. If anything, it is better to have the gangs crowd out a little rather than in. as this tendency can be overcome with the link or chain connection between them without throwing undue work on the operator.

Where the shovel persists in working loose on the shank, a steel lock washer put under the nut will stop all such trouble.

Strikes, strikes, strikes in the city for shorter hours and higher pay, bewailing the high prices of food and all other necessities of life, but with plenty of money for luxuries, present a unique and unusual situation—the aftermath of war.

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With your eyes open

When you buy ready roofing you should bear in mind the following facts.

There are many kinds of ready-roofing on the market.

The prices of these vary, *depending largely on the quality*. Although the quality influences the price, there is small difference in the *outside* appearance of these roofings.

So you cannot determine quality by outside appearances alone. You must judge a roofing by its price and by the service it has given others.

There is only one roofing legitimately sold under the name of Ru-ber-oid. This roofing costs more than some others. Its quality justifies its price. On many roofs it has given continuous service, without repair, for over twenty years.

If you buy roofing simply from the standpoint of low first cost you are not interested in Ru-ber-oid.

If high quality and long service are what you require you should buy Ru-ber-oid.

The Ru-ber-oid Man appears on every roll. Remember this because the name Ru-ber-oid is often wrongly connected with roofings which are even more inferior to Ru-ber-oid in quality than they are lower in price.

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DAIRYING.

MANAGEMENT OF DAIRY HERD—HOW TO MAKE IT PAY.

The subject of managing a dairy herd has a great bearing upon the future of the business. The demand for dairy products in the form of whole milk, butter, cream, cheese, condensed milk, etc., is stimulating the business of dairying. The dairy business is also proving the salvation on many farms where a too one-sided system of crop growing, without the necessary provision for plant food, has rendered the land unproductive.

Years ago, when the land was new and the fertility seemingly adequate to last for centuries, farmers did not recognize the importance of feeding live stock and returning the fertility to the land, but today the farmer is finding it necessary to help nature to sustain life in the soil if he is to succeed in doing his share toward feeding a hungry world.

The statement that two-thirds of the dairy cows in Canada do not make a profit for their owners leads us to sit down and do some mighty hard thinking and start out with a determination to weed out our own herds and send every inferior animal that is not able to pay for its board to the shambles. With land valued at from $100 to $150 per acre it requires no close figuring to convince us that we cannot afford to decorate our pastures and fill our barns with scrub cows that eat their heads off and fail to say "I thank you" for their food.

To Clean Out Robber Cows.

How are we farmers going to set about the problem of cleaning out the robber busines on a basis that will pay us the customary ten per cent. profit for what we do for them? Now, we cannot go into every cow stable and sell every cow that it not a high producers and put in their places a few purebred animals, and then go to our bank and start making heavy deposits. A lot of us would be worse off with purebred dairy cows than we are with our grade herds, because we would not have the experience necessary to care for and feed them so as to bring out their best qualities. The desire to own purebred stock is praiseworthy, but unless a man is thoroughly qualified to care for them they will prove as useless, and far more expensive than vigorous grade animals. Always bear in mind that scrub feeding and scrub care will make a scrub out of the best purebred animal in the land.

The Number of Cows to Keep.

I have no purebred cattle on my farm at present, neither have I the most convenient barns and equipment like many of the wealthy farmers in the state, but we are endeavoring to do the best we can with what we have and with the feed we can raise, and to bring our land up to a higher state of fertility. With better cows and the growing of silage corn, oats, clover and alfalfa, and feeding them out on our farm we hope to build up a better system than the one we are now practising.

My advice is not to keep more cows than you can give proper care and sufficient feed. Do not think because your milk check, cream check, or whatever it may be, is a large one from a herd of 20 cows that you cannot make a greater profit by cutting down the herd to ten of the real good cows and giving the ten cows better care, better feed and growing better crops adapted to their requirements. You may get a smaller check at the end of each month but you will have more money at the end of the year if you feed only the better producers. It is not always the large herd that makes the most profit.

Use better sires, raise the best heifer calves from the best cows and give them the best of all calf-foods—skim-milk. I do not know of a single instance where a dairy farmer has succeeded in raising good thrifty calves by feeding them water and prepared salf meals. These calf meals come near to being a substitute for skim-milk, but they do not give good results unless they are fed along with skim-milk, which is necessary to promote growth and build body tissues. Proper development of the calf is one of the prime essentials of developing a high-producing dairy cow. It is nothing less than a disgrace to the dairy industry to visit farms where the calves are neglected and see the poor, scrawny little creatures humped up in fence corners. Such stunted animals can never develop into high-class cows, no matter how well they may be fed and cared for after they reach maturity.

How to Feed the Heifers.

We must breed and feed so that we will have yearling heifers that weigh between five and seven hundred pounds without carrying an excess of fat by the time they are one year old. Then we will know that there is some chance of our making progress in the way of develpoing a profitable herd of cows. In my exerience in feeding calves I have found ground coats, with the hulls removed, an excellent feed to mix with skim-milk, gradually teaching the calf to eat the dry grain and hay. A little grain is needed to keep them growing until they are a year old.

So much for the calves, now for the time when the calf becomes a cow. Is she going to be properly developed to pay for all you have done for her? That is the big question. If she had a good sire for a father and a fairly good cow for a mother, the rest is up to you. If she has good care the chances are that she and her offsprings will be worthy o a place in your herd.

The day of guesswork in feeding the dairy cow has gone. If we are to make a profit from our herds we must fix certain standards and do our best to bring each animals up to them. We must figure out well ballanced rations by using what feeds we raise on the farm, with the addition of such feeds as may be needed to properly supplement them in making up the required amount of protein.

The Minimum 6,000 Pounds Per Cow.

Every dairy fairmer should breed and feed for the six thousand pounds of milk per year per cow at least, weigh her milk at least once a week and keep a record o fher butter fat yield. The scales and Babcock test will prove of untold value in keeping you posted regarding the production records of the individuals in your herd. If some of the cows should fail to produce the six thousand pounds of milk a year take an inventory of your methods of care and feeding and if

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Grow all the good clover and alfalfa hay that you can and enough good corn to fill a silo. If you have for grain you can keep production enough land to grow corn and oats costs down very low. We musa balance our feeds so that the cows will be furnished the required amount of digestible nutrients to supply her own body needs and the extra feed require dto maintain a profitable flow of milk. With a properly balanced grain mixture it will seldom pay to feed more than one pound of grain for every three or four pounds of milk the cow produces. The following rules in the care and managefent of the herd will prove of value to many farmers who are new in the business.

1. Keep as many cows as you can properly feed and care for.
2. Use pure bred sires and raise only the best heifer calves.
3. Use the scales, Babcock tester and pencil.
4. Grow as much of your feed as possible.
5. Provide a comfortable and sanitary stable.
6. Feed all the good roughage they will eat up clean.
7. Have faith in your cows and in the dairy business.

T. J. ROBERTSON.

BLOOD IN MILK.

Please tell me what causes my cow to give bloody milk as she seems to be healthy. Calf is three weeks old. Her milk is bloody only at the last of each milking. W. H. H.

It is quite common for blood to occur for some time in milk of a newly calved cow. Heifers with their first calf are often affected. Congestion or gorging of the mammary gland with blood causes rupture of minute blood vesels so that bleeding, severe or slight, results. As a rule this condition soon subsides and that may be hastened by feeding a very light ration and giving a handful of Glauber salts in feed or water two or three times a week. In persistent cases, however, it may become necessary to bathe the udder with vinegar and water or alum solution two or three times daily and give one dram of dried sulphate of iron and three teaspoonfuls of salt in the feed twice a day until bleeding ceases. In old standing cases, affecting but one or two teats, growths in the milk ducts are the usual cause, and if they cannot be removed by operation, the cow should be alolwed to nurse calves or should be "dried off."

ABORTION.

I am just a little afraid I have contagious abortion in my herd and would like to know just how it affects, and how long it will take to stamp it out if $ have it, and just what steps would you advise taking? I am thinking of buying six or eight Holsteins this summer and expect to have to pay a very high price for them and would like to be sure I have no abortion on my farm before adding such costly stock to my herd. F. M. K.

If you care to give us full information regarding any trouble you have been having with your cows, we shall be glad to give you advise. There is no specific remedy, as yet, for the contagious abortion disease but a herd can be cleaned up in time by having each affected animal treated by a specialist in sterility and abortion work. Affected animals meanwhile should be isolated and the stables, cleansed, disinfected, and whitewashed. For a full discussion of the disease, read bulletins on the subject which you can obtain free from teh agricultural experiment sation of your state and the Department of Agriculture, Washington, D. C.

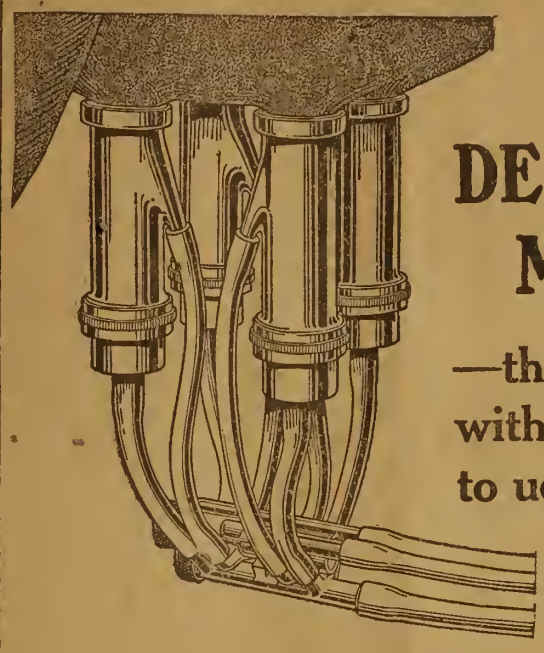
DO NOT OVERFEED THE SKIM-MILK CALF.

"Overfeeding," says C. H. Eckles. chief of the dairy husbandry division of the Minnesota College of Agriculture, "is probably the most common cause of lack of success in raising calves. It is a mistake to assume that because the cream has been removed the calf needs mor milk or that because the calf is not doing well it is not getting enough milk and should be allowed to gorge itself. A good rule is always to keep the calf a little hungry. Some provision must be made for making certain that each animal gets its share and no more. A satisfactory plan is to tie the salves in small stanchions during the feeding. Each calf then gets its proper amount and cannot interfere with the feeding of others.

"Under natural conditions the calf takes its milk frequently and in small quantities. When fed by hand, two feedings a day is the general practice and special care must be taken not to allow the calf to consume more milk than it can digest. For the first tow weeks 10 to 12 pounds a day is all that the largest calf hould receive. If it can be done without too much inconvenience, the calf at this age should be fed three times rather than twice daily.

"As the calf grows, twice-a-day feedings are sufficient and the milk may be increased, but at no time is it necessary to feed more than 16 or 18 pound daily. By the time the calf needs more than this amount, it will take the additional feed necessary in the form of grain."

Since agriculture is our most important industry, why should not every boy and girl be taught somethings about it?



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LIVE STOCK.

THE LAWS OF HEREDITY IN ANIMAL BREEDING.

During the last hundred and fifty years the development of the various breeds of live stock has been one of the great triumphs of agriculture. Strange as it may apepar, the advance has been made without the application of scientific principles. Rather, it has been the result of the application of the breeders' art, a body of lore and experience handed down for generations among the breeders themselves. Back of all this lore, however, there lay a large number of unexpressed scientific principles which have only been formulated recently, and which are guiding the action of the advanced breeders of today. Many of the great breeders, acting by intuition, broke away from tradition, when they began mating animals of close relationship, possesing the qualities they desired to improve, a practice for which science has provided an explanation.

These old breeders were, however, handicapped by many age-long traditions which must have caused them at times severe disappointments and discouragements.

The old-time breeder believed that in mating two animals the cross shows a blend of characters. Whenever exceptions occurred they were treated as exceptions,but Mendel showed clearly that blends do not always occur, but that frequently one member of a pair of characters dominates the other members.

Again, breeders did not understand the resutls when crosses were mated. Instead of blends some of the progeny will show the characters of the paternal grandparents, some of the maternal grandparents, and some will be like the parents.

further, modern hereditary takes no cognizance of the theories of telegony and maternal impressions which fill the pages of the history of breeding. The modern breeders have been freed from such impediments, so that with the new conditions greater improvements may be expected in coming days.

We are often asked: "What have the new principles of heredity done for the animal breeder." A full answer to this question would require many pages, so a short statement must suffice at this time.

The laws of Mendel lie at the base of all modern scientific breeding of both plans and animals. As they have only been known for twenty years, their applications have been made to but a few phases of stock breeding. The essence of these laws is the important fact that the quantities or characters are inherited independently of one another and that these appear in a certain definite ratio in the second and following generations. For example, if a horned bull is mated to pure polled cows the progeny will be polled, but if two of these hybrid polled animals are mated, the probabilities are that out of every 4 of the progeny there will be 1 pure polled, 2 hybrid-polled and 1 horned; and again ,if a pure red shorthorn is mated to a pure white shorthorn the progeny will be roan, and if roans be mated the progeny will likely be 1 red, 1 white and 2 roans. If a white polled animal is mated with a red horned animal the progeny will be roan polled, and if such roan polled animals are mated the probabilities are that only one pure bred polled animal will appear in sixteen of the progeny. In this case two characters are combined.

While color and horn characters are not the important characters in cattle breedinf, the fact that their behavior in breeding has been fairly well determined has encouraged investigators to determine the laws of hereditary for other more important characters such as the quality and quantity of milk. These characters, however, are more complex, for many things enter into milk production—capacity, temperament as well as the glands. It is likely, therefore, that the inheritance of milk production has to do with several factors. This difficulty may be made clearer when it is known that when only one pair of characters is concerned, as in the instances given above, the chances of getting the desired character in the second generation is one in four; the chance of getting a combination of two desired characters is one in sixteen; one of three characters, one in sixty-four; and of four characters one in twoy hundred and fifty-six. Another serious difficulty lies in the relatively small number of progeny possible from a single pair of cattle. If cattle bred like rabbits or fowls or plants the breeders could get results much more quickly. Still another difficulty lies in the invisibility of many of the characters that determine the real worth of a cow. Color, horns, and flesh are externally evident, but milk productivity is not. This is one reason why the show ring has hampered rather than helped to bring out the best dairy cows.

The Performance test must be made at every turn in developing a high producing strain.

The Mendelian laws of heredity furnish the only means of ascertaining the real worth of a cow and of indicating the germinal constitution of an individual produced by any long-continued system of inbreeding. They show the weakness of basing the real worth of a cow on pedigree alone, for in most cass matings have occurred which do not keep up the standard of excellence. More exceptional individuals may be expeceted in the progeny of average parents, but not even the majority of the descendants of

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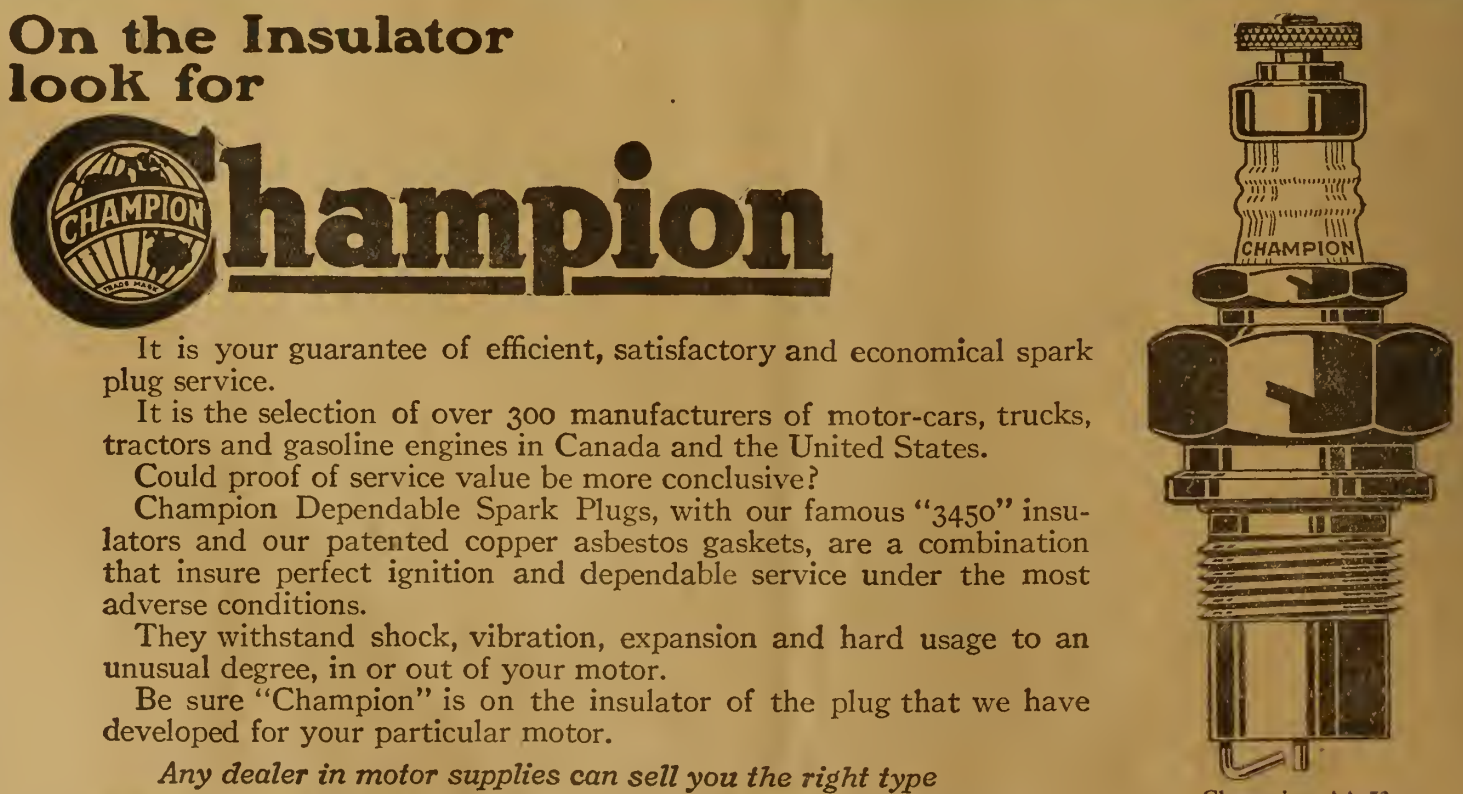
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exceptional parents will be exceptional. In fact the progeny of the matings is always somewhat lower than the parent stock. In the best of strains, therefore, this "drag of the race" is so common that only the most vigorous testing and all the means at the disposal of the breeder will develop a pure strain of superior excellence.

The business of the true breeder is to strengthen th strong lines and to weaken the weak lines of countless ancestors. Only by mating sires that breed daughters and grand-daughters of superior milk productivity to the most productive dams, by inbreeding the first generation of hybrids, by making his selection of pure lines from the next generation, and by using the weigh scales and the Babcock tester will the breeder build up a pure strain that will breed true.

Mendel's laws reveal the fact that by long continued inbreeding the animals come to possess practically the same set of characters, that is, only one member of each pair of the entire set remains. They belong to one pure line.

If each of these members is desirable and free from weakness there is no inherent reason why inbreeding, even long continued, should be injurious.

If the vigor of the animals shows signs of deterioration, it can be restored by outbreeding, but great care must be taken to prevent the introduction of some of the original pairs of character.

KEEP THE CALVES GROWING STEADILY.

Plenty of the right kind of feed is necessary to produce large and vigorous dairy cows. Well-fed calves not only grow larger and mature earlier, but they seem to have some stamina and reserve energy for heavy milk production. A little extra feed of the right kind given the growing heifer returns a greater net profit on the investment than feed fed at any time later. If the calf runs down in flesh condition it requires heavy feeding to get it back. Calves fed so that they grow steadily, though not always rapidly, from birth to maturity develop into more profitable cows than those fed sort of spasmodically without regard to their daily requirements. There is no reason why the average dairy farmer can not raise as large and rofitable cows as any he can buy if he will but use a pure-bred sire and give his heifer calves proper care and plenty of feed. They must have a well-balanced ration if they make uniformly rapid gains, but what most of them need above everything else is enough palatable and nutritious roughage.

The heifer calf that is worth raising is worth giving a fair start in life. Nothing has yet been found that can successfully take the place of milk in feeding young calves. Whole milk for the first three weeks gives the calf a good start. After the third week skim milk may be gradually substituted, and some kind of grain feed or prepared calf meals added to take the place of the fats removed by the separator. Choice alfalfa or clover hay kept in small racks in the calf pens, also whole oats kept where they may have access to it at all times, will furnish the right kinds of bone, blood and muscle-building materials n proportions to produce rapid growth and uniform development. The amount of milk to feed will depend upon the available supply and the ability of the calf to take care of it. Skim milk should be fed in as liberal ameunts as practicable until the heifers are at least six months old. Some feeders claim that feeding whole oats is less conductive to rapid gains than feeding ground oats, but carefully conducted experiments indicate that equally rapid gains may be made by feeding whole grains, and that dangers from digestive troubles are minimized. After the calves reach the age when they will eat quite a bit of oats, it is preferable to feed them twice a day all the whole grain they will clean up readily and later, say at about six months, change to ground feed or the regular ration that is being fed to the cows.

Heifer calves eight months to a year old should be sufficiently well-grown that they will be able to make use of hay and fodder, so that the bulk of their ration may come from such feeds. Alfalfa, clover and mixed hay will furnish nutrients at as low a cost as any source, and such hay is splendidly adapted to stimulating growth in young dairy animals. It should be furnuished in as large amounts as the calves will consume. Silage is another splendid feed and may be supplied as liberally as it will be cleaned up. Calves at this age, however, will not consume large quantities of this succulent feed. Any other clean and wholesome roughage may be added to give variety and make the ration more economical.

There is a happy medium in this matter of feeding calves so that they will develop into large and profitable cows. The best heifers are not always those which are fed the most expensive rations. Also experience is proving that heifer calves moderately fed on suitable grain feeds along with an abundant supply of nurtitious roughages, develop into larger, healthier, stronger cows than those which are pampered or those which are forced by too heavy grain rations.

RINGWORM ON CATTLE.

Ringworm appears most often on animals kept in damp, close, filthy quarters. It is caused by a gungus which grows in the outer layers of the skin. The spores are very resistant.and will live a long time in infected quarters. They grow when conditions become favorable. The germs are spread from infected animals or quarters to healthy animals. Blankets, curry combs, fence posts or other objects against which the animals rub spread the disease.

Care should be taken to prevent contact between animals or infected objects. Thoroughly cleanse and disinfect as far as is possible everything with which the diseased animals have come in contact. The treatment consists in clipping the hair when necessary. The crusts are softened with green soap or ordinary soap and soft water. The diseased parts should then be painted with tincture of iodine, or salicylic acid and alcohol, one part to ten.

Be on hand when the mare foals but do not interfere unless assistance is necessary.

It Pays to Feed Empire Feeds!

Cattlemen, farmers and dairymen have learned that it is profitable to buy stock feeds by proteins and that the feed containing the proper amount of proteins is the feed that brings results.

Another consideration steps in, however, and that is, that beyond a certain point, protein ingredients may be present in too great quantity for the animal to use, and there is waste.

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Empire Dairy and Hog Feeds contain not less than 16% proteins (*guaranteed*), which will be used for the nourishment of the animal, without waste.

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Fibre, not more than	6%

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Is a Splint, Curb, Cracked Hoof, Enlargement or Soft Bunch laming the animal?

Is a Cough, Cold, Distemper or Pink Eye keeping you from working him regularly?

Is Colic, Kidney Trouble, Fever or a Cut or Sore making the horse thin, weak and practically useless?

Dr. J. WOODBURY'S Horse Liniment and Condition Powders

will relieve all these troubles and save and preserve the lives of your horses and cattle.

These two preparations are standbys with horsemen and farmers because they are so dependable.

Don't sell or trade a lame or sick horse until after you have tried Dr. J. Woodbury's Horse Liniment and Condition Powders. These reliable remedies may save you the cost of a good horse.

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Prepared by
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THE HORSE

FEED COLTS WELL TO MAKE BIG HORSES.

Exercise is very necessary for the brood mare right up to foaling time, as it makes parturition more easy, and my belief is that a stronger foal is the result.

Immediately at birth take measures to prevent joint ill, the worst plague of foals, by using a disinfectant. A good treatment is to paint the navel with iodine to kill germs that may happen to be there, then dust with a drying powder daily for a few days. Watch the colt for constipation or diarrhoea. Give castor oil, one tablespoonful, also an injection of warm water, for constipation. Reduce the amount of milk the colt is getting and give it a dose of castor oil, which will remove the matter causing diarrhoea.

The mare and foal should run on pasture when the colt it two days old, and should be brought in at nights off the damp ground for at least two weeks. If the mare is not wanted for work, leave them on the pasture and feed, morning and night, a ration of grain and oats to the mare. At four weeks the colt will show signs of eating, and when brought in off pasture, should be given a box of its own to eat out of. Gradually increase the amount of feed until half a gallon of oats and bran is reached; also provide a little day.

A colt should not be weaned until four months old, and if it has been getting such feed as is mentioned here it will not be checked in its growth. Weaning should take two weeks at least and then turn him out on pasture with other colts if possible, but not with its mother, for sometimes they will let them suck, and it is very hard to break them of the habit.

Never stop feeding a colt, because that is what makes the horse. When cold weather comes put them in at nights in a roomy, well-bedded box stall. Some people never think of bedding but it is very important.

I disagree with people that advise tying colts up. They should not be tied until the second winter, even though a little harder to handle. Turn them out always if the weather is fit for exercise—nature's best medicine for growing colts. Give them plenty of clean, fresh water at least three times a day. Oat sheaves at noon, nay at five, and about one-half gallon of whole oats mixed with two handfuls of bran at night, with a big forkful of oat straw. In the morning feed them their ration of grain and some hay. C. W. M.

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WATCH FOR NAVEL ILL AND DIARRHOEA.

To those farmers who are in such a position that they do not require the services of their mares for summer work, little advice need be given, provided. of course, that the mares are in good condition at time of foaling, i.e., neither too fat nor too thin, and that good pasture and water are abundant. In any case, however, a liberal feed of oats to the mare, once or twice a day, to keep up her flesh and stimulate the milk flow, is an added advantage, even though not imperative. The majority of farmers, however, who have only a limited number of horses, and wish to derive the greatest amount of usefulness and profit from them, are obliged to work their brood mares. To my way of thinking, early in June is the ideal time for the average working mare to foal. The rush of seeding is past then, and we should be able to give the mare a few week's well-earned rest. The pasture is also at its best then, providing the best milk-producing ration for the mare, as well as providing roughage for the young, growing colt By all means, give the mare a few days' rest before foaling, and let her run at pasture; it makes an ideal place for the mare to foal in, and the green grass will act on her as a gentle laxative and put her internal organs in good condition for the coming ordeal. Assuming the colt to have been safely born—and it is good practice to be around at foaling time or soon after, in case of possible trouble—the first thing to do is to prevent infection of the navel. If at pasture, trouble is not liable to occur, but if in a stable, treatment is advisable The navel and surrounding parts may be painted with tincture of iodine, or if it is not available, with oil of tar or a solution of creolin (2 or 3 per cent.). Treatment to be effective should be continued till the navel cord is quite dried up. Secondly, watch for constipation or diarrhoea. If the bowels are not moved, say, before twenty-four hours, give a dose of castor oil, about two tablespoonfuls. The same amount of butter will do if castor oil is not available, and each should be accomplished by a warm water injection. For diarrhoea give the same dose of castor oil and reduce the quantity of milk received.

After a few week's rest the mare may be put to light work, the colt being kept in a box stall. Make a point of taking the mare to the colt in the middle of the forenoon and afternoon, whenever possible, for the first few weeks, being careful not to let the colt suck till the mare cools off. Provide an extra large oat box for the mare, and feed her a little extra; the colt will soon learn to feed with her, and her ration may be increased as the colt gets older. Unless absolutely necessary, do not wean the colt until winter sets in, and then wean him gradually. Feed the colt liberally with hay, with a little green sheaf, too, if you have it, and give him a fair amount of oats and bran—two parts of oats to one of bran. Let him suck only twice a day at first, then only once, and gradually accustom him to do without any at all. Liberal feeding of grain will do him no harm, as a colt will seldom eat too much, and if weaned in the above manner, his growth will not be checked very much.

With regard to exercise, let him have an hour or more outside every day, if the weather is not too severe. Inside, let him have the run of a large box stall. Watch carefully for any sign of lice, and treat them to a dose

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of 5 per cent. creolin if they appear, and if at all possible, don't have him in a stable alone. Company helps to keep him both lively and interested, and if you have colts about his own age, by all means keep them together.

HOW TO GROOM THE TRACTOR—SOME DETAILS WORTH REMEMBERING.

Those who are disposed to give up the horse team for a tractor, and who think by doing so, they will lessen the daily chore of attending to horses, will do well to read the following from a tractor owner who says he spends about the same time taking care of his tractor evry day that he did in caring for his team of work horses. This farmer says:

"Keeping the tractor fit means constant care and attention on the part of the operator. Like a good horse, it should be handled and cared for by one man who can become familiar with it and know its needs.

"While it is an inanimate object, it still has indivduality and responds to intelligent treatment. Further, the operator should study the principles of its construction as much as opportunity will permit. If the purpose of each part of the tracor is understood, better judgment will be used in its care.

"The instruction book which comes with evry tractor represents the tractor maker's best judgment as to the care of the machine. It also enables the operator to become familiar with its construction and principles. Under no circumstances allow it to become misplaced or lost. The repair parts' list, which gives cuts, description and numbers of parts, is nearly always furnished with the instructions and this book, therefore, becomes indispensable in ordering new parts or repairs.

"The greatest foes of the tractor are friction and wear. The same is true of other machines but it is doubly true of the tractor, because of the heat in the cylinders which must be lubricated and on account of the heavy pressures wihch are occasioned by the explosions within the cylinder.

The Daily Overhaul.

"The lubricating properties of oil are destroyed by the heat within the cylinders so that the system of lubrication for these parts should have special attention. Frequent inspection of the suplpy is also necessary because the tractor, being a heavy duty machine, consumes much more oil than an automobile engine running at the same speed.

"The use of kerosene in the engine may also cause some difficulty with the lubricating system. While many engines burn kerosene economically, there are times, especially when the motor may not be hot, when liquid kerosene gets into the cylinders and cuts or thins the lubricating oil so that it does not have the same lobricating properties as fresh oil. For this reason, many manufacturers of kerosene burning engines recommend removing old oil from the crank case and replacing with fresh oil after periods of from twenty-five to sixty hours' work for the tractor.

"Go over your tractor once a day with rags and wipe off excess dirt and grease. This is not so necessary from the standpoint of appearance, though this operator takes pride in its apeparance. This daily cleaning is more valuable in bringing to the attention of the operator loose nuts and bolts, worn or overheated parts, parts bent or out of adjustment, and the like. Remember that the tractor represents probably equivalent to the value of two teams of horses and is, therefore, entitled to as much attention as two teams of horses would receive.

What Every Tractor Owner Should Know.

That your tanks contain fuel, oil and water.

That every part is properly lubricated.

That all bolts and nuts are tight.

When you have proper fuel, oil and spark adjustment.

When engine is overloaded or over speeded.

When engine is in good condition, i.e., no carbon deposits, loose rings or bearings.

When valves and ignition are properly set.

When the clutch, brake and governor are correctly set.

What kind of lubricant to use in each place.

When engine gives signs of distress, knocking, overheating, lose power, etc.

Things you should do every day:

Follow out oiling schedule as required for each day.

Make inspection for worn, heated or loose parts, nuts and bolts.

Clean tratcor with rag.

Drain radiator in cold weather.

Every week:

When using kerosene drain crank case, wash with kerosene and replace rfesh oil.

Make inspection of other parts of motor. Do not make adjustments unless it is clearly necessary and then with the greatest care.

Every year:

Thoroughly overhaul tractor; make renewals.

Order additional parts and supplies likely to be needed for the year.

Those attending to stock should remember that attention to details is very important if success is to be attained. The old proverb illustrates this:

"For want of a nail the shoe is lost,
For want of a shoe the horse is lost,
For want of a horse the rider is lost,
For want of the rider the battle is lost."

Just because of a little carelessness many a valuable animal is lost.

Use a fly repellent on the horses several times each day. Fighting flies is more wearisome than drawing the implements.

Assist the young foal to get the first milk of the dam; it is necessary to start the digestive system of the foal functioning properly.

See that the infoal mare get some grass; it is a gentle laxative and a good tonic for the digestive system.

Keep the collar and harness clean; it prevents many sores.

DON'T CUT OUT
A Shoe Boil, Capped Hock or Bursitis
FOR
ABSORBINE
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will reduce them and leave no blemishes. Stops lameness promptly. **Does not blister** or remove the hair, and horse can be worked. $2.50 a bottle delivered. **Book 6 R free.**

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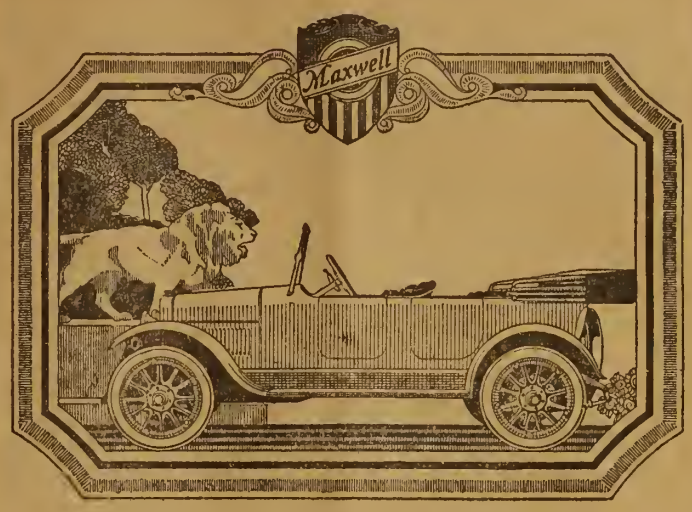

An Analysis of the "Road Speed" of a

MAXWELL

is a tribute to its special steels.

Men driving larger cars have often wondered at the "road speed" of a Maxwell.

True, in an open, straight stretch they have run away from a Maxwell.

But in any "piece of going" (and we have many such roads in Canada) in which hills, turns, curves or rough roads enter into the general average, they do not outrun a Maxwell.

The reason for this is the special steels in a Maxwell. They are made to Maxwell's own formulae, and make possible construction combining great strength with light weight.

The lightness of the weight enables a Maxwell to take a turn with more ease and less slowing up, come down a hill under better control, ascend a hill as well, and make more time over a rough piece of roadway.

The strength of its steels enables a Maxwell to stand equally as well, or better, side strains, road unevenness, etc.

In other words, a Maxwell makes speed when a larger car cannot, and thus evens up to a high average its "road speed" without breaking the speed laws.

This ability in a Maxwell is one of many that is winning new friendships daily. Nearly 400,000 of them to date; in another year 500,000.

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POULTRY.

GIVE HENHOUSE A GOOD CLEANING.

When poultry houses were small and dark and the hens roosted on a step-ladder system of roosts, little attention was given to sanitation. The droppings were allowed to accumulate in heaps beneafh the roosts and there was little scratching place for the hens that was fit for the purpose. But afrmers have found two things that are true. Hens in clean houses keep in good health. And poultry manure is valuable as fertilizer. So it pays to keep the hen houses clean.

The dropping boards should be cleaned frequently enough to keep the house free from odors and prevent much dirt from accumulating. The manure should not be dumped just outside the poultry house, but stored where it will not be wasted or immediately spread on the fields or garden. Some poultrymen clean the boards every day, others do it about once every week. A great deal depends on the number of birds in the house and the time that can be devoted to their care.

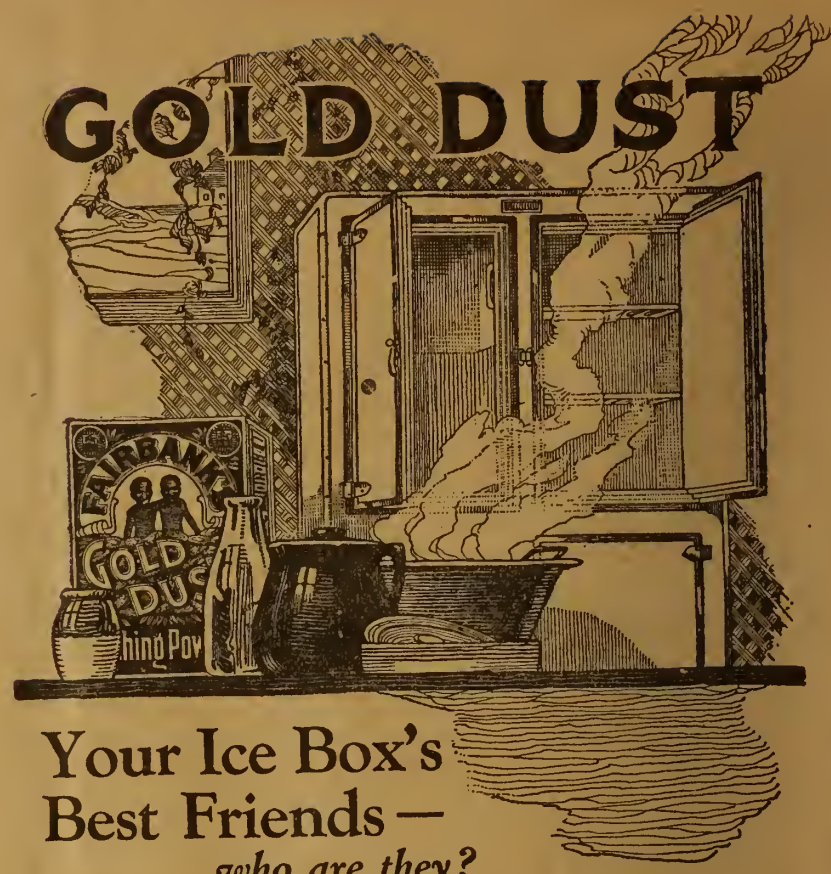
We find that the commercial coal-tar disinfectants which can be diluted with water are much cheaper than kerosene oil for spraying a poultry house. They give a clean odor to the house. Lime-sulphur is a good disinfectant and on fruit farms thers may be enough left in the power sprayer after one of the orchard applications to give the poultry house a thorough drenching. Lice paint on the roosts and in the nest boxes is a cheap method of keeping down lice and mites for a long period. The floor has a direct influence on the birds. If it is damp and dirty the air in the house will be unhealthful. When dirt floors are used it pays to shovel out the contaminated soil and replace it with several inches of clean sand. Do not continually be taking out dirty soil from the floor without replacing it or the level will soon be below the outside ground and this soon means a damp floor, and heavy rains may drain into the poultry house. Floors made of lumber or cement can be thoroughly swept and then washed with disinfectant.

To reduce the labor of keeping poultry houses clean all of the equipment must be portable. Nevt boxes that are nailed tight to the walls are an abomination. They form breeding places for mites and lice and the poultryman has no time to knock the interior of the hen house to pieces every time a thorough spraying is necessary. Build all the nests in portable sections of six or eight nests to a section. Then they can be picked up and carried out in the sunshine. After the litter is dumped out they can be sprayed and ried in the sun. This will destroy pests and keep the nests in condition so the hens will use them.

All the feed hoppers, and water stands can also be carried from the house. And when the poultryman is ready to fight the pests with the spray rod he has nothoing in the way. Then the four walls, the floor, the ceiling and the roosts and dropping boards can be given the kind of bath which makes them clean and sanitary. This treatment keeps pests from becoming established and makes poultry keeping so much easier and profitable that it is worth all the trouble. Ife we begin early to fight lice and mites, the sumer poultry work will not include fighting these pests that breed so fast during the hot wealther. R. G. K.

Keeping boys on farms is almost if not quite as important as agriculture itself, for if we cannot have plenty of manpower, coupled with trained minds, how can we expect to have a profitable agriculture?

Keep matches out of children's reach and never alow them to carry or handle them.



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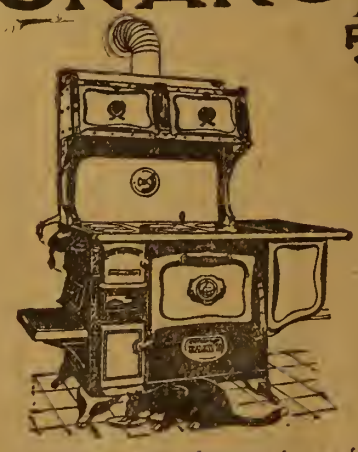

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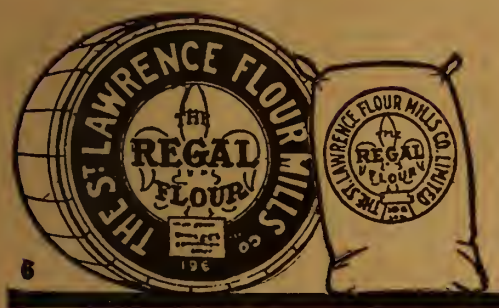

The St. Lawrence Flour Mills Co. LIMITED

Montreal, P.Q. Halifax, N.S.

THE RIGHT BIRDS FOR LAYING CONTESTS.

(Experimental Farms Note.)

Laying contests conducted this year show very clearly that the degree of maturity which the birds possessed before reaching the contests has very much to do with results and especially the results during the winter months. This fact has been stated several times, and additional proof is now available, which is given in order that those wishing to enter pens in the contests next November may be able to take advantage of the information.

Take the Prince Edward Island Egg Laying Contest—the production has been low, not as good as it was last year, but in looking over the report of the condition of the birds when they were received at the contest, the reason is quite apparent. The birds were not as mature this year as last and certainly not as mature as they should be if a good egg yield is to be expected.

Pens No. 1, 3, 10, 12 and 18 contained the best matured birds that were received. Pens 15 and 19 were not quite as well matured, but were in excelelnt condition and dveloped rapidly after arrival. Some of the other pens had well deveolped individuals in them but had too many immature birds while in many of the pens the birds were not fully grown when they arrived.

Seven pens that were fairly well matured and in good condition when they arrived averaged 9.5 eggs per bird for the two months ending December 31. The seven pens which arrived in an immature condition averaged 1.3 eggs per bird for the first two months. At the end of six months the younger girls, having then matured, gave an average for the six months of 24.2 eggs. While the well matured birds at the end of the six months gave an average of 46.9 eggs, or a relative gross revenue for eggs of $69.58 for the immature birds and $142.13 for the mature birds.

In some cases birds arrived at the contest past maturity, that is, they had started to lay before entering the contest, and the change brought on a moult and a consequent loss of time. This condition, however, was not quite so apaprent in the Prince Edward Island contest as in some of the other contests.

In order to make a good yearly revenue birds must lay during the period of high prices and if they do not start laying before the cold weather comes, as a rule, they will not start to lay for weeks and sometimes months afterwards.

Pen No. 2 did not lay an egg during the first four weeks of the contest and had only three birds laying at the end of the 8th week with a total production of 29 eggs. Pen No. 4 started laying during the fifth week and had only three birds laying at the end of the 8th week with a total production of 27 eggs. Pen No. 17 did not start until the 10th week thereby handicapping themselves by over two months when prices were high. The birds in ths pen iwere in condition when they arrived at the contest and after they received their growth have done exceptionally well. How much better would it have been if they had received their growth before entering the contest.

It must not be forgotten that development in birds does not mean production, but if birds are bread for egg production the bird that is fully developed has a decided advantage over her immature sister.

Birds intended for a laying competition should be in condition to lay just after they have reached the contest, neither before nor weeks after.

A. G. Taylor,

MOUNT ALLISON LADIES' COLLEGE

Founded 1854. Session 1920-21.

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A limited number of positions available by which students, either male or female, may assist themselves to pay expenses.

FIRST TERM BEGINS SEPTEMBER 6.

Calendar Sent on Request.

J. M. PALMER, M.A.. LL.D., Principal
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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Shbjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N. B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

IT TAKES SO LITTLE.

It takes so little to make us glad, just a cheering clasp of a friendly hand, just a word from one who can understand; and we finish the task we long had planned and we lose the doubt and the fear we had—so little it takes to make us glad.

—Ida G. Morris.

"THE VILLAIN STILL PURSUED HER."

"She looks as though she'd like to bite nails," laughed Dick Harmon, "but if they aren't convenient, you'd do instead."

"Yet she has just oodles of money," Evelyn Darcy replied.

At which there was a sudden pause in their bright, young chatter and a sudden pained look on Dick's smiling face. For the wistful way Evelyn said "oodles of money," her wistful sighs, cut deep.

When Dick and "the dearest girl in the world" had become engaged on the shining day of his graduation at the head of his class at the medical college, the young doctor was sure he could build up a fine practice in no time. but eighteen weary months of waiting had dragged by, and it was all he could do to make both ends meet for one, let alone attempting to finance an expensive day dream of marrying a wife and setting up housekeeping.

"It's funny how the villain still pursues" said Evelyn with forced gayety, in a quick effort to heal the wound she had given. "Ever since we first met Mrs. Rutherford at the Theliers' little dinner we're constantly running into each other."

"Perhaps the afct that she lives

"Perhaps the fact that she lives makes frequent visits to the tailoring establishment opposite my office has something to do with it," remarked Dick, also forcing gayety of tone.

Then the two young people changed the subject, and the rich Mrs. Routherford, who had bowed to them from the passing automobile, drifted out of their thoughts.

But that same evening Dick made an excited appearance at the Darcys'. "Guess what?" he began. "The villain again! A professional visit at my office this time. Gee! isn't it great?" he went on boyishly. "You know how the smart set follow like sheep. Let the rich Msr. Rutherford speak enthusiastically of 'that clever young doctor, Richard Harmon, I'm having now,' and Dickie's name and fortune will be made! Three cheers for the old girl, naily expression and all!"

"But what is the nature of her complaint?" asked Evelyn, equally excited. "She looks the picture of health."

"I don't know yet," answered the young medico very solemnly, "but I'm going into the case most carefully and thoroughly.

He went into it so carefully and thoroughly as to leave no doubt in his mind as to the truth—that there was absolutely nothing the matter with this most desirable of patients.

Poor, young Dr. Dick! To suppose he was owner of a gold mine and to have the vein peter out at the vrst stroke of the pickaxe! But many a promoter has made a fortune out of a worthless mine. Why shouldn't he promote the rich Mrs. Rutherford's imaginary ailments?

It was the old temptation that has so often come to a young physician both in life and in fiction.

For three days and three wakeful nights Dick Harmon wrestled with the powers of darkness. On the fourth day he reached his decision. If he had only himself to consider it might be different. But when Evelyn's happines depended on his making good he had no right to let a mere quible of conscience stand in the way.

That afternoon Mrs. Rutherford came in by appointment to hear his verdict. Intentionally he was half an hour late. But he dashed in, breathless with haste and apologies for his unavoidable delay. He excused himself a moment while he found out if there had been any calls in his absnce that necessitated his telephoning.

"It's only anticipating what will really be happening soon," he twinkled to himself as he returned to his consulting room.

"Now I am ready for you," he announced, all smiles and obsequiousness.

"In the last five years I've had many doctors," Mrs. Rutherford deeply sighed, "and, although they have all promised wonders and kept me running to their offices, I am still the same sad sufferer."

He listened with deferential attention and a profoundly wise look saying plainer than words that, considering the serious and bagling nature of her case, the failure of other medical men to get to the root of the trouble was exactly what might have been expected.

"Every one of them," she went on snappingly, "made a different diagnosis, and I suppose your diagnosis will be different again."

The young doctor was silent an instant. Then he cleared his throat. "Yes," he said, "my diagnosis will be quite different' I am sure. I have made a most thorough study of your case, Mrs. Rutherford, and I find absolutely nothing the matter with you."

She stared at him dumfounded, yet her astonishment was nothing compared with the surprise his words had given himself for when i came to the aprting of the ways the white habit of integrity of his whole nature had made it impossible for Dick Harmon to be false to his best self. He made a joke of it all when he told Evelyn. "The villain still pursues," he laughed, "but now we do not speak when we pass by. Mrs. Ruotherford was sitting at her window as I came here, and such a glassy stare as she game me!"

The days went past without special incident until three weeks had piled themselves up. Then, unexpectedly, the monotony was broken by an emergency call. An accident had occurred in the next block, a motorcycle having run into an automobile, and its injured occupant carried into the corner drug store.

The young doctor's professional calm showed no sign, but when a few minutes later he bent over the unconscious victim, rendering quick, effective first aid, the blood in his veins gave a sudden leap. The white-faced, prostrate woman laid low on the couch in the drug store's back room was no other than Mrs. Rutherford.

She regained consciousness while he was taking her home in the ambulance and gave the young doctor bending solicitously over her a naily look, but did not speak.

He sent for a leading surgeon, consented to stay to administer the anaesthetic during the examination of injuries and the setting of three broken bones, and then dismissed himself.

And the whole incident ended in a sprightly account of it that evening to Evelyn. At least, so the young doctor thought, but to his surprise the next day he received a peremptory summons to the injured woman's bedside.

"What do you mean by neglecting one of your patients in this scandalous manner?" she asked as he entered the sickroom.

"But I did not consider you one of my patients," said Dick Harmon gently. "I was merely called in for the emergency and supposed, of course, you would prefer your own doctor to attend you."

"I have no 'own' doctor," she snapped. "I've been too ridiculously healthy to require one."

"But the five doctors you told me about?" he gasped.

"All myths; made up out of my own head, like my ailments. I knew there was nothing the matter with me when I went to your office."

"Then why did you come?" again gasped the young doctor.

"Just to be neighborly. Young physicians sometimes need a little—encouragement, you know."

Dick Harmon stared.

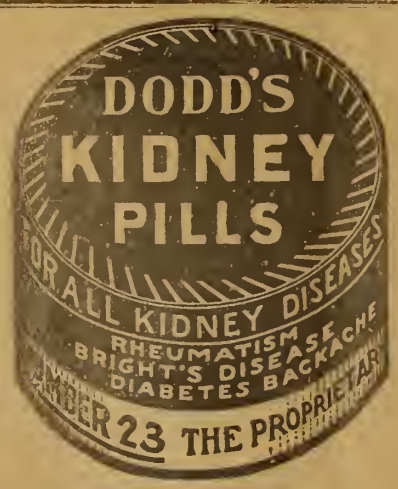
"Oh, you needn't flatter yourself," she went on in her sharp way. "It wasn't on wour account I came. I did it for Evelyn."

"For Evelyn?" he repeated, more astounded than ever.

"Yes. From the first time I met her she went straight to my heart. She reminded me so much of a young girl I once knew—a girl engaged to a young doctor for years. She got tired waiting at last and married another man—for money—and lived unhappily ever after."

The naily look hardened on her face as she spoke the last words, but the young doctor's eyes—which had seen down deep into sacred hidden places—were full of infinite pity.

"Well," demanded Mrs. Rutherford sharply, "now that I have something the matter with me, do you intend to take my case or not?"



ROYAL YEAST CAKES

are now packed in square packages. Each package contains five cakes, which are equal in quantity to six round cakes. All dealers are authorized to guarantee that the quality of the round and square cakes are identical in every respect.

WHY MY FRUIT KEEPS—SUCCESSFUL CANNING METHODS OF ONE PRIZE-WINNING WOMAN.

(By Mrs. Ernest Norman.)

A few housewives still retain the old method of putting up fruit in the form of jam or preserves to insure its safe keeping. The addition of much sugar to fruit is not at all desirable, as it destroys the fresh and natural flavor and makes it harder to digest. The acids which fruit contins and which are real tonics to the body lose their good effect, so that in the case of most fruits it is best to can them with as little sugar as will make them palatable.

What is sterilization? Sterilization means to destroy completely all germs or bacteria and their spores in and about any object. Germs that cause decay may be divided into three classes, namely: bacteria, yeasts or ferments and molds. These germs multiply very quickly and in time cause foods to spoil. Bacteria are much harder to kill than molds or ferments and attack such foods as meats, milk and vegetables, but rarely fruits.

All fruits contain yeasts or ferments. These are destroyed by exposing them to a temperature of 212 degres Fahrenheit, or the boiling point. Therefore in the canning of fruit, to insure perfect sterilization means that the fruit and all utensils used in canning must be kept at a boiling temperature until the fruit is properly sealed. The rubber rings should be soft in order to insure proper sealing. It is more economical to buy new ubber rings every year than to risk spoiling several jars of fruit by using old rings.

When the fruit is cooked in the jars and properly sterilized practically all the air will be driven out of the jars by the steam. Upon cooling, this steam is condensed, a vacuum is thus

The Best Washer You Ever Met!
Never gets tired or cross! Never "skimps." Handles light or heavy goods—blankets table cloths, or handkerchiefs—a full tub or a few articles equally well. Doesn't wear or tear the most delicate fabrics, and only takes half the time! Isn't that the kind of a washer to have in your home? Then go to your dealer's to-day and meet the—
Maxwell
"Home" Washer
—a ball-bearing washer—light, noiseless, easy-running—of handsomely-finished cypress. Specially-designed dasher makes it best for washing everything. Enclosed gears mean safety. Write us for booklet—FREE.
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That Racking Persistent Cough

Should Never Be Neglected.

The constant hacking, racking, persistent cough that sticks to you in spite of everything you have done to get rid of it, means danger.

The longer the cough sticks, the more serious menace it becomes to your health.

It is a very easy matter to get rid of the cold at the outset by using

Dr. Wood's

Norway Pine Syrup.

In nearly every case it will allay the inflammation, soothe the irritation, heal the diseased mucous lining of the lungs and bronchial tubes, and thus rid the system of all the bad effects of the lingering cough or cold.

Dr. Wood's Norway Pine Syrup has been universally used for the past 30 years, and so great has been its success, it is only natural that a great many imitations have been placed on the market.

Don't accept any of these, so-called Pine Syrups. Get the original "Dr. Wood's."

Put up in a yellow wrapper; 3 pine trees the trade mark; price 25c. and 50c.

Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

formed inside the jar, and this draws down the glass top against the rubber rings and seals the jar automatically. Be sure that the edge of the glass cover that rests on the rubber has no nicks in the edge, as in that case it will not seal properly. Never turn a jar upside down before it is cool, as this will prevent its sealing.

Choose a jar of strong glass, with wide mouth and straight sides. The kind having solid tops, either of glass with wire spring or of lacquered tin with a clamp fitting over the top, is the most satisfactory. Jars with porcelain-lined covers are undesirable and make sterilization difficult.

Getting Ready.

See that the jars are carefully cleaned and scalded after being emptied of their contents, especially if the contents were moldy. This will save time and labor when the rush of the canning season is on. Never pour boiling water over a glass jar, but plunge it quickly into hot water deep enough to cover it, and let it remain there long enough to sterilize.

For sterilizing and cooking the fruit a washboiler may be used, but the writer prefers using tall tin pails or kettles, with tight covers, each holding three or four jars, as there is less danger of burning the hands by steam when lifting out the jars. Moreover the fruit is cooked in a better condition, as only a few jars are prepared at one time. A jar lifter saves many burns and costs only twenty-five cents. A strawberry huller and cherry pitter also save time. A fruit pricker can easily be made by inserting several coarse needls into a broad cork.

Th fruit for canning must be fresh, sound and just ripe, or a little underripe. Use a silver knife for paring pears and peaches. To peel peaches quickly place a few in a wire basket, immerse in boiling water for two or three minutes, then plunge the basket into cold water for a moment, then peel. Cut in halves and remove the stones. Two or three stones in a jar improve the flavor. Pack the jars with fruit and when full fill to the top with hot sirup to prevent discoloring. Wash all large fruits before paring. Soft pears, like the Bartlett, may be cooked in jars, but hard pears and quinces must be cooked in water first before the sugar is added.

When ready to work put the rubbers and the glass covers in a dish of hot water on the stove to sterilize. Lacquered tin covers need only to be dipped into boiling water before being placed on the jar. Prepare the sirup and then stand it on the back of the stove to keep warm while the fruit is being prepared. Put the raw fruit into the jars as tightly as is possible without crushing it. In the case of berries knock the jar gently several times on the table to pack the fruit. Then stand it in a dish of warm water, about two inches deep, and pour the hot sirup very slowly over the fruit. Fill the jar just to the brim. Leave the cover loose till the fruit is cooked in order to allow the steam to escape and to prevent the jar from cracking. If jars with tin tops are used, having a removable clamp over the top, this clamp may be left on, as it acts as a valve and allows steam to escape. Place the jars in a pail or wash boiler, until it reaches the shoulder of the jars; cover the boiler tightly and bring the water to the poiling point. Allow fruit to cook until it begins to rise from the bottom of the jar, the length of time depending on he kind and ripeness of the fruit. Plums should be pricked with a pricker and cooked in jars till the skin begins to crack slightly.

One Sirup for All.

When the fruit has boiled sufficiently the covers must be tightened before the jars are taken from the hot water. Then lift the jar and place it on a dry board away from any drafts in order to prevent cracking. When the jars are cold turn them upside down and on their sides, changing the position several times in order to allow the juice to penetrate all the fruit evenly. In a few days examine the jars. If the fruit is still near the top of the jar it is keeping, but if it is down at the bottom open the jar and use.

To make the sirup for canning add four cupfuls of boiling water to six cupfuls of granulated sugar. This amount will fill about four quart jars of raspberries or other closely packed fruit, or three quart jars of halved pears, peaches, or cherries, or two quart jars of large whole fruit, such as large plums. Heat the sugar and water slowly and allow it to boil very gently without stirring for five or seven minutes, skimming all black scum from the top. Do not allow the sirup to boil hard or do not stir it after the sugar is dissolved.

Now here is where the simplicity of my method comes in: With only a few exceptions I use the same strength of sirup for all fruits. The amount of sirup added to each jar adjusts itself according to whether the fruit packs closely or loosely in the jar. It so happens that the sweeter fruits, such as berries, can be packed very closely and will require only about a cupful of sirup to the quart, while the acid fruits, which are large and pack loosely, require from one and a half to two cupfuls of sirup to the quart.

HOW TO FIGHT POULTRY VERMIN

On the advent of warm weather it pays to begin warfare against lice and mites among poultry, otherwise they will get a flying start towards multiplying. If, during the first few warm, bright days the hen house is given a thorough sweeping and cleaning and some disinfectant like a good coal tar preparation used, it will remain sweet and clean for a month or more providing the droppings are removed daily and plenty of fresh air can get through the house.

It is between the nest boxes and the walls of the poultry house, under the roots and various other cracks all over the poultry house that the mites and lice do their breeding. These places must be especially watched, and frequently drenched with coal oil or liquid lice killer.

I have seen hens sitting on a nest, either to lay or to hatch, where the mites were so thick that thy covered the eggs like so much coarse dust. No wonder sitting hens desert their nests under such conditions, and laying hens prefer to drop their eggs on the floor rather than sit in the infested nests.

It pays to clean out all the nests every month, and scatter air-slaked lime in the bottom of them, as well as spray the box with a good disinfectant or lice killer. Roosts and dropping boards should also receive careful attention. R. S.

PUTTING UP THE FRUITS IN SEASON.

The following recipes have been tested and are reliable for preserving and canning seasonable fruits. Ways of spicin, fruit, making jam, and vinegar are also given:

Raspberry Preserves.

Select the largest berries, and use equal weights of berries and sugar, lay the fruit in deep dishes and sprinkle half the sugar over them in fine powder; shake the dish so that the sugar may touch the under part of the fruit. The next day make a syrup with the remainder of the sugar and juice drawn from the berries carefully, and let them simmer nearly an hour. Put them carefully in glass jars, and fill up with the sirup. There will be more than enough to fill the jars, but after standing over night the jars will hold more.

Pickled Raspberries.

Prepare a sirup of 2 pints of vinegar, 4 lbs. sugar, and ½ oz. each of cinnamon and clover; bring it to a boil, put in 10 lbs. berries, simmer for ¼ hour, and put into jars.

WILSON'S FLY PADS

Kill them all, and the germs too. 10c a packet at Druggists, Grocers and General Stores.

Canning Currants.

Use ¾ lb. sugar to 1 lb. fruit; let the fruit stand 2 or 3 hours covered with the sugar in the preserving kettle; then bring slowly to the boiling point, fill into jars and seal. Raspberries are nice put up with currant juice; allow 1 cup currant juice and 1 cup sugar to each quart of raspberries; add the juice and sugar to the berries, bring to the boil, and put in jars. Red raspberries and red currants are very nice canned together half and half.

Red Currant Jam.

Pick over the currants carefully, and allow ¾ lb. sugar to each pound fruit; let them simmer in the boiler until soft; then set aside until next morning, and cook them gently in a porcelain kettle 25 minutes. Then put into glasses.

Red Currant Jelly.

Choose good, ripe currants; pick them over, but do not stem them; wash, drain and mash them in a porcelain kettle; it will darken the jelly to heat them now; use a wooden masher; drain over night in a jelly bag, but do not squeeze it. Use 1 pint sugar to 1 pint juice; boil and finish as directed for other jellies. After putting in the hot sugar, let it boil till it thickens when exposed to the air on the spoon (which will be in 3 to 5 minutes), and then put it into the glasses immediately.

A Cough Won't Last Long

After You Start on a Bottle of

OLIVEINE EMULSION

The Great Health Restorer

You will get rid of the cough and get back your health and vigor just as quickly as did Mrs. J. A. Stonehouse, of Williamsdale East, N.S. who wrote:

"I took a bottle of OLIVEINE EMULSION last spring when I was in a weak condition and had a nasty cough. My cough left me and I also regained my health and strength."

This favorite home remedy is pleasant to take, agrees with the weakest stomach and is suited to every member of the family, young and old.

Sold by Druggists and General Stores

Prepared by
Frasier, Thornton & Co. Limited
Cookshire, Que. 11

She Says He Can Now Do Her Work

MRS. M. MAGNANT GIVES THE CREDIT TO DODD'S KIDNEY PILLS.

Her back Ached and She Was Always Tired, But She States She Found the Relief She Longed For in Dodd's Kidney Pills.

St. Lina, Alta., July 18—(Special)—"Thanks to Dodd's Kidney Pills I can now do my work." So says Mrs. M. Magnant, a well known and highly respected resident of this place. Mrs. Magnant was a sufferer from that terrible wearines so many women know.

"My back ached," she says, "and I felt so tired all the time." But she used Dodd's Kidney Pills. She persevered with them, taking sixteen boxes in all, with the result given in the glad words of the opening paragraph.

Other women in all parts of Canada make the same statement. They were weighed down with weariness, weakness and pain, and found the relief they longed for in Dodd's Kidney Pills. For sick kidneys are the cause of the great majority of the ills fhom which women suffer. To treat them the kidneys must be strengthened so they will strain all the impurities out of the blood.

Ask your neighbors if Dodd's Kidney Pills do not help sick kidneys.

Fainting, Dizzy Spells

Weakness and Shortness of Breath.

Those feelings of faintness, those dizzy spells and "all gone" sinking sensations which come on from time to time indicate a weakened condition of the heart and disordered state of the nerves.

Milburn's Heart and Nerve Pills have no equal for strengthening the heart and invigorating the nerves.

Mrs. C. A. S. Drake, Paris, Ont., writes:—"I have used on towards the second box of Milburn's Heart and Nerve Pills and find they have done me good. I had those fainting, dizzy spells once in a while, and also weakness and shortness of breath, and would become so choked up at times I could hardly sleep without sitting up in bed. When walking too fast I would have to stop and try to catch my breath. I feel a lot better since I have used your pills and know that they have helped me wonderfully as I have improved very much."

Price 50c. a box at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

MINARD'S "KING OF PAIN" LINIMENT

The old reliable remedy for rheumatism, neuralgia, sore throat and sprains.

Best Liniment Made

MR. A. E. LAUNDRY, EDMONTON, writes:—"I fell from a building and received what the doctor called a very bad sprained ankle, and told me I must not walk on it for three weeks. I got MINARD'S LINIMENT and in six days I was out to work again. I think it the best Liniment made."

Minard's Liniment always gives satisfaction. For any ache or pain. It gives instant relief.

Minard's Liniment Co., Limited

Yarmouth, - - N.S.

A STRAWBERRY SUCCESS IN NOVA SCOTIA.

(Continued from page 776)

this in turn retards the blossoming which lessens the danger from frost.

Marketing.

Most of the picking is done by school children. They are paid by the box—formerly a cent and a half a fox but of late years two cents a box. No boxes are sent to market as the picker leaves them. The berries are settled down in each box and every box is filled as full as possible. This means satisfied customers and repeat orders.

Two crops are taken off each planting. The second crop is harder to pick and is always lighter than the first. It is found that it usually pays to take off a second crop as it spreads the main charges of planting and cultivation over two seasons instead of one.

The yield ranges from three to six thousand boxes per year. Four thousand boxes would be an average yield. Last year the price averaged seventeen cents a box sold to stores, ice cream parlors, etc. This means a cash return of over six hundred dollars per acre.

As the berries are carried twenty-two miles by horse and wagon, marketing charges are higher than usual. No clase records of the cost of growing have been kept. But it has been estimated at about four hundred dollars, made up as follows: Rent of land $10.00; preparation of soil $10.00; fertilizers and manure $50.00; plants $10.00; planting $20.00; cultivation $30.00; mulching $25.00; picking $100.00; crates $40.00 and marketing $100.00.

Home grown plants are used and charged only at what it costs to dig them. Only fresh clean boxes are used and each crate is stamped with the grower's name, number of boxes, quality, etc.

The above figures show that an average year will show a net of from $200.00 to $300.00 per acre. The amount of land planted to strawberries each year varies with the needs of the tarm. But no matter how heavy a crop there is, the demand always exceeds the supply. As soon as the first load of berries are due in Sydney several of the leading grocers insert advertisements in the local papers to the effect that thy will have "Huntington's strawberries." He knows that he is getting the best obtainable. This means repeat orders and good business for the grower.

Spanking Doesn't Cure!

Don't think children can be cured of bed-wetting by spanking them. The trouble is constitutional, the child cannot help it. I will send **FREE** to any mother my successful home treatment, with full instructions. If your children trouble you in this way, send no money, but write me to-day. My treatment is highly recommended to adults troubled with urine difficulties by day or night. Write for free trial treatment.

Mrs. M. Summers

BOX 309 WINDSOR, Ontario

PROFIT FROM POTATOES.

By G. E. SANDERS
Dominion Entomological Laboratory,
Annapolis Royal, N. S.

In view of recent investigations into the conditions of potato districts competing with the Maritime Provinces, it would appear that spraying potatoes will this year be more profitable than usual. Those who have potatoes planted are fortunate and now that they have spent from $100 to $150 per acre that will without spraying turn 150 bushels of potatoes, they should consider investing another $20 in labor and material to spray five times and thus insure from 100 to 200 more bushels of potatoes and also make certain that the whole crop will be sound.

The spray calendar for potatoes is:

First spray when plants are six inches high, 4-4-40 Bordeaux and 1½ lbs. arsenate of lime to 40 gallons.

Second spray, 12 to 14 days later 6-6-30 Bordeaux and 1½ lbs. arsenate of lime to 40 gallons.

Third, fourth and fifth sprays two weeks apart and of the same material as the second spray. If bugs are not present the poison may be omitted.

Apply at least 60 gallons per acre and better make it 100 gallons per acre.

Thorough spraying costs only $20, for five applications and will give a greater increase in yield than a half ton grade fertilizer. No one would think of planting potatoes without fertilizer or manure, yet the spray only costs one-half as much and will give a greater increase, yet it is often neglected.

The indications are that spraying will be particularly profitabl in 1920, so every grower is urged to spray thoroughly.

SPRAY CALENDAR FOR POTATOES

By G. E. SANDERS
Annapols Royal, N. S.

When the plants are six inches high spray with poisoned Bordeaux and repeat every ten days or two weeks until the tops die of old age or frost.

For the first spray use poisoned 4-4-40 Bordeaux and for the second and later sprays, poisoned 6-6-40 Bordeaux.

To make 4-4-40 Bordeaux, dissolve 4 lbs. of bluestone in 4 gallons of water, hanging the bluestone in a coarse sack at the top of the water, 24 hours before using. Dilute the four gallons of bluestone stock solution up to twenty gallons. In another container slake four pounds of stone lime or wet up for pounds of hydrated lime, dilute this up to twenty gallons.

Either put the lime solution into the spray tank first or pour the two solutions in together or pour them in by alternate buckets. Strain all solution going into a potato sprayer. If arsenate of lime, lead arsenate or

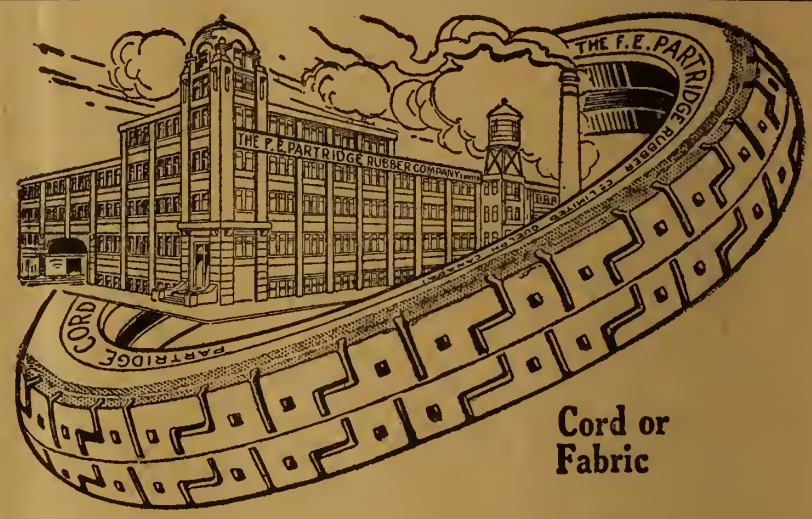
THE ROYAL BANK OF CANADA

The Bank follows a liberal policy in extending loans to Farmers

If you are going to need a loan to buy seed or livestock, see the Manager of the nearest branch of the Royal Bank early about your requirements.

This is an invitation to call at the Royal Bank the next time you are in town.

CAPITAL AND RESERVES $35,000,000 TOTAL RESOURCES OVER $500,000,000
640 BRANCHES.



Cord or Fabric

Strength obeys reality and not appearance. Strength is according to quality.

The reality which produces the strength and dependability of Partridge Tires is the exceptionally good quality of all material used—and the skill which converts them into agents of comfort and economy.

You can't buy better tires than Partridge —so why not buy Partridge?

127A

PARTRIDGE TIRES

Game as Their Name

FOR SALE

We have to offer a nice bunch of Shorthorn bulls and heifers ages 1 to 3 years.

Also span 4 year old horses, span 5 year old horses span of brood mares and a choice driver

For further particulars apply to

FRANK C. FAWCETT

Upper Sackville - - N. B.

AYRSHIRES BULLS!

fit for service, bred from heavy producing stock.

FRED S. BLACK & SONS,
Springvale Farm,

AMHERST, - - - N. S.

Chester White Pigs for Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

COSSAR STOCK FARM
Lower Gagetown, N. B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

We are presently offering, one imported Clydesdale Stallion "Dunure Crag" sired by the famous breeding horse "Baron of Buchlyvie."

Also

One Canadian bred Clydesdale Stallion "Baron Cossar", rising 5 years old.

Further particulars on application.

G. C. Cossar, Proprietor. J. Meiklejohn, Agent.

W. E. B. TAIT

DORCHESTER, N. B.

Breeder of

DUAL PURPOSE SHORTHORNS

and

BRED-TO-LAY BARRED ROCKS

Eggs for Hatching from winners of P. E. I. Egg Laying Contest 1919, mated to Pedigreed Cockerels imported from Oregon Agricultural College. Price $4.00 per 15.

Eggs for Hatching from high producing Pens, $2.50 per 15.

SUPERIOR GUERNSEY COW FOR SALE

Berwick's Blossom, Record of Performance No. 14, with heifer calf.

JOHN N. CHUTE,
Berwick, N. S.

Willow Glen Shorthorns!

Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

A. N. GRIFFIN,

New Mines - - - N. S.

Springbrook Farm Ayrshires!

We have to offer one bull, 24 months, 1st prize at Woodstock, Fredericton and Chatham, 1919. Six choice bulls from 8 to 20 months, sired by the prize winning bulls "Morton Mains", Amanth Imp. and Cherrybank Cicero. Also females, all ages.

McINTYRE BROS.

SUSSEX CORNER, - - N. B.

GUERNSEYS!

For Sale—Registered stock. Male or female.

T. D. BLAIKIE,
Great Village, N. S.

Paris Green are to be added, add them last. For a 6-6-40 Bordeaux, use 6 lbs. of bluestone and 6 of lime.

In 40 gallons of Bordeaux use any one of the following poisons: Arsenate of lime, 1½ lbs. to 40 gallons; arsenate of lead dry, 2 lbs. to 40 gallons; Paris Green, 1 lb. to 40 gallons; arsenate of zinc, 1¼ lbs. to 40 gallons.

Aresnate of soda (arsenoid or solarsato) may be used at the rate of 1 lb. to 40 gallons; this poison must be combined with Bordeaux. Directions for using white arsenic may be obtained from the writer.

Use from 60 to 80 gallons per acre per application. Where a man applies only 30 to 40 gallons per acre, he cannot expect to control insects and diseases with the above formula. Some double them and get fair results, but there is always the danger of burning and poor distribution over the plant. Spray thoroughly and often if the weather is rainy or foggy.

PREPARING BEES FOR WINTER.

(Experimental Farms Note.)

The successful wintering of bees is often ascribed to luck. But investigations carried on at the Central Experimental Farm, Ottawa, during the past eight years, show that there is very little ground for this view. Of 348 colonies wintered during this period, both in the cellar and outo-f-doors, only seven per cent were lost, and this loss was ascertained in nearly every case to be due to definite causes, the principal causes being unwholesome and granulated stores and starvation. Most of the colonies lost from unwholesome stores did not die outright but became so weak that they had to be united to others.

The secret of success in wintering bees lies in their proper preparation. This prparation needs to be begun in July when it is important to see that the colony contains a good, fertile queen, preferably one raised the same year, which will raise a large number of young bees in the late summer months.

Each colony needs about 40 pounds of wholesome stores for the winter and early spring, and this should be in the hive before the end of September in most places. Clover honey and syrup made from refined (not brown) shugar are wholesome. This year, owing to the high cost of refined sugar, it may be hard to provide sufficient good stores, especially in some parts of Ontario and Quebec where the clover was killed last winter, and chances may have to be taken with honey that the bees gather from other plants. Buckwheat honey is wholesome, but some of the ohneys, for example, that come from wild plants in the fall, are inclined to cause dysentery and death.

Winter production is very important. If the bees are to remain outside, no better protection can be given than the 4-ocolony case made large enough to hold about four inches of packing consisting of shavings, or dried leaves a year or more old, around the sides and beneath the hives, and double this thickness on top. The apiary must be well protected from wind.

If cellar intering is followed, the bee cellar should be comparatively dry and it should be well insulated to prevent much variation in temperature. For a few colonies in a cold locality a boarded-off portion of the basement of the beekeeper's residence makes a good bee cellar and a furnace in ths basement is an advantage. If the stores are wholesome and the bees have been brought in before severe wather, the best temperature for the bee cellar is between 45 and 50 degrees F. If, however, dysentery has dveloped, the higher temperature will cause restlessness and a few degrees lower will be advisable.

F. W. L. Sladen, Apiarist.

Have a pit in your packyard as far removed as possible from buildings or fences in which ashes must be deposited.

Why hens go on a strike!

The feed elements that make *whites* of eggs are entirely different from those that make *yolks*. When hens aren't fed both the *white* and *yolk* making elements, they *can't lay*.

Missouri Experiment Station tests prove that 100 lbs. of wheat, corn, oats, barley and kaffir corn make (above bodily maintenance) an average of 224 yolks to 154 whites. Based on data from the same experiments, Purina formulas produce, (above bodily maintenance), as follows:

Purina Scratch Feed	247.49 yolks	142.11 whites
Purina Chicken Chowder	182.05 yolks	282.55 whites
Combined Ration	429.54 yolks	424.66 whites

These Purina feeds not only make a practically *equal* number of whites and yolks but *more* of both than ordinary feeds.

Note that Purina Chicken Chowder contains the necessary white-forming elements to balance up the yolk-making grain ration. That's why it makes hens lay so heavily. Instead of the yolks being absorbed by the hen's system, Purina Chicken Chowder makes the whites to *complete* the eggs and they are laid. Thus we can absolutely guarantee

more eggs or money back

on Purina Chicken Chowder if fed with Purina Scratch Feed as directed. You take no risk.

WHOLESALE AND RETAIL DISTRIBUTORS FOR EASTERN PROVINCES:

WM. MOORE ..... HALIFAX, N. S.
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J. B. SNOWBALL CO. ..... CHATHAM, N. B.
CLEMENT & PEABODY ..... FREDERICTON, N. B.
HANTS WHOLESALES ..... WINDSOR, N. S.
R. McG. ARCHIBALD ..... TRURO, N. S.
H. C. BALLEM & CO. ..... SYDNEY, N. S.
WM. LAW & COMPANY ..... YARMOUTH, N. S.

ST. JOHN EXHIBITION
September 4th-11th

Prize Lists are now obtainable on application to

CHAS. ROBINSON,
Manager.

BUTTER FAT CONTENT; AND HOW IT VARIES.

The butterfat content in milk may vary considerably from day to day, especially with cows which are producing a maximum flow, and also with the different milkings during the day. Usually a high test follows a short milking period. That is, milking there times per day, for example, so that the period between the morning and noon milking is shorter than the other two, the noon test will usually be higher than the other two. It often happens that the morning test is the lowest of the day. There seems to be little correlation between the amount of milk produced and teh percentage of butterfat. Oftentimes an increased milk flow will be accompanied by an increased fat percentage.

The wild cucumber vine is one of the most rapid growing annual vines that may be used for a trellis or to cover up unsightly places.

Lawndale Stock Farm

Jerseys and Shorthorns (Pure Bred)

Our Present Offering in Jerseys is as follows:—2 splendid young bulls, both from R. O. P. mothers, 1 dropped in June 1919, the other in July, 1919. They are beauties and the right sort.

Write soon for information to

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

Two Cents a Word.

This department is one of the most valuahle in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to huy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on. as we cannot forward replies sent to this office. Copy must he received not later than Friday before the date of issue, which will always he found on the editorial page of the proceeding issle. No black faced type or display of any kind will he allowed under this head, thus making a small add as noticeahle as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex N. B.

FOR SALE—Ten Pure Bred Yorkshire Pigs, Price $10, unregistered. Apply to WENDELL WARD, WEST BATHURST N. B.

FOR SALE—Registered Hampshire Sheep, bred brom selected stock. Apply to GEO. R. WARD, West Bathurst, N. B. Phone 86-6.

BARRED PLYMOUTH ROCK Cockerels. Bred to lay and of the same strain as the leaders at Nappan. $2.00 to $5.00 for fall delivery. C. M. PEART, Havelock Kings Co., N. B.

WANT TO HEAR from party having farm for sale, give particulars and lowest price. JOHN J. BLACK, Maritime, St. Chippewa Falls, Wisconsin.

REGISTERED TAMWORTH young Boars and sons, for sale. Bred from best Ontario stock. E. W. HEURTLEY, Sutherland River, N. S.

THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and other premises. Price $4.00 per 100 lbs. Apply by mail to "NAILS," care of Office Maritime Farmer, Sussex, N. B.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must he paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

"Carleton County Holstein Breeders' Club, R. W. Maxwell, Woodstock, Secretary."
F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B

Ayrshire Cattle

McIntyre Bros., Springbrook Farm, Sussex, N. B.
E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co,. N. S.
C. A. Archihald, Truro, N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

YORKSHIRE PIGS

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co.. N. S.

Tamworths

E. W. Heurtley, P. O. Sutherland's Rlver, N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
Isaac Chipman & Son. Chipman Corner, Kings Co.. N. S.
B. H. Power, Selma Hants Co., N. S.
C.A. Archihald, Truro, N. S.
J. James Ross, Pictou, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

Minard's Liniment Co., Limited.

Gents,—I cured a valuable hunting dog of mange with MINARD'S LINIMENT after several veterinaries had treated him without doing him any permanent good.

Yours, &c.,
WILFRID GAGNE.
Prop. of Grand Central Hotel,
Drummondville, Aug. 3, '04.

Elmwood Stock Farm

We have a few young bulls to offer, sired by Dutchland Colantha Sir Rag Apple, a son of Colantha Johanna Lad. His dam is a granddaughter of Pontiac Korndyke. Thus combining the blood of two of the greatest hulls the world has ever seen.

The dams are daughters of Dutchland Pieterje Count. These calves are a nice straight growthy lot.

W. L. ETTER, Shubenacadie, Hants Co., N. S.

Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages. Have some good cows to freshen soon. Am hooking orders for ram lambs for fall delivery. Write or phone for prices and description.

J. ROBIE MacDONALD,
Shubenacadie, - - Nova Scotia
Successor to J. MacDonald & Son

ELMHURST STOCK FARM

Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S.

Firshade Farm

Dual Purpose Shorthorns

P. R. L. FAIRWEATHER
Rothesay, N. B.

Special Offering

Maple Green Farm Holsteins

On account of the great shortage in the supply of milk in our home town, we have decided (with regret) to dispose of our entire crop of Bull and heifer calves.

If taken inside of the next 30 days will price them away below their value.

The Dams of these calves are now running in the R. O. P., and the last official test conducted by the R. O. P. inspector showed an average test of 4.62% fat for the lot.

All are sired by our 32.32 lb. herd sire "King Korndyke Johanna", whose Dam is a full sister to Canada's Champion R. O. P. cow, "Jemima Johanna of Riverside". Milk in 365 days 30373; butter In 365 days, 1280 lbs.

Phone or write.

R. L. HICKS
DALHOUSIE JCT., - - - N. B.

FOR SALE AFTER JULY

Pure Bred Holstein Bull, 3 years old (No. 32708); dam of this Bull tested 5% butter fat. Enquire

W. R. McKENZIE,
Apohaqui, Kings County, N. B.
R. F. D. No. 1.

SOME MEAT.

A quarter of a million carcasses of dressed lambs, weighing 7,000,000 pounds, constituting the largest amount of meat ever shipped from Australia in a single vessel, were landed at Boston recently by the British steamer Armagh. Some idea of the immensity of the shipmetn may be had from the fact that the lambs, if placed in columns five abreast, wohld make a flock extending a distance of 40 miles. The Armagh also had 17,103 bales of wool, 2,236 dry hides and 58 masks of pelts. The cargo was worth close to $8,000,000.

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Of ability and good local connections—preferably a tailor or clothing man

Can Earn Big Money

selling Men's Made-to-Measure Clothes in his locality. Style, quality and value of garments known from Ocean to Ocean. Address—in first instance —with full information to P. O. Box 105, Montreal. 1

SUNNYSIDE STOCK FARM

Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

HIGHLAND LAKE HOLSTEINS

Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lh. hull in Canada.

We have young hulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lh. sire and an 18,000-lh. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yon e St. Radial) JEFFERSON, ONT

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for salo calves of hoth sexes, sired by Dutchland Pieterje Count, a bull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of hutter in seven days. His dam is a daughter of Colantha Johona Lad, who was 101 A. R. O. daughters 4 over 32 lbs., 7 over 30 lhs., three of them world's records for 365 days. If you want something choice. come and see these calves or write for further particulars.

We will also book orders for young Yorkshire pigs for the next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - CANARD, N. S.

COBEQUID FARM HOLSTEINS

We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. hutter each in seven days. These cows have in turn heen bred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. hutter each in seven days. Am offering young hull calves of this remarkable combination of hreeding and will sell a heifer calf or two. Get your orders in quick, they won't he here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

WISH-TON-WISH STOCK FARM

Have 4 good bulls fit for service, that are well grown and are extra choice individuals, and out of goid, big, heavy producing cows. Also 4 or 5 good bull calves from one to two months, as well as a few good heifers ready to breed. and some already bred to Sir Johanna Ormsby of Hickory, whose dam has a yearly official record of 22,159 lbs. mllk asd 971.25 of butter in 365 days. For description and prices write, or come and see our herd.

HARDING BROS., Proprietors, WELSFORD, New Brunswick.

FOR SALE

Two yearling Gurnsey bulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

SARAH E. M. SMITH,
Woodwards Cove, Grand Manan, N. B.

Shorthorn Cattle

High grade registered stock for sale

J. E. HETHERINGTON
CODYS, :: :: :- N. B.

AYRSHIRE CATTLE. KARAKULE-ARABI SHEEP

We are offering two Ayrshlre Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

For particulars and prices write

THE EASTERN KARAKULE-ARABI SHEEP CO., LTD. WINDSOR, N. S.

A. T. McLEAN, B. V. Sc.

Veterinary Surgeon and Dentist, late of Can. Army Veterinary Corps.

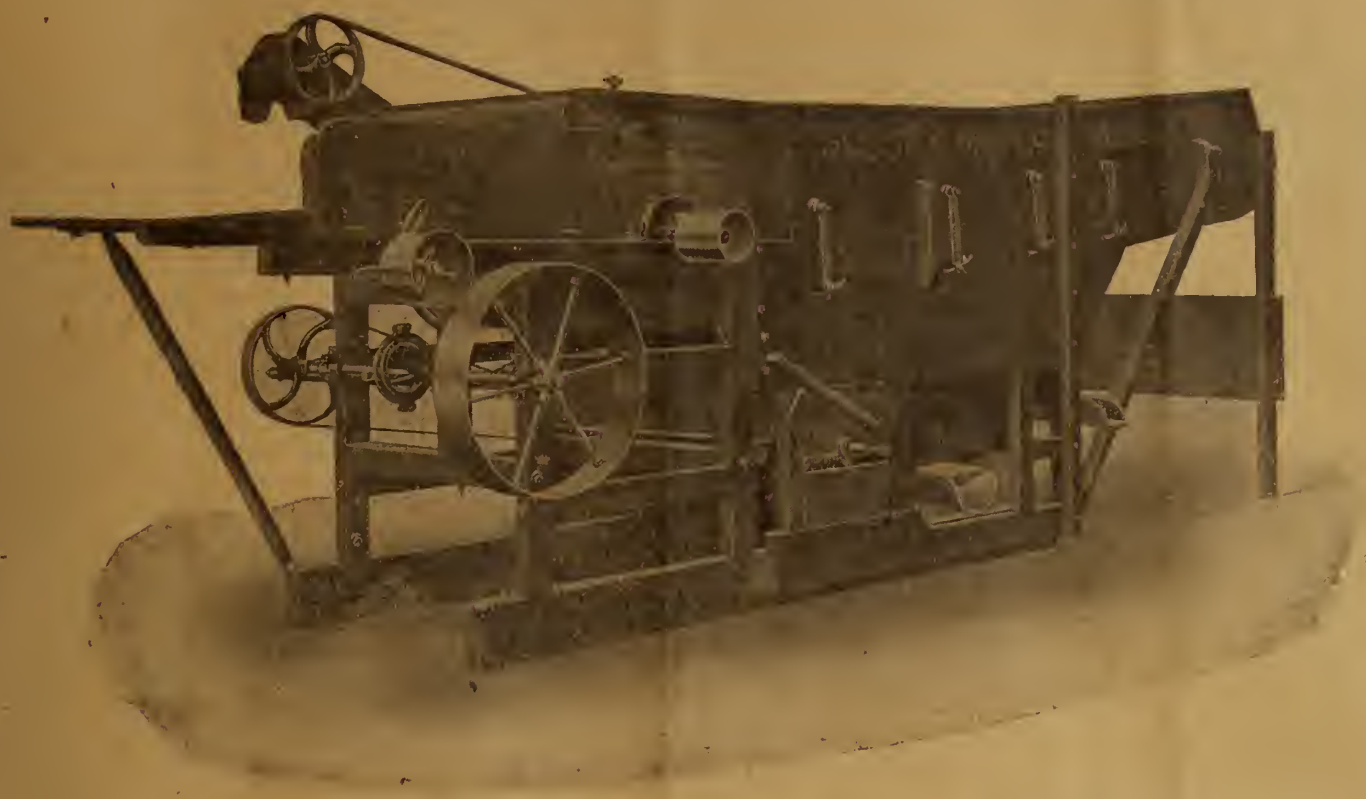
Graduate of University of Toronto and Ontario Veterinary College, 1910.

Treatment of diseases of all domestic animals.

WEST MARKET ST., MONCTON, N. B.
'Phones, Office 979, Residence 1079

THE SUSSEX LITTLE GIANT THRESHER

The Superior Machine, Sold With a Guarantee



No. 1 and 2 with Tailings Elevator

Made in four sizes, Tailings Elevator, Bagger, Straw Carrier, or Steel Trucks supplied if required

ASK FOR SPECIAL CATALOG

THE FRAME—Made of heavy well seasoned birch, mortised and bolted together.

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THE SHAKERS—Made of heavy gauge galvanized iron, with cast hangers and steel beater shafts.

THE BEARINGS of heavy babbitted boxings, supplied with compression grease cups.

NO COMPLICATED PARTS, a substantial fast and thorough cleaning separator.

FOR CUSTOM WORK the Sussex Little Giant is unsurpassed.

H. W. WALLACE
President and Manager.
The Man Behind the Guarantee.

What a few of our Customers wrote us last year:

Wallace Machine Works Limited,
Sussex, N. B.

Jeffries Corner, Kings Co., N. B.
Jan. 30th. '20.

Gentlemen:—

As you know, last fall I purchased one of your No. 2 Little Giant Threshers and it gives me much pleasure to tell you we have had excellent satisfaction. We found the machine all and more than you claim it to be. Most of our barns being small, we had considerable moving to do over a rough country, we had no trouble whatever to thresh and clean sixty bushels and more of oats per hour. I had such good luck with your machine that my brother decided to buy one and I know that he has had the same satisfaction that I have had. I have nothing but the highest praise for the Sussex Little Giant and would recommend them strongly to anybody thinking of purchasing a machine.

Wishing you every success, I remain,
Yours truly,
MURRAY VIRTUE.

Apohaqui, N. B., Oct. 1st, '19.

Wallace Machine Works Limited,
Sussex, N. B.

Gentlemen:—I purchased one of your No. 2 Threshers this year and I must say it is giving me excellent satisfaction. Only last Saturday I threshed at Wm. McLaughlin's, Parlee Sett. 431 bushels of grain of which was 212 bushel of Buckwheat, 26 bushel of barley, and 193 bushel of Oats, from 7.30 in the morning until 5 in the afternoon allowing one hour for dinner, and as we only had bags enough to hold 80 bushels we had to stop after threshing this amount each time and empty.

I did this without hurting my machine in the least and cleaning the grain in good shape.

Wishing you every success, I remain,
Very truly yours,
JOHN ARMSTRONG.

Hebron, N. B., Dec. 26th, '19.

Wallace Machine Works Limited,
Sussex, N. B.

Gentlemen:—

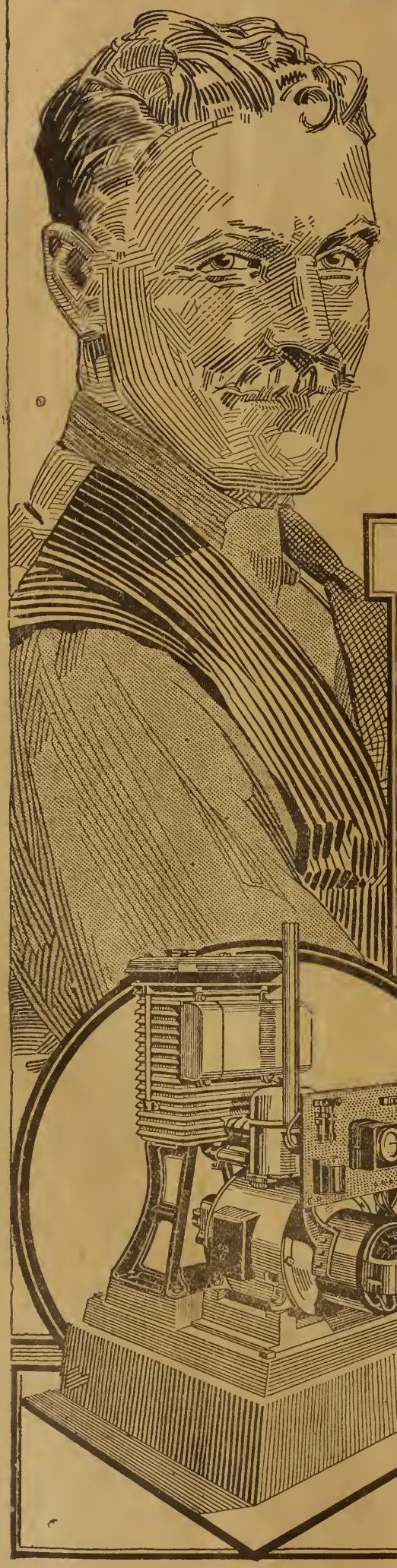
The two horse power thresher I bought from you this fall is a dandy, the best we have ever used. Have threshed one hundred bushels in one hundred minutes. Every one we threshed for said they never had such good satisfaction. There are several machines around here but I guess they will all have to take a back seat next fall.

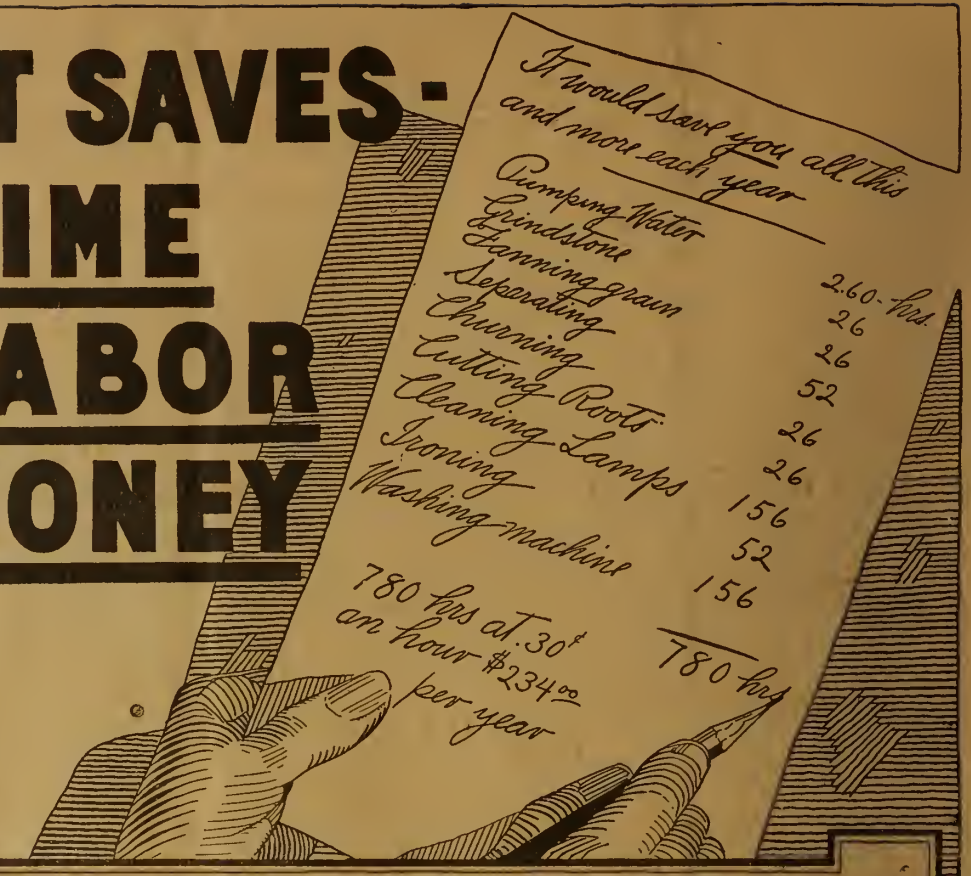
Wishing you Success and a Happy New Year, I remain
Yours truly,
KINNEAR HOAR.

WALLACE MACHINE WORKS, Limited, : Sussex, N. B.

THIS PLANT SAVES-

TIME
LABOR
MONEY





THINK, $234 a year saved on only nine of the necessary chores about the farm. Picture the many other jobs that could be time and labor lessened.—Picture the convenience of an electrically lighted house and barns. Figure how much more money you could bank yearly if you farmed with the twenty-four-hour-a-day help of

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POWER AND LIGHT

From a dollar and cent viewpoint—electrifying your farm is the most far-sighted investment you could possibly make—your yearly production jumps immediately. Your live-stock increases in value, for clean, sanitary surroundings make contented cattle.

Fresh running water is a boon to any farm.—Not only in the barns and dairy, but for sanitary purposes in the household, the Northern Electric Plant will cheaply and efficiently pump all the water you need. In case of fire it is ready for immediate service.

Power milking and dairying will enable you to keep more cattle. The demand for milk, cream and butter offers you rare opportunities.

The women folk on the farm find in electric power the solution to health-breaking tasks. All the labor-saving of modern electrical appliances is theirs with Northern Electric Power and Light.

You can electrify your farm with Northern Electric Power and Light for less than your hired man costs you for one year's work, and what you now pay for coal oil will maintain and operate it.

There is a Northern Electric Power and Light Plant in the size your farm needs. Our nearest house will send you interesting literature upon request. Write to-day.

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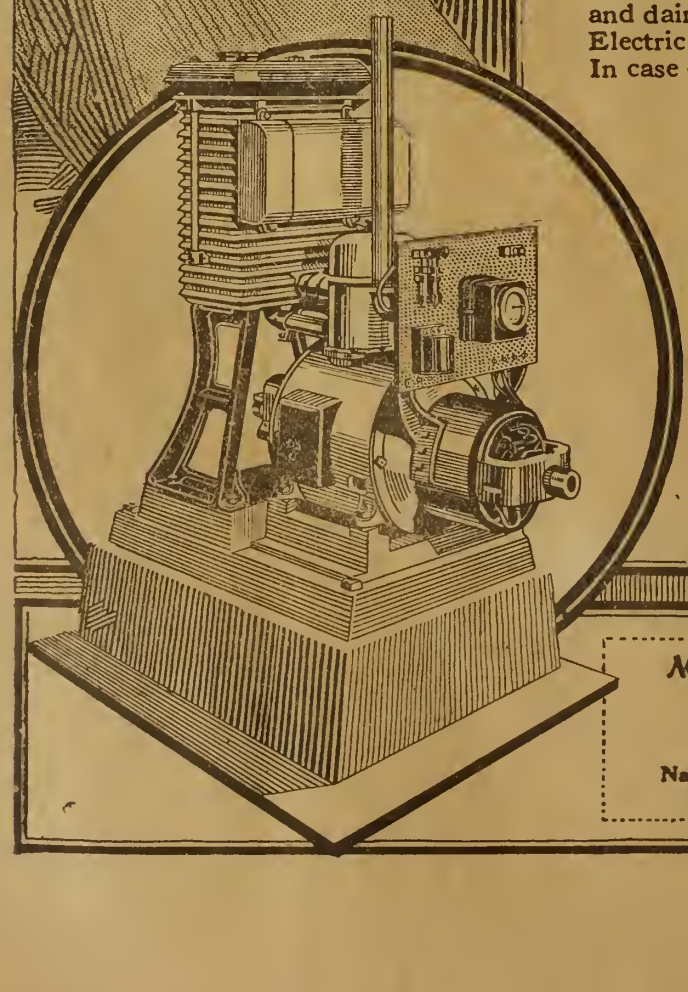

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(Address Nearest House)
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AND CO-OPERATIVE DAIRYMAN

TRADEM

Published Fortnightly in the Interests of ... of the Maritime Provinces of Canada

Vol. 25 SUSSEX, ..., AUGUST 3, 1920 No 22.

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Bread, Cake and Pastry baked from

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will supply in appetizing form, the nutriment so necessary to the growing child, will tempt the most fastidious appetite. A hungry child well fed is a healthy child.

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Use this coupon to secure a copy of the PURITY FLOUR Cook Book, 180 pages of tried and tested information on the preparation of all manner of food for all meals.

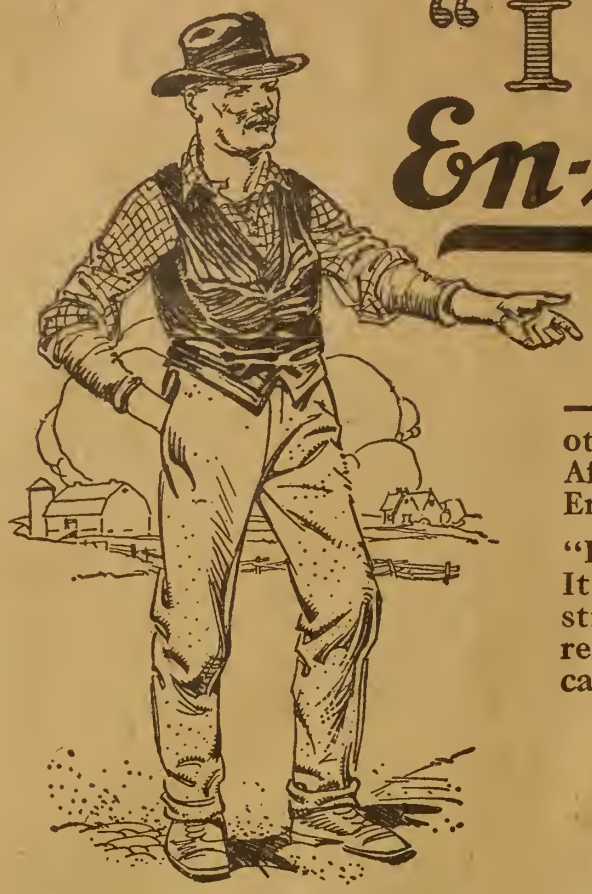
COUPON

Enclosed please find 20 cents for one PURITY FLOUR Cook Book.

Name .....

Address .....

"I have found En-ar-co Motor Oil helps me"



—to get more power out of my tractor, automobile and other farm engines without wearing them out quickly. After trying other lubricating oils, I decided to stick to En-ar-co.

"En-ar-co Motor Oil solves most of my engine difficulties. It makes things run smoother, and never gets hard and sticky. They tell me that's because it's scientifically refined, so there's no possibility of clogging matter or carbon deposits."

That is the testimony you will hear from every Canadian farmer who has given En-ar-co Motor Oil a trial on his farm.

All En-ar-co Products are Best for the Farm

White Rose Gasoline

Gives greater power and puts "pep" into your engine.

National Light Oil

Clearer light in lamps and lanterns; steadier warmth in heaters, brooders, incubators. Best fuel for tractors.

En-ar-co Motor Grease

For differentials—gears—transmissions, on motor cars and tractors.

Black Beauty Axle Grease

Takes the grind and squeak out of axles, and ensures smoother running and longer wear.

Order En-ar-co Products from your local dealer. If he hasn't got them, write us and we'll see you are supplied promptly.

How En-ar-co Motor Oil is Produced

You've seen the hard "scale" that forms in the bottom of your water kettle when the water is boiled away into steam. If you cooled, or "condensed," the steam, you would have absolutely pure water.

Crude petroleum is purified into En-ar-co Motor Oil in a similar way—in great 25,000 gallon kettles or "stills." Intense heat vaporizes the crude oil as water is vaporized into steam in your water kettle. When this vapor is condensed and further refined, you have En-ar-co Motor Oil—an absolutely perfect lubricant.

It forms a strong, velvety cushion for all moving parts of your engine and will not clog them with excessive carbon.

Only trained workmen—no "greenhorns"—are entrusted with this process. That is why every barrel of En-ar-co Motor Oil is of the same high grade.

What En-ar-co Motor Oil Has Done

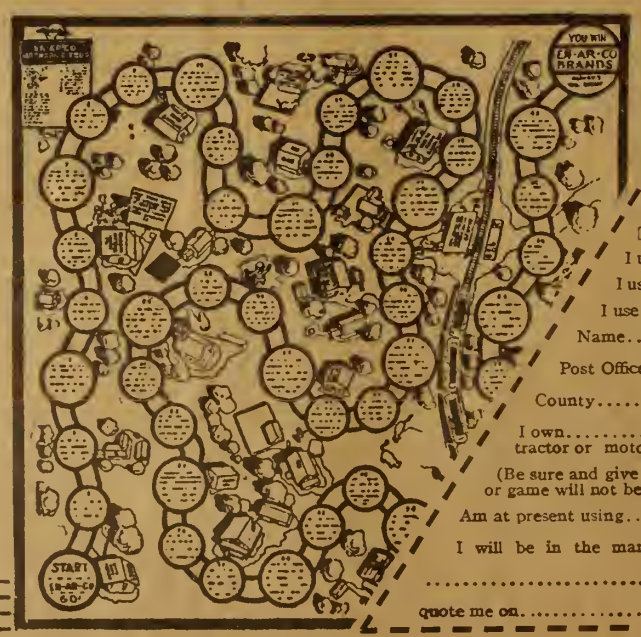
It has passed the most rigid government tests for lubrication purposes.

It satisfied all Government requirements for airplane use. Thousands of gallons were used in airplane motors during the war.

It has enabled thousands of Canadian farmers to reduce friction in their farm engines, and obtain greater power and longer life for these engines.

Send for Our FREE Auto Game

A fascinating game in which autos compete in a cross-country race will be sent FREE to any auto, tractor, truck, motor boat or engine owner who will fill out the attached coupon and mail it to us.



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Send me En-ar-co Auto Game free. Enclosed find three cent stamp for postage. Also give nearest shipping point and quote prices on items marked.

I use.....gals. Gasoline per yr.
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I use.....gals. Kerosene per year.
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I use.....lbs. Motor Grease per year.
I use.....lbs. Axle Grease per year.
Name.....
Post Office.....
County.....Province.....
I own.....(make of auto. tractor or motor boat.)
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Preliminary Investigations Re Lime Requirements of the Soils of N. B.

By E. M. TAYLOR

The object of this investigation was to determine whether the soils of New Brunswick were acid or sour in reaction, and if sour, what was the degree of acidity present, and what was the effect on crop production. The method of procedure adopted was to obtain representative samples of soil from various parts of the province, make a laboratory estimation of the lime requirements and to follow this up with field experimental work. Unfortunately, this latter phase of the work has not yet been executed.

The following table gives a brief summary of the laboratory estimation of the lime requirements of the soil in different districts of the province, expressed as the amount of carbonate of lime (ground limestone) required to neutralize the acidity per acre of ground:

County.	No. of soils tested.	Pounds limestone required per acre.
*Restigouche	3	5150
**Gloucester	42	5683
†Northumberland	30	4085
‡Kent	20	4681
Kings	44	5690
Albert	10	6690
§Queens	8	6262
York	25	6322
Carleton	35	6553
Victoria	29	5876

*Two of these soils were underlaid by a strata of limestone. Their lime requirements were approximately two tons per acre less than the soil which was not underlaid by this formation.

**Soil No. 202 from Petit Rocher underlaid by a strata of limestone, showed a lime requirement of only 1,500 pounds per acre. Soil No. 208, from Bathurst, which was heavily limed six years ago, showed a lime requirement of only 300 pounds per acre.

†Three soils from Chatham which had recently received applications of lime and ashes, required respective applications of 300, 600 and 1200 pounds per acre.

‡Soil samples from St. Charles, Upper Rexton and Mundleville, which had received applications of mussel mud showed lime requirements of 600, 200 and 270 lbs. per acre.

§Soil No. 249, from Gagetowu, which was limed 10 years ago, showed a lime requirement of only 3,000 lbs. per acre.

The conspicuous feature of the above figures is the apparent degree of acidity in New Brunswick soils. The effect of an application of some source of lime has been to reduce the acidity. Soils which have been recently limed show a reduction of the acidity proportional to the amount applied.

The results of these laboratory estimations are indicative, but the investigation is in no way complete until these results are substanitated by comprehensive experimental work in the field.

Importance of Lime in Agriculture.

In the role of soil fertility lime plays an important part. Plants require lime as part of their mineral food. It is not generally considered necessary, however, to supply lime as a plant food. Two tons of timothy hay per acre would remove from the soil the equivalent of 11.4 pounds of carbonate of lime. The requirement of the clover crop, however, is more significant. Two and one half tons of red clover hay per acre would remove from the soil an amount of lime equivalent to 113.5 pounds of carbonate of lime.

Probably the most important function of lime is that in the form of burnt lime, and ground limestone or carbonate of lime, it is a neutralizer of soil acidity. Now, an acid condition of the soil is not the most favorable for the growth of many of our farm crops. A factor which is becoming a problem to the turnip growers of the province is the increasing prevalence of the fungus Plasmodiophora brassicae, which causes club root in turnips, cabbages and other closely related plants. This fungus finds in an acid soil conditions particularly favorable for its development and continuity.

Lime to some extent seems to act as a liberator of plant food in the soil. The phosphoric acid in the soil exists in the form of salts of lime, magnegium, iron and aluminum. The phosphates of iron and aluminum, on account of their insolubility, are comparatively unavailable. Phosphates of lime under various stimuli in the soil are much more available for plant nutrition.

When soluble phosphates, such as acid phosphate, are added to a soil deficient in lime, they tend to revert to unavailable compounds of iron and aluminum. In the presence of an abundance of lime larger amounts of the phosphoric acid will combine with it to form phophates of lime instead of the less soluble phosphates of iron and aluminum.

The potash in our soils is largely locked up in unavailable form. The use of lime in the soil tends to promote the availability of this element. The organic matter in the soil consists largely of plant residues. These residues contain the nitrogen which in time becomes available to plants for their growth. Before it can be utilized for growth, it must be converted into the form of a nitrate. In this process two reactions are involved and affected by bacteria in the soil. The efficiency of these bacteria is greatly reduced by an acid condition of the soil. Inasmuch as plants require nitrates for their growth, this process is an important one.

Associated with the leguminous plants such as the clovers, peas, beans, etc., is a group of bacteria which lives in nodules on their roots. These bacteria, under favorable conditions, are able to appropriate appreciable amounts of nitrogen from the air and add it to the soil. These organisms are not able to function properly in an acid soil and require for their maximum activtiy an abundance of basic material in the soil such as carbonate of lime.

Lime for Agricultural Purposes.

For the neutralization of soil acidity lime may be used in different compounds. It may be used in the form of oxide of lime or the carbonate of lime.

Burnt lime, or oxide of lime, is caustic in nature. Its use on light soils which are poor in organic matter, is not to be recommended on account of its action in reducing the organic matter. It is quick in action, and on heavy soil which has an abundant supply of humus it can be used in medium quantities quite safely. For correcting acidity, 1120 pounds of burnt lime is equivalent to one ton of carbonate of lime, or ground limestone.

Ground limestone carries its lime in the form of carbonate of lime. As a neutralizer of soil acidity it is not as quick in action as the burnt lime. The rapidity with which it acts will be largely governed by the fineness of the material. For quick action 75 per cent. of it should pass through a sieve of 100 meshes to the inch. Not being caustic in nature, large applications can be made without fear of injury to the soil. When applied it should be thoroughly incorporated with the soil.

Sources of Lime in the Province.

There are distributed over the province a fair number of limestone deposits; some of which are of excellent quality. The following table gives the location of some of the more accessible deposits and their quality:

County.	Locality.	Per cent. carbonate of lime.
Albert	Demoiselle Creek	92.75
"	" "	79.37
"	Hillsboro Quarry	82.75
"	Elgin	95.31
Carleton	Florenceville	77.80
"	Hartland	87.87
Gloucester	Tetagouche	81.00
"	Elm Tree	97.25
"	"	70.00
"	Petit Rocher	88.75
Kings	Havelock	96.97
"	Sussex	83.81
"	"	81.34
Queens	Queenstown	94.00
"	Carpenter	93.00
"	Petersville	91.18
St. John	St. John	93.15
Victoria	Plaster Rock	63.60
"	Arooostook Jct.	38.45
Westmorl'd.	Taylor Village	96.25
"	Up. Dorchester	84.80
"	"	57.19
"	"	53.98
"	Petitcodiac	97.55
York	Keswick	60.15

Mussel Mud

Mussel mud is a marine deposit frequently found at the mouth of tidal rivers. It consists of a fine silt containing variable quantities of oyster, mussel and clam shells. Inasmuch as the shells are largely carbonate of lime, they often are a valuable source of lime for agricultural purposes. The lime content of this material is dependent upon the percentage of shell present. Analysis of a sample of silt separated from the shells showed it to contain only 4.75 per cent. carbonate of lime. Analysis of the shell showed it to contain 87.5 per cent. carbonate of lime. From this data the importance of obtaining mud with a high shell content is obvious. Extensive beds of this material are found all along the eastern cost of the province, and their utilization is of no little economic importance considering the requirement of our soils for lime.

Limits of Investigation.

This investigation dealt only with the lime requirements of the above soils and does not in any way refer to their nitrogen, phosphoric acid and potash content. Soil fertility is not the result of any one factor, byt of several factors intimately linked together. Lime cannot take the place of either fertilizers or barnyard manure. It has a function to perform: maintain the store of plant food and humus in the soil, regulate the drainage, and then that the full benefits of these conditions may be derived, keep the soil sweet by the use of lime.

The bottom has apparently dropped out of the hide market. A drop of 15 to 20 cents per pound in the price of hides makes quite a difference in the value of an animal. If the price of leather goods would drop accordingly, neither producer or consumer would have much complaint, but when buying a pair of shoes or a set of harness, one is not aware of any drop in price.

Regularity in feeding and uniformity of feeds, both as to quantity and quality, are essential.

Notes From the Nova Scotia Agricultural College

N. S. A. C. TERM OF 1920-21.

On another page of this issue will be found an advertisement of opening date and courses offered at the Nova Scotia College of Agriculture. Tuition is free at this institution for all students from the Maritime Provinces. Young men who desire to prepare themselves for a successful farming career cannot obtain anywhere in Canada a more satisfactory course of training than is offered at Truro. Those who wish to take up professional work along any agricultural line can profitably take their first two years here and finish at Guelph, MacDonald, or some other Canadian College.

It is a noteworthy fact that former students who have followed this latter plan, have almost invariably been at the head of their classes in the institutions where they have finished their training, and some of them are today occupying foremost positions in Canada in their chosen line of work.

FIBER FLAX

A splendid field of fibre flax is now maturing at the College farm, Truro, This will be pulled in a short time, and it is planned to ship the product to a flax mill near Montreal. The seed was specially imported from Ireland through the Dominion Department of Agriculture.

The crop just now looks very promising, and at least suggests the desirability of a group of farmers in some Maritime locality agreeing together to grow one, two or three acres each, to make up from 500 to 1,000 acres of flax, which would be sufficient to warrant the establishment of a flax mill in that locality. Fuller reports will be published at a later date.

DAIRYING NOTES.

Tell it not in wholesale Gath! Creamery butter is now selling at 58 to 60 cents per lb., as compared with 53 to 54 cents a year ago. This at a time when general farm produce is beginning to show sharp declines. The firm price of butter is at least partially accounted for in the splendid organization at the present time all over the Dominion for the marketing of dairy products.

The strength of the butter market should be taken into consideration by farmers who are readjusting their plans and selecting the line of work they are to specialize in. Already many sections of Nova Scotia which once scattered their energies over lumbering, fishing, etc., are centralizing on dairying, with splendid results.

This year is showing the biggest increase in output from creameries yet attained. At the first of July it was estimated that the total creamery product was 40 per cent. larger than it was at the corresponding date last year. At the time of writing the cream supply is dropping off, owing to the scarcity of rain, and consequent dry pastures. The falling off is much more marked where the farmer has depended on old pastures. Those who have applied modern methods of fertilizing and bringing the pastures into the crop rotation have suffered much less.

Especially well off this season is the dairyman who put in an early soiling crop in the spring, and is now able to supplement with green fodder so as to hold up his cream supply. Seasons like the present one accentuate the difference in productiveness also, between old methods and fields which have been left to mature and those which have been properly cultivated. In practically all parts of the province where the land has been kept in good condition the hay crop will be up to normal or very nearly so. To the observer of wide areas it is evident that the man who has striven to develop his dairy production is the man who also has secured best results in hay, grain and root crops as well.

Complains of variation in cream tests are now at their climax, especially among new patrons. With no errors whatever there is bound to be more or less variation. The principal source of trouble is the hot weather and consequent souring of cream. Cream that is sour or partially so should be well stirred from top to bottom before leaving the farm, so that an accurate test may be obtained. Every precaution should, of course, be taken to prevent souring altogether.

Apart from this principal cause, which can thus in some meature be remedied, the main factors in variation are as follows:

1. Milk from a single herd will vary in fat content from day to day, sometimes to a considerable extent, this variation affecting the percentage of fat in the cream, even when the volume of cream remains exactly the same, and separator conditions are unchanged.

2. Cream separated at a high temperature, say 95 degrees, will give a lower test than when separated at, say, 70 degrees.

3. If the milk inlet on the separator be partially shut off the cream will show a higher test than if left wide open.

4. The separator will do its best work when run at the speed indicated on the machine. Higher speed reduces the quantity of cream and raises proportionately its fat eprcentage.

A very clear account of the whole problem of variation in cream test is given in a circular which may be had from any creamery manager, or from the Dairy Division at Truro by dropping a card. The title is "Causes of Variation in the Percentage of Fat in Hand Separafor Cream."

A BUSY DEPARTMENT.

Almost every vegetable the farmer or market gardener seeks to grow has one or more small but deadly foe. The business of the Entomological department is to find ways and means of overcoming these pests. Your correspondent recently had a glimpse into the field work of this very busy department. Its activities to the untrained observer seem to fall into primary and secondary classes.

1. The first step is to study the life history of the insect to be attacked, so as to determine the stage at which it is most susceptible.

The next step is to discover by experiment what poisons are most effective.

2. More or less consequent on these matters are many others, such as: What preparations are least costly? What is the minimum dose necessary? What arrangements can be made for the manufacture of these preparations?

This year the work on the college farm under this division has to do largely with the cabbage maggot, onion maggot, carrot rust fly, pea moth, and to make more accurate and certain to the public the effects of the beetle and blight on the potato yield, and the comparative value of Bordeax dust and liquid Bordeaux in combatting the latter. There is also experimental work being carried on to determine which poison gives best value in destroying the potato beetle and what is the minimum dose necessary.

Several effective poisons have been tried out in dealing with the cabbage maggot. An exhaustive test of these is being carried forward this year, and it is expected that valuable results will be available to the public at the close of the season. The difference between the plots of cabbage which have been treated with some seven of these poisons and the check plots, on which no application of any kind was made, is very striking.

With soil and seeding conditions exactly alike, the treated plots show very few blanks, while the plots which were left to themselves have a lone head here and there. Any observer, looking over the field, cannot but be struck with the value of experimental work which will place these preventatives within reach of every vegetable grower.

The tar paper disk is now a back number. Salt solutions are useless and worse, but any one of seven poisons being tried ou this year will make unnecessary further heavy losses in the cabbage plot. Which of the seven is most effective, easily obtained and inexpensive should be demonstrated bythis year's experiments.

The onion maggot experiments are not so promising. A number of materials are being tried out, some of them giving a afir degree of control. As yet the posions discovered are too expensive for use in practical conditions. No general recommendation can be given out at present for the control of this pest, but every effort is being made to this end.

The infestation of carrot rust fly has been too light this season to give conclusive results. The main difficulty with the pea moth is to find material adhesive enough to stick to the flower sepals where the eggs are laid.

The most definite results reached so far in relation to this list of foes, with the exception of potato beetle and blight, then, apply to the cabbage maggot. The department invites correspondence from any one who has suffered from these pests. Occasionally the men in charge hear of some farmer or market gardener who has suffered heavy loss unnecessarily. It is for the assistance of such that they are working and advantage should be taken of the results obtained.

KEEP UP THE GOOD WORK.

The recent articles which have appeared in this and other Maritime papers have brought in upwards of two hundred letters from parties seeking information regarding the use of Bordeaux Mixture and dusting materials for treating potatoes to prevent rot. This is in itself sufficient testimony to the fact that spraying and dusting is being carried on more extensively than in any previous year.

A word of warning to beginners in this vital practice may now be apropos. College men state that, on the basis of former experience, they fear that many farmers may not be persistent enough to reap the full benefit. So long as there are bugs present, the foes of the potato cropp can be seen, and the necessity of spraying is evident to all. The spores which cause blight, and therefore are equally deadly, cannot be seen until the destruction is largely accomplished. The temptation of the inexperienced is to stop spraying when there is no visible foe. This paragraph is written to emphasize the fact that high results cannot be expected unless the field is sprayed from four to six times during the growing season.

It may be rather early to add another bit of advice and warning, but since it is along the same line it may be set down here. It is this, that rot in potatoes is often greatly increased by the practice of covering heaps of potatoes after digging with tops, for the purpose of protecting from frost until they are housed. If these tops have any blight on them, the spores wil drop on the potatoes and rot will develop after they are stored. Tops should not be thrown over the tubers unless there is certainty that they are free from this or any other kind of plant disease.

DANGER FROM NEW DISEASES OF WHEAT.

(Experimental Farms Note.)

Aside from rust and smut, Canadian wheat crops have been found remarkably free from destructive plant diseases. Recently, however, there have been discovered in the United States two new diseases, "Flag Smut" and "Take All" about the presence of which there has been felt considerable alarm. Now, up to the time of writing, Canada has not been invaded by either of these new troubles. But growers should be ever on the lookout for these and any other obscure trouble with which their practice has not made them thoroughly familiar.

"Flag Smut," so called because the smut occurs on the flags or leaves of wheat, is easily recognized by the long streak of smutty stripes running along the leaves. The affected plants also show a peculiar tangled and twisted appearance as if the leaves were wound around the stem. Any suspicious plant should be sent to the Division of Botany, Experimental Farm, Ottawa.

"Take All," as the name implies, takes all and is probably the most serious wheat disease known with the exception of rust. In certain countries, indeed, it is the more serious, as is emphatically claimed by the practical grower as well as the scientific observer. The recognition in the field is not difficult. "Take All" is a root disease spreading from below up the stem for about 1 to 2 inches, discoloring the stem dark brown. The affected plants may be pulled up very easily, their anchorage in the ground is very loose as compared to a sound plant. The affected plants turn yellow and finally die, taking straw and all. Both diseases are most likely conveyed by infected seed grain, hence it is most important to "nip these diseases in the bud" and report all suspiciou cases at once. The use of foreign wheats for seed is cautioned against; particularly wheat from Australia is under suspicion.

MY FIRST YEAR WITH A DUSTER.

(By L. W. Staples, Bowdoinham, Me.)

When the buds began to show pink, I selected a calm morning about an hour and a half before sunrise. A boy to drive the horse—a fast walker—100 pounds of dust in the hopper and 100 pounds more in a bag beside me, and in an hour and a quarter we came in to breakfast, knowing that we had dusted more trees than we could have sprayed in a full day.

We looked back over the orchard and, behold, the dust was still hovering in the tree-tops like a dense fog over a sea. Two hours later we went down to investigate and the dust had settled and was clinging to every twig, bud and leaf of the trees.

Thus we kept on, morning after morning, till every bearing tree was covered. The pink bud dusting was mainly to control apple scab, sooty fungus and aphis. Two weeks later, when the leaves were showing green, we administered the second dusting, for control of scab, but-moth and sooty fungus. A third, for the codling moth, just after the blossoms fell; a fourth, in two weeks, to kill any surviving pests, and later in the season to combat a slight appearance of scab and sooty blotch. Those completed my season's work.

Grass in the spring has some medicinal value, but at this time of year it is a poor substitute for grain and good hay.

REPORT OF AGRICULTURAL CONDITIONS IN NEW BRUNSWICK

As Reported by District Representatives of the Department of Agriculture.

Fredericton, July 20, 1920.

Reports of the past week show that considerable clover hay has been cut throughout the provoince. The hay crop has thickened up considerably, which will increase the yield. On the high-land it will be short. Taking the province as a whole, it would seem that a reduction of twenty-five per cent over last year's crop could be given as a fair estimate. Two weeks ago an estimate of one-third less than last year was given, but recent rains have thickened the crop up wonderfully, although coming too late to give it much more length.

Grain crops are doing well and give promise of a very satisfactory yield. Early reports of misses in the potato crop in Carleton and Victoria counties are constantly being confirmed. These vary all the way from twenty-lve per cent. to as high as sixty per cent. of the crop in some sections. The loss sustained by some growers will be very heavy. The total production of potatoes from these sections will also be lessened very materially. On the north shore and eastern part of the province the potato crop continues to look well and is very promising. Some blight is reported in the Blissfield section.

Pastures have been better since the rains and the milk production is keeping up fairly well. Prices of dairy products have not changed very much. There is a heavy export demand, which takes up all surplus Canadian products.

The apple crop is suffering by a very heavy drop. This has been abnormally heavy this year and in some orchards has left a very light crop. In those orchards that have been well sprayed, the fruit is clean.

NOTES ON THE PRESENT WOOL SITUATION.

Everything at the present time points to a lower level of prices as compared with those obtained on the 1919 clip. Just where that new level will be, however, is a point upon which there is much speculation and very little agreement. No one really knows what to expect in the market for the next two or three months and consequently very little is being done except "playing safe" in the matter of consignment on a sufficiently low basis of advance, or in the few instances where buying has occurred, giving a price in keeping with the feeling of the trade.

For the immediate present, no market exists and the general dullness is perhaps best reflected in the lack of interest on the part of the dealing trade. It has virtually withdrawn all buyers from the field or limited their activity to the handling of the product on a consignment basis. One of the chief reasons for this state of affairs lies in the fact that buyers of yarn and woolens have been forced to cancel orders previously made, on account of general trade conditions. As a result, these cancellations in the trade have piled up so high on the manufcaturers, particularly in the United States, that they have been forced to reduce their production stocks, forcing prices below actual cost and wool merchants in an endeavor to protect themselves, have called a halt on additional purchases of wool in the country, until trading improves. At present, noboby seems to know what wool is worth, and because of this dealers refrain from making offerings until such time as manufacturers show a greater willingness to buy.

In addition to the trade cancellations, the following facts bear indirectly on the wool market: the general tightness of money, stocks of wool in hand particularly in the lower grades, and lastly transportation and the general unsettled state of business.

The one bright spot in the whole situation is that all authorities seem to be of the opinion that the present lull is only temporary. The British situation has been summed up recently as follows:- "We are still of the opinion that the present lull is only temporary, and although it is not likely, nor indeed desirable, that prices should go back to their recent high level, we believe that in the course of a couple of months or so, business will revive." This shows that confidence in the British wool trade has not been destroyed.

The feeling on the American market is very similar and there as in Canada, consignment seems to be very uch the order of the day. This is as it shóuld be, and growers are well advised this season to seriously consider the selling advantages offered by the Sheep Breeders' Association found in every province of the Dominion.

ST. JOHN EXHIBITION EDUCATIONAL DEPARTMENT.

The St. John Erhibition Association are attempting this year a display in the Natural History Department that will be more comprehensive and of greater educational value than anything that has been attempted for some years. This exhibit, which will be under the able management of Dr. Wm. McIntosh, curator of the Natural History Society, will deal with the minerals, forests and animals, bird and insect life of the province. It is planned to make the exhibit not only educational, but also extremely practicable, e.g., in the matter of our forest wealth exhibits will include a section of the trèe in its natural state, the polished grain, a legend showing in what section of North America the species is found, specimens of the manufactured products obtained from that particular tree, with a classification of the products, those manufactured here distinguished from those made elsewhere. The object is to bring clearly home to the people of these provinces the extent to which the raw materials are being exported and the profits of manufacture reaped by outsiders; in short, the exhibit is being planned with the definite object of showing the people of the Maritime Provinces the possibilites latent in these provinces and the New Brunswick Provincial Government is giving every co-operation it can to the project.

HOW I GREW MY PRIZE-WINNING POTATOES.

Mr. Geo. E. Sanders, Annapolis Royal, N. S., has handed the Maritime Farmer the following story depicting how Mr. Anexander McPherson, Presque Isle, Maine, won the prize last year for the best potato grower in the Eastern United States. Our readers will be interested in the methods followed. Every potato grower who reads this story should note the frequent sprayings, compare Mr. McPherson's methods with their own, and profit by his methods:

The soil was a deep gravelly loam with a slope to the south. I cut the hay on it for two years. The first crop was mostly alsike and red clover; the second a light crop timothy, about a half-ton to the acre. I let the second crop lie and applied ten seventy-bushel loads of manure to the acre and plowed it under in spare times during the summer.

The following spring we harrowed the ground once before we applied ten more spreader loads of manure to the acre. After that we harrowed it three times to pulverize the ground and make it mellow for planting.

Planting commenced May 13 and we finished May 14. We used twenty-two bushels of choice Irish Cobbler seed to the acre. This seed was taken from a field off my own raising which yielded 457 bushels to the acre the previous year.

In cutting seed for the crop, I cut the pieces as square and large as the planter would wandle. The seed was dropepd ten inches apart in the row and the drill rows were two feet nine and three-fourths inches apart. I used 2,200 pounds of a 4-8-4 (four per cent. ammonia, eight per cent. phosphoric acid, four per cent. potash) fertilizer in the drill at planting time. The planting was done with a two-man planter which drops the fertilizer first, and which has an attachment that covers the fertilizer so that it will not come in contact with the seed.

The seed was covered three inches deep. In about three weeks the potato plants began to come through the ground; and then we commenced to ridge them the way we do in Aroostook county. At this time, also, we applied a ton of a 4-8-6 fertilizer to the acre, dropping it in the centre of the drill before we began ridging.

The ridging, which was done with a horse-hoe, covered the fertilizer, potato tops, and all the weeds which had started to grow. This second application of efrtilizer was put on with the covering attachment taken off.

A few days after the first ridging the plants were through the ground again. We cultivated with the horse-hoe five times.

We began spraying the field when the plants were five or six inches high, using a two-horse sprayer with a barrel holding 100 gallons. When the plants were still young and tender we used Bordeaux 5-5-50 formula; that is, five pounds of lime, five of copper and fifty gallons of water. As the plants got older we used 6-6-50. We sprayed nien times during the season.

There were two periods of about three weeks each, when we had no rain. The plants wilted during the day, but in the morning looked refreshed from the dew.

Considering the growing season and the kind of potatoes planted, I was well satisfied with my crop. I sold the whole crop at $4 a barrel just as it was dug in the field, furnishing the buyer a storehouse to load from.

In figuring my expenses, something ought to be allowed for the extra-fine condition in which this prize-winning field is left, because of the heavy application of manure and fertilizer.

The following is the expense account, with net profit figured out:

Rent of ground, $25 an acre	$125.00
Plowing, $4 an acre	20.00
Picking rocks, 60c. an acre	3.00
Ten and one-half tons fertilizer	849.00
100 tons manure at $3 a ton	300.00
Hauling fertilizer	50.00
Harorwing five acres four times at 75c an acre	15.00
8 barrels seed per acre at $4 a barrel	160.00
Cutting seed, 40 barrels, at 35c a barrel	14.00
Planting, two men and team, $2.50 an acre	12.50
Hauling material to field	5.00
Cultivating and hoeing five times	30.00
Hand hoeing	10.00
Vitriol, 250 lbs., at 11c a lb.	27.50
Lime, 250 lbs., at 2c a lb	5.00
Poison, 10 lbs., at 35c	3.50
Spraying labor, nine times, 75c an acre	33.75
Picking 971 2-3 barrels, at 12c a barel	116.60
Hauling one mile to shipping station, 5c a barerl	48.60
Storage, 10c a barrel	97.-0
Digging, $4 an acre	20.00
Depreciation on horses and machinery ($2,000)	30.00
Total cost of five acres	$1,975.55
Received for crop	3,886.66
Profit from five acres	$1,911.11

GAINS FROM POTATO SPRAYING.

(By G. E. Sanders, Annapolis Royal.)

Of all farm operations, spraying the potato crop is without doubt the most profitable. Low prices almost invariably mean a loss to the man who does not spray, but prices seldom get so low as to cause the man who sprays thoroughly to sell below cost.

Some of the following results obtained in 1919 may serve to convince readers as to the necessity of thorough spraying in the growing of potatoes.

At the Kentville Experimental Station in 1919 the results were in bushels per acre:

Sprayed 4-4-40 Bordeaux—

Marketable.	Rotten.	Small.	Total.
519.25	4.41	20.83	546.15

Unsprayed—

Marketable.	Rotten.	Small.	Total.
222.75	228.25	2425	472.75

Spraying four times here gave 296.50 bushels more shipping potatoes per acre, 73.41 bushels more total yield per acre, 3.42 bushels fewer small potatoes per acre, 223.64 bushels fewer rotten potatoes per acre.

At the Fredericton Experimental Farm, on acre plots, in 1919, the results were in bushels per acre. Fertilizer.

Sprayed 4-4-40 Bordeaux—

Marketable.	Rotten.	Small.	Total.
398	0	14	412

Dusted, Copper Arsenic Dust—

Marketable.	Rotten.	Small.	Total.
378	8	28	414

Untreated—

Marketable.	Rotten.	Small.	Total.
221	77	23	321

In another experiment at the Fredericton Experimental Farm, the average of plots sprayed with different strengths of Bordeaux and with poison alone gave in bushels per acre:

Sprayed 6-6-40 Bordeaux—

Marketable.	Rotten.	Small.	Total.
334.4	55.05	34.6	424.15

Sprayed 4.4-40 Bordeaux—

Marketable.	Rotten.	Small.	Total.
269.72	73.13	38.31	395.11

Sprayed 2-2-40 Bordeaux—

Marketable.	Rotten.	Small.	Total.
235.7	86.7	30.9	355.5

Sprayed 1-1-40 Bordeaux—

Marketable.	Rotten.	Small.	Total.
203.	124.2	33.8	362.5

Sprayed poison only—

Marketable.	Rotten.	Small.	Total.
127.8	121.9	23.5	273.5

No spray—

Marketable.	Rotten.	Small.	Total.
109.3	74.9	34.3	218.5

In still another experiment at the Experimental Farm in Fredericton, a large number of plots averaged in the same manner as the last experiment gave in bushels per acre:

Sprayed 4-4-40 Bordeaux—

Marketable.	Rotten.	Small.	Total.
311.14	51.29	31.83	394.15

Sprayed poison only—

Marketable.	Rotten.	Small.	Total.
164.9	101.5	23.6	290

No spray—

Marketable.	Rotten.	Small.	Total.
92.2	93.	28.7	214.2

On account of the above being averages the totals do not add up right in all cases. In view of the fact that it costs only twenty dollars to spray an acre of potatoes five times with poisoned Bordeaux, and that sound potatoes seldom sell for less than $1.25 per bushel these days, one can easily see from the above figures that the potato grower is neglecting a fine business opportunity if he neglects to spray with the proper materials.

On an average it costs $150 to grow and harvest an acre of potatoes. With potatoes at $1.25 per bushel, two of the four untreated fields would meet a loss, while one of the fields treated for insects only, would show a deficit. In all cases, the fields sprayed with poisoned Bordeaux would show a handsome profit at the same figures with the additional cost of spraying and handling the extra potatoes added to the cost. In fact in one of the sprayed fields the potatoes could have sold for thirty-three cents per bushel and paid expenses.

A good many horses lose some flesh and shrink slightly in the shoulders during the busy spring weeks. In such a case the collar and draft should be adjusted in order to prevent sore shoulders.

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And Co-operative Dairyman
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Fortnightly Journal devoted to the interests of the farmers of the Maritime Provinces.

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DATES OF ISSUE.

August	3—17—31
September	14—28
October	12—26
November	9—23
December	7—21

AUGUST 3, 1920.

WHAT SHALL THE HARVEST BE?

About this time last year the Potato Crop in the Maritime Provinces gave promise of a bountiful yield. The vines were vigorous and of good color. Starch was being rapidly manufactured and transferred from green leaves through stem and stolens to the miniature tubers underground, and these tubers in turn increased in size from day to day so that on an average of from five to ten bushels was the increase per acre per day. Men who appreciated the value of thorough spraying, sprayed once, twice and not a few four, five and some six times, with the result that when Late Blight set in in their respective neighborhoods, their fields kept green and from day to day their stock of potatoes was increased per acre at the rate already mentioned. Then came the harvest to them with bumper yields of sound, healthy, well matured tubers. What of the neighbor who did not spray? His crop at this time of the season looked every whit as good as his neighbors, but being one of the foolish virgins, he heeded not the sound advice sounded through the press, and from the public platform by such an authority on potato spraying as Mr. Geo. E. Sanders, whose writings on this subject must be familiar to every farmer who reads the agricultural or weekly press.

Harvest time came to them too, but Early Blight had gotten there first and as a consequence its ravages was rife and a short crop resulted, for, every day that Blight cut off the life of the potato plant short of its natural life period, the loss to the farmer was from five to ten bushels per acre. And the shortage in the yield was not the worst result. The tubers that had attained marketable size had been attacked by rot, the direct result of Late Blight, to the extent of anywhere between twenty and sixty per cent. These are the estimates of the damage caused by rot as submitted by one hundred and forty-five of the one hundred and fifty-three Agricultural Societies in New Brunswick when forwarding their annual reports in the fall of 1919.

The cost per acre for plowing, harrowing, fertilizing, seed, cultivating and the other items that enter into the cost of production was approximately the same on the farms of both the spraying and non-spraying farmers, but the former had insured his crop by spraying, an operation that cost him approximately twenty dollars per acre, whereas this amount in time and labor was (saved)? by the non-spraying farmer. Saved! Yes, and lost too. "Penny wise and pound foolish". Never before in the history of the province was there a stronger demand for potatoes at such high prices as existed during the past eight months. The farmer who grew the big crop and saved it too received a rich reward. He received many times the value of the extra twenty dollars he had put into spraying per acre, more than he would have received if he had not sprayed. This extra investment had netted several hundred per cent. profit and there was a wide range btween the cost of production and the selling price—all profit. A four hundred or more bushel crop nearly all marketable.

What of the non-spraying farmer? From twenty to sixty per cent. of his small crop was unmarketable. Of a two-hundredand fifty or less bushel crop in many instances one hundred and fifty-bushels or more were rotten and unmarketable and the margin between cost of production and value received was very narrow, is not on the wrong stide of the ledger. An expenditure of about twenty dollars in time and money for thorough spraying per acre would have saved this loss and increased the yield of marketable potatoes to that of a handsome profit. This is no idle theory. It has been tried and proved by the most successful growers of all countries where potatoes are grown.

What shall the harvest be this year? The total yield in some sections will be very materially shortened by the large percentage of misses in the fields. These misses are attributable to several causes. Prospects are bright for high prices. Reports from up-river districts are to the effect that buyers are now contracting for six dollars per barrel and advancing from three to four dollars per barrel on the estimated yield. We have received these reports from fairly authentic sources and if they be true the farmers who grow big crops of potatoes this year will be handsomely repaid for their labors. Any indication of a short crop should be an extra inducement to make the best of the crop you have.

What are you doing, reader, as a potato grower? It matters not whether you have many acres or only a portion of an acre under crop. Your gain or loss will be commensurate with your acreage is to whether you spray or do not spray. Spraying should have been well under way during the month of July but if you did not spray then begin right away and ward off the Late Blight as long as possible. You may say, I haven't time. If you have the growing crop there is no better work that should supercede spraying at this season. It will give you better returns than any other work you could possibly do on or off the farm with so little expenditure in time and money. It is penny wise and pound foolish to spend several hours on a job that will yield returns of only two or three dollars when potato spraying giving returns of many times this amount should be performed instead.

Potato beetles are rife in many section this year and already Late Blight has put in an appearance. A word to the wise is sufficient. The writer of this article has had the privilege of accompanying Mr. Geo. E. Sanders on a lecturing tour in the interests of potato spraying, in 1919, and again during the past two weeks. It is most gratifying to hear progressive potato growers at these meetings ask questions and get all the information they can to help them in their work. Men of this calibre are after all the information they can get to help them get bigger and better crops and consequently more money for their labors. On the other hand it is — — — to go to a district where spraying is not carried on, where potato beetles have trimmed the stalks and where blight completes the devastation and there find a lack of interest. Of the twenty-four meetings recently held in St. John, Kings, Westmorland, Restigouche, Gloucester and Northumberland counties twenty-two were successful with an average attendance of fifteen farmers. The attendance at the other two meetings was one, but a little leven may leven the whole lump and consequently some benefit may come to those districts and the word spoken may not after all be in vain for it is surprising how much influence for progressive measures even one successful progressive farmer may have in his district, and how the rank and file will almost inadvertently follow the practices which are bringing success to his labors.

Be hearers, readers and doers.

THE ST. JOHN EXHIBITION.

The 1920 Maritime Circuit of fall fairs will open at St. John, N. B., on Saturday, Ceptember 4th, at 6 p.m. This will be St. John's first post-war exhibition. The association's buildings having been occupied in war time by the military authorities, precluding the holding of the usual biennial Industrial and Agricultural Fair since 1914.

The prize list is now in the ahnds of the public and in it are found many attractive features and monies of sufficient dimensions to make competition worth while.

In the horse classes ,prizes range from $30.00 and downwards. The heavy draught, 1400 lbs. and upwards; agricultural, 1350 and under 1500 lbs., and general purpose 1150 to 1350 lbs. classes are well provided for and should be a big feature of the show as there are now exceptionally fine teams of these classes owned by many of the farmers within easy reach of St. John.

In the Beef Breeds section there is a class for Milking Shorthorns. To be eligible for this class bulls should be out of cows of proven milking ability; heifers likewise until they make their own milk record. The standard for milking ability to be the same as for the Canadian Record of Performance, which is:

Two-year-old class ... 4,000 lbs. milk, 140 lbs. fat.
Three-year-old class .. 4,500 lbs. milk, 157 lbs. fat.
Four-year-old class ... 5,000 lbs. milk, 175 lbs. fat.
Mature cows .....5,500 lbs. milk, 192 lbs. fat.

for a period not exceeding 356 consecutive days; all cows must be bred to calves within fifteen months from the date of her preceding calf birth. Females over three years old should have records of their own in accordance with the above figures to qualify for admission. Exhibitors should be prepared to produce a certificate as to their milk records. There will be a special diploma for best female with a milking record of not less than 7,000 lbs. in 365 days.

In the Dairy Classes, the Canadian Ayrshire Breeders Association and the Holstein-Friesian Association of Canada are offering special prizes for their respective breeds, that will very materially help to enhance the winnings of the successful competitors. The Brayley Drug Co., Ltd., of St. John, offers a silver cup for the six best pure bred dairy animals, any breed, 1 bull and 5 females, fitted on Dr. Wilson's Derby Condition Powders.

The Provincial Bank offers silver cups for the

best judging of sheep and swine by amateurs.

The Canadian Bank of Commerce silver cups for the Grand Champion Ram aud Boar, any breed, 2 years or over.

There are prizes for members of the Boy Breeders Pig Clubs and Boys and Girls Poultry Club members. These sections should interest every farm boy and girl as well as their parents and every effort should be made by them to make these sections the most attractive at the fair by making a full entry.

The War Gardens Association's generous prize should induce the best showing ever made in vegetables at St. John. School garden displays are also encouraged by generous prizes.

Returned men who have beeu doing good work in Fine Arts and Crafts have ample opportunity to display their goods and compete for prizes.

A new feature and one which is most important will be a comprehensive welfare exhibit and a baby show which will be staged by the Public Welfare Department under the auspices of the New Brunswick Department of Health.

Come on September 4th and remain until September 11th is the invitation extended by the management, ask for prize list if interested, and plan early to make a big display fully representative of New Brunswick by doing your share in your little corner for the Provincial Exhibition.

SPRAYING METHODS AND MIXTURES IN THE ANNAPOLIS VALLEY.

A representative of the Farmers' Advocate who recently visitted the Annapolis Valley has gleaned the following information for his progressive journal:

Lime-sulphur Abandoned — Bordeaux Returned to Favor—Dusting Becoming Popular.

Approximately one thousand tons of dust and spray materials will this year be applied to the apple orchards of tne Annapolis Valley, Nova Scotia, in an effort to control the insect pests and fungus diseases that lie in wait to attack the fruit. Last year in the neighborhood of 240 tons only were employed, so it is easy to comprehend the spirit of the people in regard to this one operation connected with the apple-growing business. The Valley is now one huge experimental orchard, where numerous formulas are being investigated and divers methods are under examination. Growers are adopting methods that appeal most to them under their own peculiar circumstances. They are givign some thought to efficiency, but expediency is receiving due consideration. There are so many factors to be considered that one is not safe in jumping at conclusions based on one grower's experience, or the experience of a dozen, but the grouping of one hundred or five hundred orchards gives pretty valuable information—in fact, quite as reliable information as a single experiment conducted with unerring accuracy, but under peculiar seasonal and soil conditions. There are sprayed orchards and dusted orchards; orchards sprayed with lime-sulphur, and orchards sprayed with Bordeaux mixture. There are orchards sprayed with varying strengths of the materials mentioned, but the sentiment among growers seems to be in favor of dusting. In a few hours one can visit growers who advance arguments in favor of oll the methods and mixtures we have mentioned, but throughout the Valley the concensus of opinion is that Bordeaux mixture in a modified form, perhaps, is superior to lime-sulphur as a fungicide, and that dusting is, at least, preferable to spraying. Growers in the Annapolis Valley are massed, so to speak. They see each other frequently, and they take time to talk things over. Under such circumstances the dusting practice naturally made converts very rapidly. Growers were anxious to find something a little more pleasant to apply than Bordeaux, or the still more objectionable lime-sulphur, and when the dust was found to be, at least fairly efficient it was adopted just as speedily as dusters could be obtained. Throughout the month of June engines could be heard throbbing in the orchards before the cock crew in the morning, and in the calm of the evening thin clouds of dust hanging over numerous orchards revealed the fact that dusters were again at work. Dusting is more contagious than any other method of scab or insect control yet devised. This, coupled with the fact that large orchards can be treated speedily. and at the proper time, has resulted in a great many dusters being brought into the Valley, and a large demand that cannot be satisfied.

The Evolution of Spraying.

The first material to be used in the Annapolis Valley was the old 4-4-40 Bordeaux, with Paris green added as an insecticide. This gave good results in the control of scab, but as its use increased the apple crop showed considerable injury in the form of "russeting" or "netting." Bordeaux was adopted slowly at first because growers were not sufficiently convinced that it paid to spray. Old prejudices had to be broken down; new methods had to be established. After the missionary work had been done lime-sulphur was introduced. It was not a pleasant mixture to apply, but it gave very good results as a fungicide, and a clean finish to the fruit which has not yet been surpassed by any other material. Then came power sprayers and the spray gun. In order to do a thorough job, growers drenched their trees with materials put on under great pressure, and the opinion gained ground that the apple crop of the Valley was being sprayed off with lime-sulphur. This induced a swing back to Bordeaux mixture, and almost concurrently with this came the duster. By 1918, the Thompson-Bordeaux, which was a modified mixture used for several years by Mr. Thompson and Mr. Buchanan, near Berwick, came into favor. It was composed of 2 or 3 pounds blue stone to 10 pounds of lime and 40 gallons of water. It could be used on any variety, in all weather conditions, aud at any time without fear of crop reduction. By this time orchards had grown in size with many growers handling all the way from twenty-five to fifty or seventy-five acres of orchard. Even if the duster was not so efficient as the power spraying outfiet, it was believed that far better results could be obtained from the use of dust, because the orchards could be covered at the proper time and the work speedily executed. Probably one-half of the apples produced in the Valley this year will be on dusted trees. Growers have been co-operating in the use of dusters for two reasons: one was to save or keep down initial cost. and the other was that sufficient dusters could not be obtained to go around. One duster would do four or five properties, but this system has not been found satisfactory. Many who had an interest in a duster have purchased outright for themselves, and there are many growers now spraying who will obtain dusters as soon as they can get delivery. The nature and amount of material brought in and distributed this year will give readers some idea of whta is going on in the Valley. The following is a list of materials handled by United Fruit Companies: Hydrated lime, 450 tons; copper sulphate, (bluestone) 44 tons: arsenate of lime, 31 tons; dry arsenate of lead, 8½ tons; sulphur dust. 100 tons; Sanders' dust, 290 tons; soluble sulphur, 4,000 lbs.; tree tanglefoot, 2,400 lbs.; Black Leaf, 2.104 lbs.; lime-sulphur, 31 barrels; dusters, 53; dust mixers, 1. There will probably be in the neighborhood of 100 tons of material and many dusters distributed by agencies other than the United Fruit Companies. The 31 barrels of lime-sulphur and 4,000 lbs. of soluble sulphur, in comparison with the total quantity of spray materials, indicates the popularity of the lime-sulphur spray at present in the Annapolis Valley.

The Lime-Sulphur Controversy.

As previously meutioned, growers have entertained the opinion that they were spraying their apples off with lime-sulphur. This is not the unanimous opinion, however, for it is claimed by some that the pressure under which the lime-sulphur was applied was responsible. George E. Sanders, in charge of the Dominion Entomological Laboratory at Annapolis Royal, stands ready to condemn lime-sulphur unequivocably. He argues that lime-sulphur has at least been partially responsible for the short crops between the years 1911 and 1919. Prior to 1919 the Bordeaux mixture was in general use, and by 1919 the pendulum had swung back in the direction of Bordeaux. He furthermore declares that lime-sulphur injury usually carries over and injures one or more succeeding crops. Experiments conducted by Mr. Sanders lead him to believe that the lime-sulphur injury is not so much a direct damage to the apple as to the proper functioning of the leaves. Experiments have shown him that when lime-sulphur is applied to the leaf that chlorophyl is precipitated, and ability of the leaf to function properly is impaired. The information Mr. Sanders gets from Nek York State also leads him to believe that lime-sulphur will eventually go out of use in that extensive apple-growing district.

Professor W. S. Blair, Superintendent of the Dominoin Experimental Farm at Kentville, has not found in his experiments that the crops sprayed or subsequent crops are influenced as to yield by the application of lime-sulphur when it is properly applied. He does concede, however, that a danger exists of spraying apples off with almost any material when the trees are drenched under heavy pressure. Lime-sulphur must be used with a reasonable amount of care, and while Professor Blair is not advocating that growers persist in the use of lime-sulphur, he is not convinced that apples are sprayed off with it when the work is properly executed.

J. Howe Cox, one of the vice-presidents of the Nova Scotia Fruit Growers' Association, is still loyal to lime-sulphur as a spray. He is careful to see that the nozzle or spray gun is not held too close to the trees, and that a mist rather than a stream of the spray material reaches the foliage and the twigs. He is of the opinion that apples have been sprayed off by high-power sprayers, and that he drop would have resulted even had pure water been used as a spray material. Other growers, interviewed by the writer, are still clinging to the lime-sulphur, but are using it in a very much diulted form. Some have been using, for a summer spray, one gallon of lime-sulphur to ninety of water, but they are increasing the arsenate of lead because it, too, has a high fungicidal value.

The Spray Calendar.

Tre spray calendar prepared for Nova Scotia by George E. Sanders and W. H. Brittain, Provincial Entomologist, recommends the following mixture:

First Spray.—When leaves are about one-quarter of an inch in diameter, use 3-10-40 Bordeaux, and one pounds of arsenate of lime to forty gallons.

Second Spray.—When the blossom buds are showing pink at the tip, use 2-10 40 Bordeaux and one pound arsenate of lime to forty gallons.

Third Spray.—When blossom petals have fallen, use one pound soluble sulphur, five pounds hydrated lime, and one-half pound arsenate of lime to forty gallons of water.

Fourth Spray—Two weeks after the third spray, use 2-10-40 Bordeaux and one pound arsenate of lime to forty gallons of water.

It will be noticed from these recommendations and from the list of materials distributed by the United Fruit Companies that aresnate of lime is rapidly taking the place of arsenate of lead. It is somewhat cheaper and gives good results. Some burning has resulted from arsenate of lime in the past, but not enough to curb the increasing use of it.

Materials Used As Dust.

The dust in most common use this spring was the copper-lime-arsenate dust, which is a mechanical mixture composed of 10 lbs. dehydrated copper sulphate, 85 lbs. hydrated lime, and 5 lbs. arsenate of lime. When this materal strkes the leaf it turns to Bordeaux mixture and assumes the characteristic color of Bordeaux, which it does not have prior to contact with moisture. In this case the Bordeaux is made on the tree rather than in the tank or in the mixer. It was recommended by Mr. Sanders, who originated and has patented the mixture,(that it be applied at the rate of about 50 lbs. per acre each application, for 25-foot trees. Like other dust materials, it should be put on in the morning or evening when the air is still and the foliage of the trees is damp.

Good results are also obtained from the sulphur lead-arsenate dust, or 90-10, as it is usually called. A great deal of this came into the Valley alrcady mixed last year, but the United Fruit Companies are obtaining their sulphur in the States this year and the lead powder in Canada, and mixing it in their own plant. The cleanest orchard in the Annapolis Valley last year was dusted according to the following program: Second dust, 90-10 sulphur-lead-arsenate; third dust, 85-15 sulphur-lead-arsenate; fourth dust, 90-10 sulphur-lead-arsen-

(Continued on page 812)

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HORTICULTURE.

THINNING APPLES IN ORCHARD.

Thinning the fruit in apple orrhards has often been rerommended. To a considerable extent it is practiced in commercial orchards, but it has not been adopted on many farms. The average farmer has failed to do much along this line, partly because of the work which it requires and in part because he has never given the subject careful attention. It is worth while, however, to note some of the advantages which it offers and thus become qualified to jhdge whether it will be wise to adopt it. The benefits will accrue to the tree, the soil and the fruit. The only important objection to the practice is found in its cost.

Proper thinning benefits the fruit by giving the apples room in which to grow to a large size and by allowing them the needed sunlight to bring out their color. It does not materially and, probably in the majority of cases, it does not at all reduce the total quantity of the crop. Overbearing causes the production of small and poorly-colored fruit, while proper thinning promotes the growth of fruit of large size, uniform shape and good color. Where apples are concerned, size, uniformity and color are market assets of great value.

Some growers thin their apples by means of pruning. This is a rapid method and by removing many of the fruit spurs, it prevents overbearing of the trees as a whole, but it does not prevent crowding of the fruit on the branches that remain and its effect upon the trees, both as regards to their appearance and their permanent well being, is likely to be injurious.

What is a much better way is to remove the surplus fruit without cutting out the branches. This can be done by hand the same as when picking ripe apples, or by cutting off the stems with shears. Whatever the method, care must be taken not to injure the fruit spurs. Not more than one or two apples should be left on a spur and none should be allowed to remain on spurs from which fruit is desired the following year. The small varieties may be thinned to stand four or five inches apart, but for the very large kinds, the space should be from seven to ten inches. All wormy and ill-shaped fruit should be removed without regard to its distance from that which is to be saved.

In June, nature does something in the way of thinning fruit. From most trees that are heavily loaded, a good many apples fall to the ground. When this dropping has ceased, and the remaining apples have reached a size of an inch or a little more in diameter, the artificial thinning can be done to good advtantage. Some growers, however, delay this work until August. Such late thinning may prevent the breaking of branches, but it will not conserve the energy of the tree, or prevent a waste of growth, as effectively as earlier work would have done.

There can be no question but that proper thinning of apples on trees which have set too much fruit, will be of great advantage to the grower. Against the benefits of the practice must be placed the cost of doing the work. Some of its advocates claim that it costs little or nothing. They hold that it takes no longer to pick a small apple and throw it away than it would to pick the same apple after it was grown and save it. But as thinning involves going over the tree twice instead of once, it must require more work than leaving all the picking till harvest time. Still, there is no doubt that a part of the time spent in thinning will be regained in harvesting.

Whether it will pay to thin the apples in any given orchard depends on the conditions in that individual case. There cannot be a rule of universal application. The character of the fruit, the age and vigor of the trees, and the probabilities of having a good market for the fruit must all be considered.

It will not be profitable to spend time with varieties which are of poor quality. If they are not good as they now are, they cannot be made good by increasing their size and improving their appearance. When small trees which have recently come into bearing set too much fruit, thinning will tend to keep them from serious and permanent injury, and it will certainly pay. When trees which have been fruitful for 10 or 12 years are over-loaded, thinning at the proper time will be a protection to the trees. and will cause a marked improvement in the appearance and a material increase in the market value of the fruit. Thinning the apples on old trees that overbear will be beneficial to both trees and fruit. J. E. R.

Prince Edward County, Ont.

HOME SEED SELECTION VALUABLE FOR FARMERS.

That farmers will profit by the home selection and production of vegetable seeds is pointed out by J. B. Keil, garden assistant at the Ohio Experimental Station.

Transportation conditions and the supply of vegetable seeds during the past year have been such as to prevent many from getting their usual amount.

With home selection and growing it is possible to secure the best strains of many varieties.

POTATO DUSTING.

By G. E. Sanders.

In the past, dusting potatoes has not been entirely satisfactory for a number of reasons. The material used for dusting has been costly and somewhat inefficient in the control of fungus diseases and the machinery used for applying dust has not been satisfactory. On the whole, the dust has been quite satisfactory in the control of biting insects.

In view of the rapid changes that have taken place in the building of dusting machinery, and the development of dust fungicides that are not only cheaper than the old, but are giving excellent results n the control of fungus diseases of potatoe, dusting seems to hold more promise for the potato grower than ever before.

The dust that is giving the best results as a fungicide on potaoes, is one made up of 15 lbs. of dehydrated copper sulphate. 8 lbs. of arsenate of lime and 77 lbs. of hydrated lime mixed in a mechanical mixture and applied when the leaves are damp with

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Eastern Securities Co., Ltd.

JAMES MacMURRAY, Managing Director

ST. JOHN, N. B. HALIFAX, N. S.

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Do this for the sake of its purity, its high food value and for its "FINE" Granulation which dissolves instantly and gives you full sweetening power. *Don't take chances on a preserving sugar.* You need pure cane sugar that you can *depend upon.* Ask your grocer for Lantic in the original packages.

2 and 5 lb. cartons. **10, 20, 100 lb. sacks.**

ATLANTIC SUGAR REFINERIES, LIMITED,
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Preserving Labels FREE!

So much preserving is being done this year that time-and-labor-saving devices are particularly welcome to the housewife. We will send without charge to users of Lantic Pure Cane Sugar a convenient book of gummed and printed preserving labels for all of the most popular fruits in exchange for a red ball trademark cut from a Lantic bag or the top panel of a Lantic carton. Write for these neat and handy labels today.

Lantic Sugar

"The Seal of Purity"

dew or after a shower. This dust transfers the making of Bordeaux mixture from the spray tank to the leaf of the plant. To dust a field with this mixture costs more for material than liquid spraying, but it is much less costly than any other dust in the market.

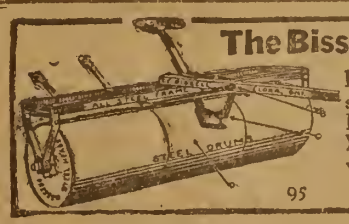
Experiments with the new dust gave excellent results in the control of the potato beetle, arsenic in this form is much more active and kills more rapidly than arsenic in liquid Bordeaux. Control of blight and rot has been better than from any commercial dust, but not quite equal to liquid Bordeaux. As the copper can be still further increased and each increase in the copepr content gives better fungus control, there seems every probability that a fungicide approxiatemly equal to liquid Bordeaux can be made in the form of this new dust. One of the most outstanding features of the new dust is the stimulation that it seems to give. All experimenters last season noted the greater vigor of the tops where the new dust was used over those treated with liquid Bordeaux.

On account of the work of B. R. Coad of the U. S. Bureau of Entomology on cotton, dusting machinery has developed very rapidly during the past three years. There are now two excellent hand dusters or dust guns on the market. One made by the Feeny Company, of Munice, Indiana, and sold by the United Fruit Companies of Nova Scotia, and the Niagara Sprayer Company. The other machine is made by the Tow Lemons Company of Springfield, Tenn. These machines have large capactiy and do excellent work on areas of less than one acre.

There is every promise that the tractions and power dusters that are now being placed on the market by a number of firms, will apply dust to potatoes in a satisfactory manner, which is more than could be said of power and tractions outfits in the past.

The new dust should be applied at the rate of 50 lbs. per acre per application, and the applications should be spaced a little closer together than liquid Bordeaux, as dust is slightly less adhesive than the liquid.

The new dust is not the full equal of liuqid Bordeaux in the control of fungus diseases on the potato, but the general results show it to be only slightly inferior. On killing insects and in stimulating the plants, it is superior to liquid Bordeaux. For the present the new copper arsenic dust is recommended to those who cannot spray on account of the difficulty of hauling water and those who are in such hot sections that the vitality of the plants is lowered by the excessive heat.



The Bissell Steel Roller has a rigid steel frame —no wood whatever. Large roller bearings and strong 2" axles insure durability and great strength. The Bissell is a 3-drum Roller of good weight, built to stand hard usage and give great service. Write Dept. for free catalogue.

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Thoughtless Spending

brings only superficial pleasures which soon pass and are forgotten.

Thoughtful people are checking unnecessary expenses and opening savings accounts where their money will constantly grow and will bring contentment and security in the future.

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Paid-up Capital $ 9,700,000
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DAIRYING.

STUDIES IN MILK SECRETION.

As a part of the work in animal husbandry investigation studies in milk secretion are being made by the Maine Agricultural Experiment Station. Six papers have been published. The seventh paper, Bulletin 281, on the "Transmitting Qualities of Jersey Sires for Milk Yield, Butter-Fat Percentage and Butter-Fat" is now being sent out by the Station. The bulletin contains about 100 pages about equally divided between tables and text. The object of the study is to analyze the progeny performance of the American Jersey Registry of Merit sires so as to ascertain the nature of their transmitting qualities for milk production, butter-fat percentage and butter-fat. The effort has been made to put this whole matter in concrete, easily understandable, numerical terms.

It was found that of the 224 Jersey Registry of Merit sires which met the requirement of the performance test for their transmitting qualities of milk production, 105, or less than one-half, raised the milk production of their daughters over that of the dams of these daughters. Some of these sires stand out pretty eminently in the way they have raised the milk production in their daughters. For instance, Hood Farm Torono 60326 raised the milk production of 34 daughters on the average more than 2600 pounds above their dams.

There are 225 sires in the Jersey Registry of Merit which meet the requirement of the daughter-dam performance test for transmitting qualities of butter-fat percentage. Out of this number, 101 sires raised the butterfat percentage of the dams of these daughters. The leading sire in this butter-fat percentage raised his daughters about 1-13 per cent butter-fat.

There are 224 sires given in the Jersey Registry of Merit of known transmitting ability for net butter-fat. Out of this number only 99 sires raised the butter-fat production of their daughters over that of their dams. The sire which made the deepest impress on the breed by raising the pounds of butter-fat of the largest number of daughters over that of their dams was Hood's Farm Toronto with 34 pairs with an overage increase for each daughter of over 121 pounds of butter-fat.

There were 150 bulls in the Jersey Registry of Merit of which it was possible to find the transmitting qualities for milk production, butter-fat percentage, and butter-fat of Jersey sires to their sons. Of this number 69, or less than one-half had sons who raised the butter-fat production of their daughters over that of the dams.

Sires of superior merit are defined as those who raise the milk production and butter-fat percentage of their daughters as compared with that of their dams, and inferior sires are defined as those who lower the milk production and butter-fat percentage of their daughters as compared with the same variables in their dams. There are 28 sires in the group of sires who are superior in their transmitting qualities of milk production and butter-fat percentage against 47 sires inferior in their transmitting qualities. This difference emphasizes with startling clearness the need of exact knowledge of the transmitting qualities of bulls to be used as sires and the necessity of the exact knowledge for the inheritance of milk production and butter-fat percentage.

Studies of the pedigrees of these two groups of sires disclosed the fact that all the animals which appeared in the pedigrees of the superior sires, on the male's side of the pedigree more than 4 times or on the female's side more than 3 times, had animals which appeared in the pedigrees of the sires that were inferior in their transmitting qualities. This fact alone makes it clear that the appearance of a certain famous animal in the pedigree of a given bull is no guaarnty of that particular bull's work.—By Chas. D. Woods, Director Maine Experiment Station.

CHANGES IN ADVANCED REGISTRY SUGGESTED BY HOLSTEIN BREEDERS

President Aitken, of the American Holstein-Friesian Association, dealt with "Tests and Type in Breeding," in the course of his address before the annual meeting of the association, held at St. Paul, June 2. In regard to the different tests, he said:

"I have read with a great deal of interest the different versions of long-time tests and the advantage of long-time over short-time, but have never seen anything to cause me to change my mind. I am willing to admit that there have been crooks, fakirs, and frauds making short-time records, and I am just as anxious to admit that there have been fakirs and frauds in long-time tests, and if the long-time tests were the most valuable and had the most to do with increasing value of the animals, that would be the place where it would be hardest to watch it; but because there are crooks and because there are fakirs is no reason why the association should bite off its nose to spite its face. The question is, which of these tests is most practical and most beneficial to the Holstein-Friesian breed? My own belief is that they are both essential and necessady, the seven-day and ten-month particularly."

Type in Breeding

Speaking on type in breeding the president said:

"Form and function are co-ordinated in dairy cattle. The vitality and high production of our cattle result from their form and functional development, and these are the results of thousands of years of favorable environment with selective breeding. These things constitute the purebred of today and thus there come to your hands these wonderful instruments, the work of untold generations who have gone before. The type of the pure-bred as so developed should be approached with reverence. No hasty hand should seek to radically alter the type so attained and which is so correctly indicated in our scale of points. But danger there is, and lamentable as may be the fact, that in the hands of most owners a retrograde movement sets in, due to our own carelessness and neglect or perhaps the striving after false ideals.

"Be again reminded that you must ever keep in mind an ideal in your breeding operations which shall ever consist of the true type of the breed, and do not neglect proper and liberal feeding as the essential accompaniment to your efforts.

An Important Resolution

The most important resolution before the convention was brought forward by J. T. Williams, of Illinois. which proposed to have certain radical changes made in the Advanced Registry. It was as follows:

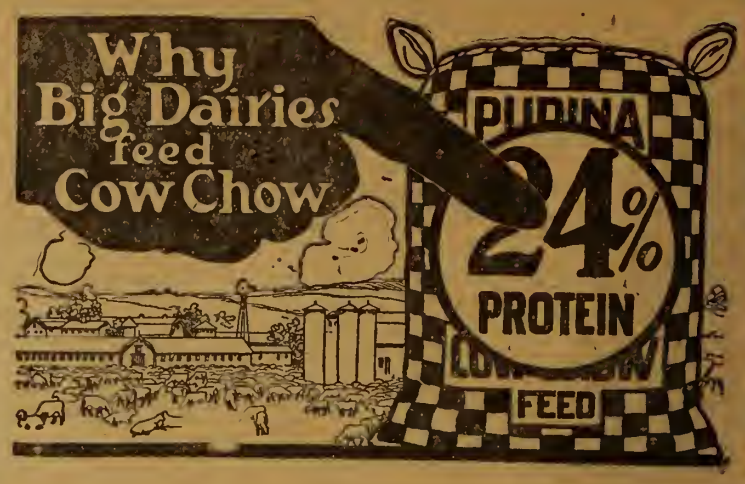
1. The rules of Advanced Registry be changed to prohibit the milking of cows of official test for either short or long-time test more than three times in twenty-four hours except in case a cow on test gives ninety pounds of milk in three milkings in twenty-four hours. It may then be permissible for the cow to be milked four times in twenty-four hours for so long as the cow produces one hundred pounds of milk or more for each twenty-four hours, but as soon as she drop to below one hundred pounds of milk in twenty-four hours, she shall again go back to three times milking in twenty-four hours.

2. That the rules for Advanced Registry for long-time records shall be changed to eliminate, all classes and periods except one period for nine months, 275 days; that the cow making a record for this period must have a fully developed calf within fifteen months from her date of freshening and that for every day she carried her calf over twelve months her record shall be penalized and reduced an amount that will in effect make her record practically equal to a cow that had calved within twelve months. The superintendent of Advanced Registry is hereby instructed to work out a table of reduction or penalties to be subtracted from the record of a cow calving after twelve months from her last freshening but still calving inside of fifteen months. In all cases the record shall be 275 days from the time the cow was started on the record.

3. That the rules of Advanced Registry be changed governing short-time records so that the period of a short-time record shall be ten days instead of seven and that no records for a short-time period be made except ten-day records.

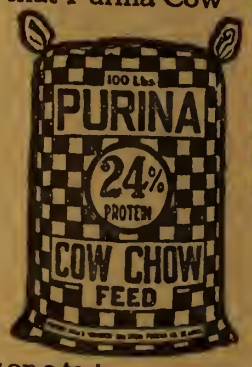
4. To discourage the excessive fitting and the resulting high percentage of fat test that the rules governing both long and short-time test shall be changed so that no cow shall be credited with an average per cent of over 4½ per cent on short-time test or over 4 per cent. on long-time test for the total amount of milk that the cow produces in her test period.

In other words, if a cow on short-



You can understand why Purina Cow Chow has been adopted as the standard ration on the D. W. Field Farms, the Allamuchy Farms, and hundreds of others that head the lists, when you realize that Purina Cow Chow is

24% protein



of which 85% is digestible. This means 20 lbs. of digestible protein in every 100 lb. bag.

It is a pure feed that balances home-grown roughage and reduces the cost of production. More milk from the same number of cows means a larger profit per gallon.

Purina Cow Chow Feed—sold only in checkerboard bags. Let us put your herd on a test.

WHOLESALE AND RETAIL DISTRIBUTORS FOR EASTERN PROVINCES:

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THE CANADIAN SALT CO. LIMITED
C312

time test produced 500 pounds of milk on which 500 pounds of milk the average fat test due to excessive fitting was 6 per cent. or 30 pounds of butterfat, this cow for record purposes would only be credited with 4½ per cent. as an average fat test for the 500 pounds of milk or 22½ pounds of butterfat instead of 30 pounds of butterfat as she would now be credited with under the present rules.

It was not the purpose, Mr. Williams said, to have this resolution adopted, but he desired to bring the matter of making records before the members in order to secure their opinions. He was not sure that the wording in his resolution was all that could be desired, but he did hold, and so did most of the members present, that rules and regulations for the making of A. R. O. records could be and ought to be modified and new classes provided. Mr. Williams in commenting upon his resolution said: "Consideration must be given to the man who does not care to milk four times a day and to end the practices which makes a 3.5 per cent. cow test 6 per cent. Young breeders, who are not informed regarding the factors followed to produce abnormal testing milk, are misled and they have purchased bulls from dams having high official testing milk, only to find their progeny producing from 3.2 to 3.7 per cent. milk. Such bulls are sold under false pretenses and the practice should be stopped".

Mr. Hall, of Colorado, held that a cow should be given credit for everything she can make.

Mr. Aiken said: "If a cow has been fitted for a test by a long period of resting she does not represent the Holstein cow. She must be developed to promote the dairy industry; to produce economical food and to dry her up for five or six months to be made fat, defeats that purpose. She must be trained for efficiency and not short spurts. It is the little breeder who keeps the breed alive, for four-fifths of the breeders rely upon milk for income and discard the calf.

Mr. Smith, of the State of Washington, held that we did not have too many measures for the cow. He believes in the seven-day, 30-day, and 305-day tests. They all have a place.

W. F. Schilling suggested that seven-day records should be started 30 days after calving The flow of milk will be larger, but the test lower.

Some one who favored the fattening of cows before testing asked: "Can a board of directors take away the fat which is produced in this way?"

Mr. Hanson, of Iowa, asked: "Do you expect to do away with the seven and 30-day tests?"

Mr. Aitken: "By no means."

It was finally moved and carried that the president appoint a special committee of ten, five to be bona fide milkers of cows, to consider this question and to report their findings and recommendations to the next annual meeting.

BUSINESS SIDE OF DAIRYING.

There is as much business attention required in taking care of the modern dairy herd as there is in the operation of any comemrcial enterprise. Just as a business manager has an inventory of his stock always on hand, the prices and worth of the various products, the date of purchase and the profits expected from sales, so must the owner of a dairy herd keep a record of every individual.

Each cow should wear a number which should be entered in a book. The data to be recorded about each cow will include her age, ancestry, date of purchase, cost, milk record and disposition. It is quite important that the time when a cow is served is noted, so that the calving time may be fairly well determined.

With such a record at his finger tips, the dairyman may with confidence put into effect his advertising scheme. When a buyer comes to look at his stock and sees how faithfully the records are kept, he will be inspired with confidence. When a buyer writes for data concerning one of the herd, the information will be right before the owner. When two or more cows are asked about, the buyer can ascertain something more than the general description which too many dairymen give of their stock. This originality of description has made many a sale possible where other methods have failed.

The selling of surplus stock requires, first of all, honest and faithful advertising. The public must be informed and kept continually supplied with advertising matter if anything more than a local reputation is to be achieved. There are several means of advertising open to the dairyman. The most reliable one is through the medium of the agricultural press.

—Robert McGrath.

CREAM FOAMING IN THE CHURN.

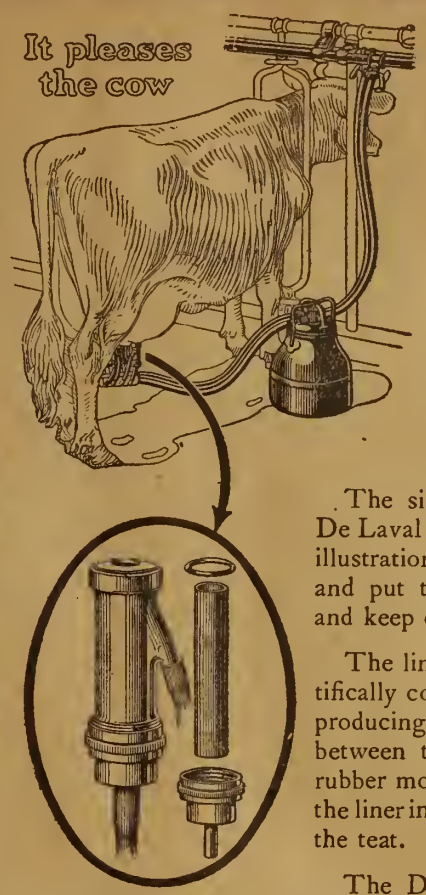
After chruning several hours I find the cream has only turned into a thick foam. I had the temperature 62 degrees when starting. What is the cause? C. C.

Foaming of cream in the churn may be due to too low or too high a temperature, or too long keeping; slow or delayed churning is often accompjanied by foaming.

You do not state whether your cream is separator or gravity cream. Rich separator cream may be churned at from 42 to 52 degrees. Gravity cream requires a temperature of 58 to 65 degrees in summer and 65 to 72 degrees in winter. If your cream is gravity cream foaming in the churn will result if you have kept the cream on the milk too long or have kept the cream too long before it is churned. The cause of it is the formation of alcohol in the milk by the decomposition of the milk sugar, and the combination of the alcohol with the fat and the formation of a soap. When this happens no amount of churning will bring butter.

To prevent this trouble, half a teaspoonful of baking soda may be stirred in the cream, and this should always be done, if you suspect this condition, at least one day before the cream is churned. If the cream is too warm for the particles of butter to unite, foaming will result, and the remedy is reducing temperature by adding cold water; if cream is too cold add warm water, that is, if cream is fresh.

Do not leave it until you are actually in need of a herd or flock leader, before purchasing. Take plenty of time and purchase the best individual available. Remember that he stamps his qualities and many of those of his ancestors upon his progeny. The larger the herd or flock, the more important it is from a financial standpoint that the sire be a good one.



The DE LAVAL MILKER

Simple and Sanitary Teat-cups

The simplicity of construction of the De Laval teat-cups is plainly shown in the illustration. They are easily taken apart and put together, and very easy to clean and keep clean.

The liner is made of pure rubber, scientifically correct in construction and design, producing a massaging action on the teat between the suction periods. A flexible rubber mouthpiece is formed by the top of the liner in such a way that no metal touches the teat.

The De Laval Milker is faster, more economical and more reliable than any other method of milking. The sanitary features are of special importance. It is quickly and easily cleaned, and is used by many dairies in A. R. O. work and where certified milk is produced.

An additional insurance of lasting satisfaction to users of De Laval Milkers lies in the De Laval Company's well-known facilities and reputation for service.

Write to nearest De Laval office for Milker Catalog mentioning number of cows milked

THE DE LAVAL COMPANY, Ltd.
MONTREAL PETERBORO WINNIPEG EDMONTON VANCOUVER

"AMHERST" SPECIALS

Solid Leather Footwear

Here we feature one of our Genuine "Amherst Made" solid lines. This boot, in varying weights, covers a range of about twenty distinct models, from the finest Chrome Leathers and Winter Calf to the heavier Oil Grains for Heavy Service, made in Goodyear Welts, Standard Screw Construction.

In all grades we carry full and complete stocks of lasts, styles and leathers, both at Amherst and at our Halifax Branch 164-166 Granville Street.

AMHERST BOOT & SHOE COMPANY, LIMITED.

LIVE STOCK.

PRODUCING STEERS FROM DUAL-PURPOSE COWS.

There are many good stockmen who are very skeptical about the possibilities of producing both milk and beef from the one breed of cattle, and they can always advance the argument, and it is a good one, that as the milking proclivities develop the desirable beef conformation recedes into the dairy form.

While inspecting the herd at the Dominion Experimental Farm, at Fredericton, the writer's attention was directed to a particularly good steer about seventeen months old. The animal was straight in his lines, fairly low-set, well covered wtih flesh of good quality, and on the whole presented a breedy appearance. The interesting thing about the young bullock, however, was his ancestry. His grandam was just an ordinary cow showing some Holstein breeding, and was picked up in a back settlement. She was developed into a good milker, giving eight thousand pounds of milk. This cow was mated with a dual-purpose Shorthorn bull and produced a heifer calf, which in due course was bred back to a bull of similar breeding. The steer illustrated herewith was the result of this mating, and the heifer herself gave 7,000 pounds of milk in her first lactation period. When questioned regarding the economy of feeding steers of this breeding, the Superintendent, W. W. Hubbard, stated that two steers similarly bred had been sold March 18, returning a profit of $35 each. At time of sale, they were in the neighborhood of fourteen months of age. One steer weighed 850 pounds and dressed out 493 pounds. They sold for $96 each and cost approximately $61 to rear, leaving a profit of $35.

As calves they were never with their mothers; they were fed new milk until three weeks of age, and then gradually changed to skim-milk. The first real mixture was composed of the following ingredients: oil cake, cornmeal and crushed oats. This was mixed in the proportion of 100 pounds oil cake, 400 pounds of cornmeal and 200 pounds of oats. The steers were calved in January, and the meal mixture during the following winter was made up of wheat bran, 300 lbs.; screenings, 300 lbs.; oats, 200 lbs.; and oil cake, 200 lbs. Besides other roughage they received roots and silage.

The history of these steers shows conclusively that a herd can be moulded, to a large degree, in two or three generations. If one desired to breed for milk, there is plenty of evidence pointing to the fact that the milk flow can be increased and the butter-fat content of the milk influenced considerably. So it is with beef. Ordinary grade herds can be bred up to a point of excellent through the use of proper sires. The milk-and-beef combniation is a little more difficult to attain, but through keen observation and close attention to matings it is evident that a compromise can be accomplished. Good sires, if properly selected, will give the desired results.

FEED WELL BUT DO NOT BREED SOW TOO YOUNG.

Many farmers are not particularly enthusiastic about hog raising at the present time. While the market is treble what is was a few years ago, it is not commensurate with the price of feed and labor. Many brood sows have been marketed during the past six months, but, on the other hand, many have kept young sows and bred thm for fall farrowing. Others are planning on breeding their sows to farrow early in the spring, so that the pigs will summer on grass and be fattened with next year's crop. The success in pig raising depends a good deal upon the feeder. One man may bring a litter along and have the pigs at 200 pounds or over when six months old, while his neighbor with the same breed and the same kind of feed requires from seven to eight months to get his hogs to the same weight. Wrerein lies the difference, if not in the feeder? A good deal of the trouble is in failure to pay attention to details. Giving the pigs a liberal quantity of feed is not enough. A person must be careful to neither over-feed or under-feed. The ration must be studied and the kind and quality of feed given that the pigs will do best on. Feeds containing plenty of protein and ash are essential during the first four or five months of the pig's life; after that feeds rich in carbohydrates and fat may be fed in abundance. Skim-milk is one of the best feeds for young pigs, but it is not available on many farms. Finely-ground oats, a little oil cake, a few shorts and milk make an ideal ration. Many pigs do well without the milk, but they should not be weaned quite so early.

Anxious to get returns quickly, there is a tendency to breed the young sows before they have acquired their growth. This is a big mistake, and the sow seldom turns out as well as when she attains her growth before farrowing. The best young sows should be saved from the litter and given every chance for development before they are bred. It is not a good plan to have a sow farrow before she is a year old, and some breeders like to have them older. This gives the breeding stock a chance to attain good size, and the offspring are usually stronger and more uniform in size than those from an undeveloped sow.

If the litter is large, few sows will give sufficient milk to satisfy the young pigs; consequently it is a good plan to encourage the pigs to take milk from the trough when they are a couple of weeks old. When milk is not avilable, finely-ground oats, shorts, oil cake or a little tankage can be made into a thin slop with water and will materially aid the pigs in developing size. Care must be taken to keep within the appetite of the pigs. This requires that the feeder pay strict attention to his work. It seems as if the producer is not in a position to dictate the price of hogs, so the next best thing is to raise the hogs as cheaply as possible. The size and thriftiness of the litter is one thing which materially influences cost. Where posible, pasture or green feed should be used as this will reduce the grain allowance considerably, and is good for the pigs. A half-starved litter will not make 200-lb. hogs at six months, and on over-fed litter is liable to die of thumps, apoplexy, etc. It is necessary to steer an even course and satisfy the pig's appetite without overdoing it.

GOOD TASTE IN THE SHOW RING.

Every exhibitor of live stock to be successful must be a sport around fair time. The rank and file of those who have devoted their time to breeding and exhibiting live stock are good winners and good losers. The compliment of being a good winner or a good loser is even better than that of being a good breeder or good exhibitor of stock. To be a good winner or loser is a virtue that builds friendship, loyalty, admiration and love.

Some men cannot even win gracefully, and when it comes to losing, chains and bull staffs would not protect them against themselves.

Achievement is a fine thing. Every man worth while has ambitions in this direction. Using the show ring as an illustration, everyone cannot win blue and purple ribbons, because there is only one available in each class. The exhibitor blessed with true sportsmanship recognizes this. If he wins he curbs his egotism, and if he loses he curbs his temper. Such men are builders of the greatest of all things—good fellowship.

There have always been a few fellows, however, and they are still to be found at every show, large or small, that do not recognize that others have rights equal to theirs. Such fellows always know beyond a shadow of a doubt that no one else has animals that even compare with theirs. Before the judging they are boastful about what they are going to win, and after the judging—if they do win—they are overbearing and their sole attempt seems to be to humiliate the less fortunate ones. On the other hand, if they fail to win they are grasped by the bitterness of a ruined disposition. The whole world is wrong. They rant and the things they say about their fellow exhibitors and the judge are unprintable and if they were true the enrag-

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Heavy Duty
JAS-43, ⅞-inch-18
Price $1.00
For use in heavy service motor cars, trucks, tractors and engines.

"3450" Insulators
Resist Knocks, Shocks, Heat and Expansion to a Wonderful Degree

They are so hard and tough that they stand up under treatment that is never experienced even in emergency use in a motor or engine.

You can heat them white hot, then douse them in water—knock them with a wrench—drive them though a cake of lead—drop them on the floor—and you won't find even a chip or a crack in the glaze.

Champion
Dependable Spark Plugs
all have "3450" insulators.

Any dealer in motor supplies can supply you with the correct plug for your engine—insist that "Champion" appear on the insulator as well as on the box.

Champion Spark Plug Co. of Canada, Limited
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Largest Factory in Canada making Spark Plugs exclusively

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ed exhibitor would be about the only one outside of prison bars.

Such fellows lack the elements of good sportsmanship. As a rule they lack knowledge, also, for it is the rule that they stand alone in the opinions they posses and express. It is the rule that the consensus of opinion is that such fellows should learn; they should learn about cattle, learn how to gracefully win or lose as fate designs; they should learn much about sportsmanship.

This does not imply that judges are infallible; not by a long way. Judges are but human beings and all human beings make mistakes. Frequently exhibitors know more about their cattle than does the judge. So it should be. A good breeder, living and working with his cattle winters and summers, should know all about them. Good judges know this, respect the fact and are always glad to discuss in sportsmanlike manner all decisions that time will permit. Knowledge for both exhibitor and judge is the result of such a policy.

But, when circumscribed thinking, careless speaking, suspicious exhibitors ignore the right of others, ignore common sense and good ethics and resort to scandalizing their fellow exhibitors and judges by depicting imaginary deep laid plots that have been prearranged to place ribbons where they do not belong, it is time for fair and show officials to step in and call a halt.

Good sportsmanship is the first principle of good exhibitors, good judges and good shows. Without good sportsmanship there can be no good exhibitors, no good judges, no good shows. To be a man and gracefully win or lose as justice compels is better, by far, than to be either than a man and win all of the prizes at all of the shows.

LOSE LIVE STOCK FROM CARELESS POISON USE.

The danger of animals becoming poisoned through the careless use of poison material when spraying or pating for insects, is pointed out by officials at the Ohio Experimental Station, Wooster.

Every year reports are sent in of animals suddenly dying from securing access to paint boxes and poison containers.

Sometimes Pairs green boxes, white lead or arsenate of lead containers are thrown into the trash pile or dump and animals get the poison from these.

Paint boxes, even though thinly coated, are licked by cattle because of the sweetish taste of the lead compounds.

Such boxes should be thoroughly cleaned with gasoline before using for farm pails, it is stated.

Materials most dangerous to live stock are Paris green, London purple, arsenate of lead, calcium arsenate, and any compounds of arsenic or zinc.—Weekly Press Bulletin.

According to information furnished by the Industrial and Development Council of the Canadian Meat Packers, 864,000 head of farm stock were handled at the six main stock yards of the Dominion up to June 30 of this year. They comprised 283,765 cattle, 135,387 calves, 91,957 sheep and 254,784 hogs. Almost half this number of cattle and hogs were handled at Toronto, with Calgary leading in sheep.

Have you visited some good stockmen and farmers in your neighboring county. or taken a trip to the Agricultural College or Experimental Farm this summer? A couple of days spent motoring through the country and having a look over some good herds not only rests a person from his every-day duties, but gives an inspiration to do better work on the home place.

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THE HORSE

HORSE DISEASES OF THE RESPIRATORY ORGANS.

Broken Wind, Pulmatory Emphysenia Heaves.

The term "Pulmonary Emphysenia" implies that condition in which some of the inspired air escapes from the air cells into the lung tissue. Some authorities claim that this condition exists in all cases of "broken wind" or "heaves". It is a non-inflammatory disease, characterized by difficult breathing; the inspiration movement is performed with ease, the expiratory with apparent effort. The difficulty in breathing in well-established cases is constant, but varies greatly in intensity acording to existing conditions. A peculiar cough, called "the broken wind cough," is generally more or less well marked, and many affected animals are subject to indigestion and flatulence from slight causes.

Many causes of the disease have been given by various writers, but it is now, generally conceded to be a "Dietetic Disease," due to improper feed, more particularly to bad, musty or dirty, or corase hay containing a large quantity of practically indigestible or woody fibre as a consequence of being too ripe when cut, and to a super-abundant allowance of hay of any kind. In most cases where an investigation reveals the actual facts it will be found that the patient has habitually had the opportunity of overloading the stomach, in many cases with coarse indigestible feed. The average horse will eat too much bulky feed if opoprtunity offers; many horses are practically gluttons. If the feed be of good quality and the animal's digestive power is good, no evil may result, but if the feed be of poor quality or digestion weak and the habit of overloading the stomach be continued for a long time, heaves is often the result. Observation teaches us that a large percentage of horses that suffer from heaves are abnormally heavy feeders. There are some exceptions in which cases the cause probably has been a weakness of the digestive organ. The stomach and the lungs are largely supplied with nerves by branches from the same nerve, called the "Pneumogastric." The theory of the cause of heaves is that overloading the stomach causes an irritation to the nerves of the organ, which, by sympathy is transferred to the pulmonary branches of the nerve of supply, and that this being more or less regularly repeated for continued length of time, causes a rupture of the walls of some of the air cells, uniting two or more into one, hence allowing some of the air to escape into the lung tissue. The history of a horse that is affected with teh disease tends to confirm this theory in many cases.

Symptoms.—Respiration is more or less labored, according to the development of the disease. The inspiratory movement is performed with ease, but the expiratory by two apparent efforts, at the conclusion of which the muscles relax and the flanks fall. Observation will reveal the fact that the expiratory movement is accompanied by a double movement of the muscles of the flank. There is usually a characteristic cough which appears to be ejeculated with a sort of grunt, through the upper part of the windpipe. In well-marked cases the cough is frequently accompanied by forcible expulsion of faeces per rectum. The double flank movement is more or less well-marked according to the development of the disease, but is present in all cases. If te theory as reregard to reupture of the walls of the air-cells be correct, we can readily understand why difficulty is experienced in expelling the air from the lungs, as the natural recoil of the cells has been removed by rupture, hence compression of the lungs is necessary to expell the air. This is accomplished by contraction of the diaphragm and the abdominal muscles, hence the secondary flank movement, the first, or normal one having failed. In some casese there is a nasal discharge, but this is by no means a constant symptom. The degree of inspiratory effort is always more marked when the stomach is full, and is greatly influenced by the condition of the atmosphere, being much more marked in dull weather than when the atmosphere is clear. Rapid or severe exercise increases the symptoms in all cases. The characteristic cough is readily recognized by those who have given the disease much consideration. In suspicious cases, where the symptoms are ont well-marked, the horseman often causes the horse to cough by pressure exerted upon the larynx, in order to observe the nature of the cough. It is hard to understand why climate and atmospheric conditions have so marked effect upon the condition. In some cases where the symptoms are well-marked, and

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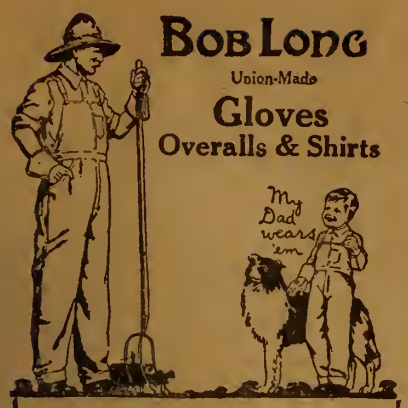

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the animal removed to a different climate, it is noticed that after a few months the symptoms practically disappear. In many cases there appears to be a pre-disposition to indigestion and flatulence and veterinarians have noticed that an attack of indigestion in a heavy horse is much more seroius than one of like violence in one whose lungs are healthy.

Treatment. — Preventive treatment consists in feeding carefuly on feed of good quality. Even with feed of good quality an unlimited supply of a bulky nature tends to cause the disease, especially in horses that are predisposed on account of voracious appetties or other causes.

As regards curative treatment it can readily be understood that if our theory be correct, a cure cannot be effected, as it is not possible to reform the walls of the air cells. The symptoms can be lessened by careful feeding. All feeds should be of first-class quality; bulky feed should be given in small quantities, in order to not over-load the stomach, and if necessary the quantity of grain increased. Cares must be taken to not allow the animal to over-load the stomach, and, if possible, even after a moderate meal, to allow an hour or two to elapse before putting the animale to work or drive. The dampening all feed with limewater gives good results. The administration of medicines has no curative action, but the symptoms may be palliated by all methods that improve indigestion, and by remedies that give tone to the digestive organs, as gentian, ginger and nux vomica in dram doses of each three times daily.

Horse traders resort to various methods for relieving the respirations of broken-winded horses. They know that they breathe moderately well when the stomach is empty, and that certain drugs that have a sedative effect temporarily lessen the symptoms. Hence when they expect an opportunity to dispose of an affected horse they take care to keep him short of both feed and water, dose him, and give him a sharp trot to encourage him to unload the bowels before showing him to a prospective victim, who discovers, when too late, how cleverly he has himself been "sold."—Farmer's Advocate.

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Mrs. A. R. Calcott, 26 Park Ave., Guelph, Ont., writes—"My husband has used Minard's Liniment frequently, always with good results. Friends of mine use it for rheumatism and tell me that it gives great relief."

Mrs. Fred Johnston, Box 735, Thorold, Ont.—"I suffered very much with neuralgia in my face last winter, was advised to try Minard's Liniment, and was relieved immediately after first application. I persevered in using it and it has entirely gone. This winter I can go out without tying up my face and give the credit to Minard's Liniment. Have told several people about Minard's, and others are using it."

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NO MARKET FOR THE NONDESCRIPT HORSE

As the season draws near, some farmers are beginning to think about breeding their mares, while others are considering the purchase of stallions.

My opinion of the horse market is that the breeder of good sound draft horses has a bright future ahead of him, and the man breeding nondescript horses is exceedingly dull. There was a time in the West that any kind of a horse sold at a profit, but that day is gone.

In proof of the above statement you can go to any centre where horses are sold in any quantity and see the demand for good draft horses, particularly well-mated teams, and the drug of scrub horses on sale that go begging.

There are several reasons why horses have not sold for higher prices than what are being paid. The first and main reason is the scarcity of good stallions in the country The reason for this is the low service fee.

The man who buys a good stallion at a long price simply cannot make a paying proposition out of it at fees anywhere from $10 to $20 with the guarantee of a standing foal in some cases, and no foal no pay in all cases, brought under the writer's notice. We have proved the above claim by actual experience in handling stallions.

There is only one way of making the purchase of a high-class stallion a profitable undertaking, and that is that the man himself owns enough good mares to raise a good bunch of foals every year. The man that has ambition enough to bring a good horse into a district deserves the support of his neighbors and should be remunerated enough to warrant a reasonable interest on his investment. In this way, if the horse is prepotent to get matched teams of the much-prized type of drafter it will not be long before buyers get wise where they can secure matched teams and will pay handsome prices for them.

When a farmer can raise a pair of good geldings and sell them from $350 to $500, why won't it pay? Do they eat any more than inferior stuff? I think not. Another reason is that farmers as a whole do too much cross breeding. Now when the man with a Clyde or Percheron mare will breed to anything from Hackney or Standard Bred horse to Belgian stallions, what will the harvest be? Not much uniformity. I have seen fine cross-bred horses, but what about the next cross? If he is going to continue breeding horses he will never get anywhere, yet it is too often done. If you have good draft mares, whatever breed they may be, choose a stallion of the same breed and stay with the breed and with the same stallion if he is a good breeder.

The demand for draft horses in Europe is beyond conception of the average farmer in Canada and there are two reasons why they have not purchased more horses in Canada. The first is that they simply haven't the money to buy them, and the second reason is that we haven't got the class of horse they want, and they will raise as many themselves as possible and we will lose a valuable export trade that would be a boon to any country.

We have enough faith in the future of the horse that we will breed our mares this coming season. The high prices of a few years back will surely come again.

And now for the last reason. Some people thought the tractor would displace horses on the farm and the motor truck in the city. I am not prepared to answer about the city, but on the farm they can only act as auxiliary power to the horse. I notice a great number of tractors in our country, but very few operating owing to crop failures, the owners using what horses they had. That goes to prove that the horse is the cheapest and most reliable power on the farm. In conclusion I would say breed your good mares to a good stallion of the same breed and little you should worry about the prices in a few years. A. G.

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PARTRIDGE TIRES

Game as Their Name

The cost of horse labor would be reduced by raising colts from the brood mares and selling them before they wear out on the farm. Too many farmers hang on to their horses until they become too old for service other than on the land. Let others stand the loss of depreciation.

Owing to the coolness of the weather during seeding, trouble from sore shoulders was not so pronounced as it might have been had warm weather prevailed. Horses' shoulders have had an opportunity to become hardened, but as hot weather arrives the danger will increase. Lift the collar occasionally while the horse is in harness, and when the team goes to the stable bathe the shoulders with cold water.

Joint-ills exact a heavy toll each spring, but much of the loss can be prevented by taking the necessary precautions.

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POULTRY.

FEEDING FOR EGG PRODUCTION.

The question of feed is the hardest one to solve this year because practically all feeds are high. It will pay to feed the pullets well from the start, though the hens might be fed more lightly till the middle of January. Where possible, use feeds grown on the farm. Good wheat screenings, shrunken wheat, barley, oats, or buckwheat all make a multitude of feeds and cut down the cost. If these can be fed, animal feeds such as beef-scrap may be curtailed or dispensed with. High-priced mashes may be eliminated and cheaper ground feeds such as bran substituted. Two or more of the grains may be mixed in equal proportions for the grain rations. The mash may consist of ground barley and oats, or bran may be added. If grain has to be purchased, cracked corn is as cheap as anything and makes a suitable addition to any grain ration. Bran is as cheap as one can buy for the mash.

The mash can be fed dry in a hopper or mixed with milk and fed moist once a day. Any table scraps should be used in the mash. If milk is not available, beef scrap or other animal food should be fed in the mash. In a good, heavy litter, feed a mixture of the grain ration morning and night, allowing the hens sufficient grain so that they will always have some in the litter, but not so much that they can get a crop full without scratching for it. In the prairie provinces there is considerable shrunken wheat available. Shrunken wheat, if it is dry, is as good a poultry food as wheat fit for milling purposes. Care must be taken that it is not damp or otherwise spoiled. Shrunken wheat alone, if there is no other grain, will answer for the grain feed. For the mash, use bran, middlings or chopped seeds, make a good feed for either grain mash. If alfalfa or clover can be had, by all means give the leaves to the hens.

In every case, grit and shell should be before the layers at all times. In some localities the grit can be secured from the local gravel pit and in other cases sufficient lime can be secured to do without the commercial shell. If neither of these is available they should be procured and as much given to the birds as they will eat.

It does not pay to stint the layers. If they do not get the feed they will not lay the eggs. As a rule, a laying hen will not get too fat. Therefore, feed the pullets well. If green cut bone is available and there is no milk, the former may be fed to the pullets at the rate of about an ounce each per day. The proportion of grain and mash usually eaten is from two to four of grain to one of mash.—F. C. E.

TO BREAK UP A BROODY HEN.

One of the sidelights of egg-laying competitions has revealed the fact to a greater degree than is generally known at the average farm, that broodiness with the hens entered lost them more than a month during the laying year. Therefore it is well to recognize that broodiness is one of the big factors in keeping down the egg production of the average farm flock during the spring and summer months.

Broodiness can be understood and controlled better if we first understand the tendencies and habits of the domestic hen and also the process of formation of eggs that goes on inside the hen's body. Nature must have known that the spring of the year was the best time to hatch and rear chicks, and so arranged that the primitive hen laid one or more clutches of eggs at that time and brooded them. Man, seeing the possibilities of using these eggs for food, has continually selected and bred hens that lay for longer periods and has now obtained some individuals that lay throughout practically the whole year. However, the birds still retain some of their original tendencies. Each hen tends to lay in regular order, according to what is called a cycle, which is a series of days during which the hen lays.

This cycle of production varies considerably even in individuals, but a hen will generally follow this cycle of production except for intervals of rest. Heavy producing hens have long cycles of production that are repeated

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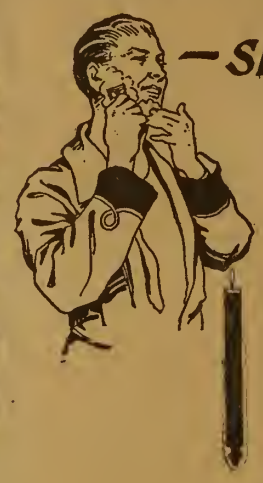

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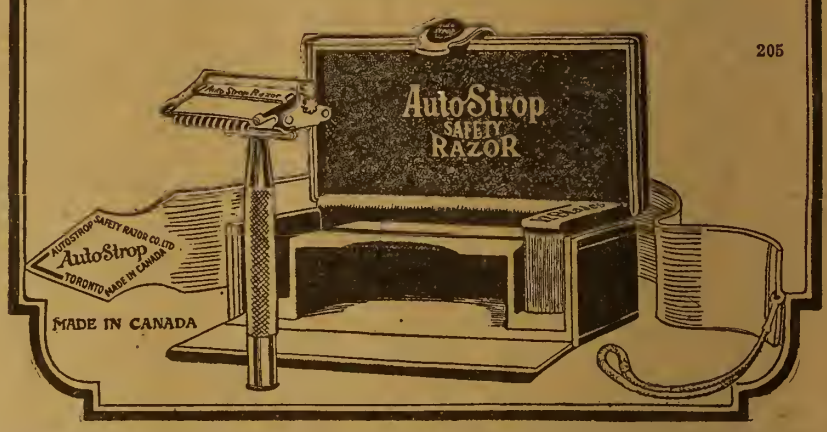

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Half the ills of life are caused by allowing the bowels to become constipated.

When the bowels become constipated the stomach gets out of order, the liver does not work properly, and then follows the violent sick and bilious headaches, sourness of the stomach, biliousness, heartburn, water brash, or the painful, irritating internal bleeding or protruding piles.

Keep your bowels regular with Milburn's Laxa-Liver Pills and you need never be constipated.

Mrs. C. Henderson, Trail, B.C., writes:—"I have been troubled with sick headaches and constipation most all my life. Have not now been troubled for a long time. I have great faith in Milburn's Laxa-Liver Pills since using them."

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frequently with only a small intervening rest period. In the spring of the year it is during this rest period, after having completed one or more cycles, that a hen tends to become broody and wants to hatch out the eggs she has laid. She is merely answering nature's call of reproduction.

When a hen first becomes broody, her physical condition is the same as that of a hen that is laying right along. The ovaries contain several partially formed yokes. These yokes are formed by layers of yolk material that are put on around the small ova (or eggs) that are present in the bird's body even before hatching. These layers of yolk are put on only when the hen has some extra food material that her system does not need for other purposes. In other words, egg production occurs only after the hen has supplied all of her body needs. So, when a broody hen does not leave the nest to feed, she has to maintain her body with her reserve food supply. The result is that these partially formed yolks are taken back into the system and used for body maintenance. This means that before a hen can again come into a laying condition she will have to feed for build these yolks to normal size so that they can be used in the formation of the egg.

Other changes occur in the body of the bird. The pelvic bones curve close together. The abdomen shrinks and the capacity decreases. The comb and wattles become shrunken and scaly. All these conditions indicate that the bird's system is not being properly nourished for egg production. There even seems to be a mental change, for after a hen has been broody for a week she is very stubborn about being broken up and put back to work. Understanding these various tendencies and changes we can see the importance of attempting to prevent this broodiness when it is first noticed.

The method used most successfully in avoiding broodiness is to make a trip of inspection through the poultry house every afternoon after four o'clock and catch all hens on the nests. Laying hens have completed their work and left the nests by this time. These broody hens should be shut up in a coop.

Sometimes efforts to prevent broodiness are directed along the wrong lines. The importance of gathering up the broody hens every day must not be overlooked. The longer we wait to break up a broody hen the more difficult it becomes and the more time is lost. It is not to our advantage to mistreat a bird merely because she follows a natural tendency. By giving the birds a water bath or by starving them, we are merely causing a greater loss in egg yield. Plenty of feed and good care under the proper conditions are all that is necessary to break up a broody hen. And until the domestic fowl loses her tendency to hatch her own eggs we will have this same problem of broodiness to contend with.—A. W. H. in Ottawa Valley Journal.

RID POULTRY FLOCKS OF PESTS.

Most flocks need special attention during the moulting period to save the birds from serious annoyance if not actual harm from poultry parasites.

Hens infested with lice will not lay as many eggs nor produce as many pounds of flesh as those kept free from parasites. Care in keeping the flock clean will prevent waste of feed and reduction of profit.

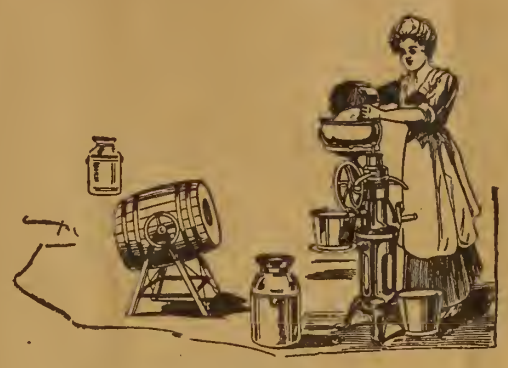
During the moulting period many hens do not "dust" and the new feathers furnish an abundant supply of food. The lice will injure the new feathers.

While a few lice on the body do not cause the hen any great injury, their feet have sharp claws, and they have sharp mouth parts that inflict painful wounds by gnawing the skin. In extreme cases the lice have gnawed till a large wound was caused, sometimes killing the bird and often causing her to loose flesh rapidly.

Although there are several kinds of poultry lice all can be killed by the same treatment. On mature fowls, the lice, or their eggs, can be found between the feathers of the fluff, and soft feathers about the thighs and rear part of the body, on the under side of the long wing feathers, on top of the headfi, or among the feathers on the side of the thighs. The careful poultryman gets the habit of looking continually for lice.

(Continued on page 812.)

Massey-Harris



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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Shbjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N. B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

To love one's friends, to bathe in life's sunshine, to preserve a right mental attitude—the perceptive attitude, the attitude of gratitude—and to do one's work—these made up the ideal life.—Elbert Hubbard.

THAT TRIP TO CALIFORNIA

"ANNA!" Karin's high pitched, excited voice followed the banging of the apartment door. "Oh, Anna, the most wonderful thing! Think of it. Jane is going to California!"

The older sister, hastily depositing the packages obtained in the six o'clock rush hour and then putting in the potatoes to boil before even removing her hat, looked up with faint interest. She was very tired and her feet were swollen. Her daily occupation allowed her little or no time to sit down and every evening was the hurry to get dinner. Then after dinner the clearing away—Karin was popular and usually had an engagement—followed by a bit of washing or a few pieces to iron and always something to mend, her clothes and shoes to brush and then to bed. She was ready for it at eight o'clock, but it was usually 11 or 12 before she had nished the many household duties. She had to at six to put the little apartment in order before they left for the office, and Karin always got up at the latest minute. Anna was nearly always dreadfully tired, but Karin loved the little home and heartily detested boarding house meals. To Anna any meal she would not have to stand and prepare would be delicious.

"Anna," shrilled Karin, her cheeks like rosy satin, "Jane asked me if I wouldn't come along for three months. And I have the money, you know. I have $800 saved. It will be enough, or nearly enough, anyway."

Anna put down the paring knife. "Karin, spend every last penny? And how about your position? Will Mr. Lee hold it for you that long?"

"Oh, don't throw a wet blanket! I have the money in the bank, and if it does tave every cent I can earn more. Mr. Lee will hold my position open till I get back. Oh, Anna, think of it. California! Anl I've longed and longed to see it! If I haven't quite enough you will lend me a little, won't you; just a hundred dollars?"

Anna nodded gravely. Instantly Karin wound her warm young arms around the older girl's neck. "Darling Anna, you can't imagine how happy I am! It's been my biggest wish for years and years. In three weeks it will come true!" She ran off singing to change her dress. A few moments later she threw herself on the davenport with pencil and paper to make up a list of needed travelling things while she waited for dinner.

"Anna," she called to the kitchen, "I'm going to economize on clothes. Just a few good things. I'll buy a suit, and I have those two dress patterns Aunt Lu sent. I'd save a lot if I wouldn't need a dressmaker; they're so hard to get anyway. Say, Anna, are you listening? You sew so beautifully, do you think you could finish the two in three weeks?"

But Anna, just putting the chops in sizzling fat, did not answer. Her back ached and the very thought of dressmaking made it hurt more. To get the dresses done would mean forfeiting every evening and all Saturday, if not Sunday.

At the dinner table Karin repeated her question. "Of course, I'll help, Anna!" she pleaded. And the older sister promised.

By sitting up every night till one o'clock sewing, Anna finished the two dresses in ten days. She wished to save herself the nervous tension of sewing in the last few days. Besides, Karin was depending on her for the packing. It was a great relief to think the dressmaking was over. Karin had not been able to help very much with the sewing. And there had been one or two parties given for her and Jane.

It was 5.30 and at last Anna could close up her desk. There had been more work than usual. She felt actually dizzy and her temples thumped alarmingly. Perhaps Karin will wash the dishes tonight, she reasoned dully as she stumbled into the street, and I'll go to bed right after dinner. She realized that she was unable to cook a warm meal and she stopped at a delicatessen store for some cold victuals. The place was crowded, but she braced herself against a barrel of olives, regardless of her serge suit. It prevented her sinking to the sawdust floor.

At last she was in front of the apartment house. The two flights of stairs seemed like mountains to climb. She sat down on the first step of the second flight to gather strength, too wabbly to undertake it all in one effort. Slowly she made her way up. Oh, well, tomorrow was Saturday and right after lunch she would lie down, she thought. The usual Saturday afternoon cleaning must stay undone. Maybe Karin—oh, no, she was going on a final shopping tour with Jane.

She flung herself, hat and all, across Karin's white bed, waiting for strength to come to get supper. It was a blessing that she was late tonight. Anna made a great effort and rose. Somehow she got into a bungalow apron and set the table as usual.

"Oh, Anna," sang a fresh, lovely voice, "I've brouhgt home company for dinner."

The older sister stood aghast. The chilly pink ham on the platter and the ready-made potato salad, and company for dinner! She began to rummage frantically in the cupboard to find a can of soup.

"Oh, Anna it's Jane, and I hope you've something extra good, for we're hungry as two bears!"

Anna still had her head in the cupboard. What was the matter she could not seem to see.

"Anna, look!" Karin was in the kitchen at the table.

Anna turned, grasping the back of a chair for support. Karin laid a package on the table and was cutting the string. "Do you think you could manage it, Anna darling? Just a simple little affair for afternoon." And she held up shimmering folds of flowered organdy. But there was a frightened cry from Karin's lips. "Jane, Jane, quick! Anna has fainted!"

Later that same night a woman physician beckened Karin out in the hall. The young girl raised a white, frightened face. "It is overwork, lack of sleep and recreation. It is not a nervous breakdown. From what I can understand, she has been doing the work of two. In her condition she is liable to pick up anything—'flu' germs or typhoid. She would not have the strength to pull through." Karin suppressed a little cry of terror. "A complete change of living is what she needs, but what she will get is probably a few days in bed and then back to the old routine. Good-night."

But then and there a fierce little resolve took root in Karin's heart. Lying upon her bed, her lips moved for help. "Help me to choose the right words that will convince her that she must go with Jane to California!"

The next morning, after telephoning their respective firms of their absence, Karin stepped softly into the little bedroom. Anna looked up with a wan little smile. "Poor baby sister, don't look so unhappy, dear. I'll be as well as ever Monday morning. You won't have to postpone your trip, though I guess you'd better see a dressmaker about that organdy."

Karin dropped on her knees beside the bed and hid a wet face on Anna's shoulder. "I've been a wicked, selfish pig, and I don't even deserve a sister like you. And—and I'm not going to California. You are going with Jane!"

Anna laughed weakly. "You dear little silly thing. Do you really think I could take your trip? Do you think I'd enjoy one minute of your trip, Karin? I would not dream of it. You are going, dear, and that is all there is to it."

"No, no," protested the younger sister stubbornly. "You are going."

Anna, too weak to argue, shook her head faintly and fell into a light doze.

In the evening after office hours came Jane, genuinely concerned. She laid a bunch of flaming carnations in Anna's hands and a dozen fresh country eggs on the table. "You are going to get well very quickly," she announced breezily.

"Because," interrupted Karin quickly, "she is going with you, Jane, to California!"

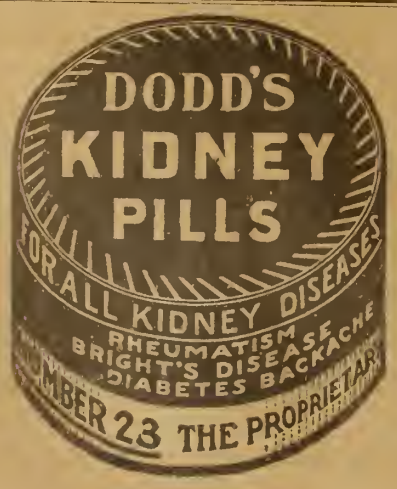
Anna raised two troubled eyes to Jane Bateman for help. "I don't want to go, truly. It would distress me to take Karin's trip."

Jane laid a comforting hand on the thin, trembling one. "Of course, you wouldn't enjoy it. I can understand that, Anna." The latter breathed relieved while Karin's eyes protested. "Now, children, stop quarrelling and listen to me. I'm not going to California myself. You see, the more Karin and I planned the more expensive the trip grew, and I could not quite see where all the money was coming from. It made me uncomfortable to draw out my last dollar for a pleasure trip. But I do think I deserve a vacation, and this is my plan." She drew out of her bag a lot of little pamphlets. "We are so near New York, why not take a steamer all the way to New Orleans, and I know of an old-fashioned place there where we can stay for a week or two. Now, it won't cost us half of a Calfornia trip, and then all three of us can go!"

Karin's eyes shone like stars of a clear night. "O-oh! I think it would be just lovely! A steamer trip and New Orleans! Anna, you can't refuse this! We three together. Won't it be wonderful?"

A little pink color came to Anna's cheeks as she glanced breathless from one to the other.

"You'll be strong enough," mentioned Jane encouragingly, "and on the steamer we will tuck you in on a boat chair and there you may sit for hours and look at the ocean."



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"Jane." Anna sat right up in bed, her eyes bright and devy. "I believe that I just can't wait till we are on that boat!"

"And everything you need," declared Jane firmly, "will be bought ready-made."

"Furthermore," arranged Karin, "while I do the packing you will be on the davenport and just order and direct. And when we come back we are going to Jane's boarding house. Those two second-storey rooms will be free soon, won't they Jane? Then you arrange with Mrs. Murray to hold them for us."

"But——" began Anna.

"No buts at all," laughed her sister. "We will be just as comfy over there. Jane seems to thrive wonderfully upon Mrs. Murray's cooking, an it is much nearer your office, Anna."

Anna leaned back in the pillows, a delightful, lazy, happy feeling spreading over her body. She closed her eyes sleepily, just awake enough to feel Karin's lips brush against her cheek.

WHEN WE DINE

Formal Serving Adds to the Enjoyment of the Day's Best Meal

The usual family dinner consists of either three or four courses, with or without coffee after the dessert.

Soup, meat, salad and dessert are the four substantial courses of a dinner, and most families do not add any more except under special conditions. Many people prefer only three courses, omitting in turn salad, dessert or soup, for variety.

Whether the dinner is at midday or

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Lotions and ointments may allay the trouble for a while, but seldom if ever cure.

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Mr. E. C. Goodwin, Cambridge, N.B., writes:—"For nearly two years I suffered from boils and pimples on my face and neck, and nearly all of my body was covered with the pimples. I tried most everything, but got no relief. One day a friend advised me to try Burdock Blood Bitters, and after using three bottles the boils and pimples had all left me and there is no sign of them returning. I can strongly recommend B.B.B. to anyone who is troubled with skin disease."

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night, the invariable rule for linen is a plain white cloth and large napkins. Underneath the cloth a strip of felt or thick Canton flannel protedts the table and improves the looks of the finest cloth.

The table-cloth should be put on with the greatest care, the crease being straight down the exact middle of the table, and the two ends at equal distance from the floor.

Placing the Flat Silver

In the middle, on a round linen or lace centrepiece, place a low bowl of flowers or a plant. Then allow a space twenty-two inches or more wide by fourteen or fifteen from the edge of the table for each cover or place, and set it with the necessary dishes and silver.

A large-sized dinner-plate is used, with a dinner-knife, the sharp edge of the knife being turned toward the plate, at the right, and a dinner-fork, tines up, at the left.

At the right of the knife place a soup-spoon, which may be of dessert

Speaks Right Out and to the Point

MISS LADERONT SAYS DODD'S KIDNEY PILLS HELPED HER KIDNEY DISEASE.

Bigwood Lady Points the Way to Health to the Weak, Weary, Nervous, Run-down Women of Canada.

Bigwood, Ont., Aug. 1st.—(Special)—"Dodd's oKdney Pills relieved me of kidney disease."

That is the statement of Miss Laurance Laderont, a highly esteemed lady living here. It is short and to the point. There can be no misunderstanding of its meaning. It is a clear and ringing message to women all over Canada. It tells them where they, too, may find relief.

For ninety per cent. of the ills from which women suffer come from weak or diseased kidneys. They are the organs that strain all the impurities, all the seeds of disease out of the blood. If they fail in this work the impurities remain in the blood and are deposited all over the body. The results show themselves in weakness, weariness, nervousness, headaches, backache, dropsy and rheumatism.

Ask your neighbor if all these diseases cannot be avoided by using Dodd's Kidney Pills to strengthen the kidneys.

place the smaller fork for salad, or for dessert if that demands one. The oyster-fork, if such is needed, goes on the side with the spoons.

Coffee-spoons may be laid on the cloth or passed when the time comes, as is the case with dessert-spoons. All the silver is laid with ends about half an inch from the edge of the table.

Near the point of the dinner-knife put the tumbler or goblet for water, and next it, to the left, an individual salt-cellar. To the left of the forks lay the napkin, of large size, exquisitely laundered, and if butter is not served with the meal, put a piece of bread under the top fold, which is turned back.

Butter Not Always Served

This question of butter at dinner is one in which convention wars with personal preference. Most people care enough about it to disregard form in this respect except at formal dinners. If it is used, then the bread-and-butter plate, with a piece of bread, a ball of butter, and a small knife or "spreader," is put above the points of the forks.

When there is no maid an extra supply of bread, and also of butter, may be left on the table, but it is better not to put them there until after the soup course.

The chief thought to bear in mind while serving dinner is that until dessert is reached no person shall be left without a plate in front of him. When the soup-plates are brought in, on flat plates, the original place-plates, which may be large ornamental ones or ordinary dinner-plates, are taken away.

The quickest way to serve the soup in this manner is to bring in two plates at once from the kitchen, leave one on the side table and place the other in front of the first person to be served, taking up the place-plate and returning with it to the side table. From there take the second plate of soup and deposit it in its proper place, putting the place-plate on the side table and returning to the kitchen for a further supply.

A simpler but less conventional method is to bring in the soup-plates, two at a time, without under-plates, and put them on the original place-plates. When any dish is handed to a person, this done from the right side, but when a person helps himself, the dish is presented at the left.

Sometimes small plain crackers are served with the soup, in which case they are placed on the bread-and-butter plates or passed after the soup is served. More often the bread that is already at the places is considered sufficient.

When the meat course is brought in, the plates are changed in the same way as in the first course, a portion of meat being on each plate.

Some people prefer to serve the meat at the table, in which case the soup-plates must all be taken away before the roast is brought in and set in front of the carver. He must have a pile of dinner-plates in front of him unless there is a maid to hand them to him one at a time.

The vegetables are passed (at the left) for each one to help himself, then the bread and the jelly or pickle, both of which may be left on the table.

The Salad Question

The salad, if served with the main course, is put on a plate larger than a bread-and-butter plate at the left of each plate. This may be prepared in the kitchen and brought to each place, or the plates may be passed and the salad served at each person's left, from a large bowl or platter.

When it comprises a separate course, as the more elaborate salads do, the plates are prepared in the kitchen and brought in, two at a time, in the way described for the soup. Simple crackers are served with this, sometimes spread with cheese.

Before the dessert the table is carefully cleared, all bread-and-butter plates, as well as general dishes, removed from the table, and crumbs size, table size, or one with a round bowl. At the left of the dinner-fork

333—Full split Gun pattern, four-inch imitation leather cuff.

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CARHARTT GLOVES

brushed with a clean napkin on to a plate. The glasses are also filled.

Dessert may be served by the hostess, or may be brought in from the kitchen, with the necessary spoon or fork on the plate, if it was not laid on the table at the beginning of the meal.

If coffee is desired, it is brought to each person in tiny cups accompanied by a tiny spoon, and the sugar and cream are passed. Finger-bowls, on doily-covered plates, are brought to each person.

In case the dessert is served at the table the doily and bowl may be removed and the plate used. It is often so used for nuts, or crackers and cheese with the coffee.

Such a dinner is more simple for the family than it sounds, for the house-mother can evolve an easy way to serve it in this way, even without a maid, especially if she has a tea-wagon or "silent Susan."

CREAMED PINEAPPLE

Unlike peaches pineapple does not suggest cream; yet nothing in the way of a sweet concoction is more delicious than creamed pineapple, if properly prepared.

For the dish to be at its best, the fresh fruit is essential. Peel and grate fine one medium-sized ripe pineapple; then to the pulp thus obtained add the juice of one lemon—which, by the way, is an essential addition to pineapple, no matter in what form it is served. It develops latent flavor in the fruit in addition to imparting piquancy to it.

Have ready half a box of gelatine dissolved in cold water. Strain into the fruit and sweeten to taste. Turn into a mold that has been rinsed out with cold water, and stand on ice to congeal partly. Meanwhile dry whip a pint of rich cream. When the fruit and gelatin mixture begins to thicken, fold in the cream and return to the ice to become firm. Remold, and serve with cream and sugar.

A more simple but most tempting pineapple cream dish is made by slicing pineapple very thin, sweetening to taste and garnishing with whipped cream heaped high in the centre like a mound. Decorate with rings made by cutting marshino cherries round and round.

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RID POULTRY FLOCKS OF PESTS.

(Continued from page 809.)

There are four general ways of killing the pests. One is by dusting with insect powder or by making it possible for the bird frequently to take dust baths. This suffocates the lice or knocks them off the body. The best way of applying powder is to place the hen in a tub on her side and then fill her feathers with powder. Care must be taken that no powder gets into the eyes.

Liquid louse paints of which there are several on the market are good. When applied to walls and coop fixtures, their fumes kill the lice. If the chickens are shut in tightly closed houses when the paints are used, the fumes will kill them too, so care must be used.

Blue ointment rubbed on the short feathers just below the vent has been used to good advantage. This kills the eggs of the lice as well as the mature lice. It can be diluted with vaseline.

Axel grease can be applied in the same manner as the blue ointment, and in more liberal quantities, but it is not so effective. The ointment and the commercial dips are not suitable for young chicks. When dipping fowls, grasp them by the legs and then slowly dip them tail first into the solution, being careful to guard the eyes. Squeeze the dip out of the feathers over a draining board and then release the chickens.

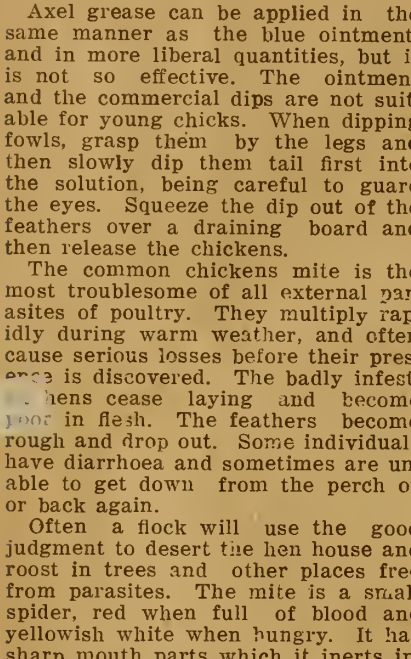
The common chickens mite is the most troublesome of all external parasites of poultry. They multiply rapidly during warm weather, and often cause serious losses before their presence is discovered. The badly infested hens cease laying and become poor in flesh. The feathers become rough and drop out. Some individuals have diarrhoea and sometimes are unable to get down from the perch or or back again.

Often a flock will use the good judgment to desert the hen house and roost in trees and other places free from parasites. The mite is a small spider, red when full of blood and yellowish white when hungry. It has sharp mouth parts which it inerts into the fowl's flesh to obtain blood. It does not stay on the hen during the day but is found hidedn about the hen house in cracks and crevices in the perches, the walls and in the nests.

A little kerosene poured into the crevices will usually cause the pests to swarm out, and when none is seen in a casual search it is well to test for them by this means.

Treatment consists either of fumigating with the house tightly closed or of spraying. After all the litter and filth is removed, close all doors and windows and burn two or three pounds of sulphur in a large dish which stands in a larger dish containing water. Let is burn several hours and be careful that the house is aired thoroughly before the hens return.

Spraying as a rule is more satisfac- liberal application is worked into the tory. Ahe most common sprays are whitewash, kerosen, crude oil, coal tar disinfectants or carbolic acid. A liberal application os worked into the cracks and crevices, the bottoms of the nests, the walls and all hiding places.



SPRAYING METHODS AND MIXTURES IN THE ANNAPOLIS VALLEY

(Continued from page 799)

ate. The dusted Gravensteins in this orchard showed only 9.64 per cent. of scab, while the untreated shewed 97.5 per cent. Many growers used the Sanders dust this season for all except the aplication just after the petals had fallen. For this they used the 90-10 or sulphur dust to prevent russeting. The sulphur dust is not so pleasant to handle as the other, and growers are gradually eliminating it on that account.

Dusting vs. Spraying.

The one big advantage the dusting method has over spraying is that as much orchard can be dusted in one hour as can be sprayed in a day. The dusting is done in the morning and evening when the air is still and the foliage damp. This leaves the best part of the day for other work, such as cultivation or ordinary farm work. Many are dusting because their orchards are so large that they cannot spray them properly and at the right time. In regard to expense an orchard can be treated with the copper-lime-arsenate dust more cheaply than the four applications recommended in spray calendar can be put on. The sulphur dust will cost five or six dollars more than the liquid spray. This, of course, takes time and labor into consideration, for the dust itself costs more than the spray materials. The greats aving is in labor.

Special emphasis in this article has been placed on dusting, for the reason that it appears to be the coming practice in the Annapolis Valley. One-half or more of the growers are still spraying, and many will, no doubt, continue to spray for years. The size of the orchards will compel more growers, from time to time, to adopt the dust even if they still believe that spraying materials properly applied are more effective.

To toughen horses' shoulders, a solution of half an ounce of tannic or gallic acid to the gallon of water will do, although it may be made a little stronger if desired. A solution of half an ounce of powdered alum to the quart of cold water also is excellent for toughening the skin. In our opinion, however, the necessity of toughening is questionable if the collars fit and are kept clean and smooth, provded the parts rubbed by the harness are bathed two or three times daily with soft, cold water containing a heaping teaspoonful of salt to the pint. Some use stronger salt solution and that possibly is correct when the skin is irritated. When the skin is broken do not use the salt solution. A suitable soluton for application to such wounds and all surface sores and cuts is made by mixing one ounce of acetate of lard and six drams of sulphate of zinc n a pint of soft water. It should be shaken well before using. Label the bottle "poison."

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ST. JOHN EXHIBITION

THE PROPOSED PUBLIC HEALTH EXHIBIT

Public Health Exhibits have been attempted to a greater or less degree in the Maritime Provinces at various times, but it has remained for the St. John Exhibition to make this a distinctive and complete feature. At the coming Exhibition to be held from September 4 to 11, there will be a Department devoted to a very comprehensive exhibit of this kind. This will be under the auspices of the New Brunswick Department of Health and will have the assistance of a large number of societies whose objects include work along philanthropical or public welfare lines, such as the Canadian Red Cross, Victorian Order of Nurses, Ambulance Association, Play Grounds Association, and many other similar bodies. It is proposed that the entire Exhibit comprise some twenty booths, each dealing with one phrase of the subject. It is also proposed to run a baby show for one or two days, and doubtless there will be much competition for the prizes offered in this connection; possibly also some heart burning among the different mothers wrose offspring fail to qualify for first place. It can hardly be doubted that an exhibit of this nature with its great educational value will prove a tremendous attraction to people in all parts of these provinces.

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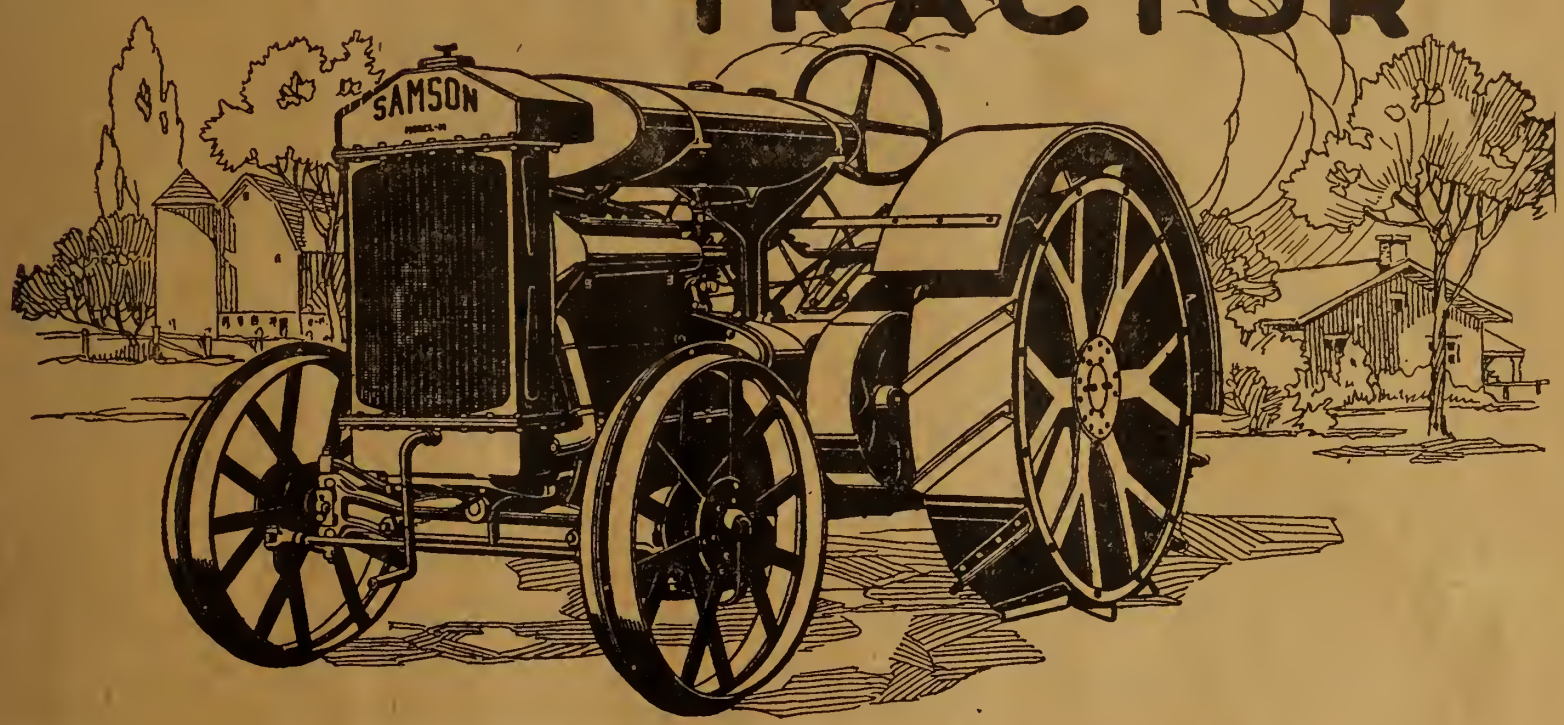

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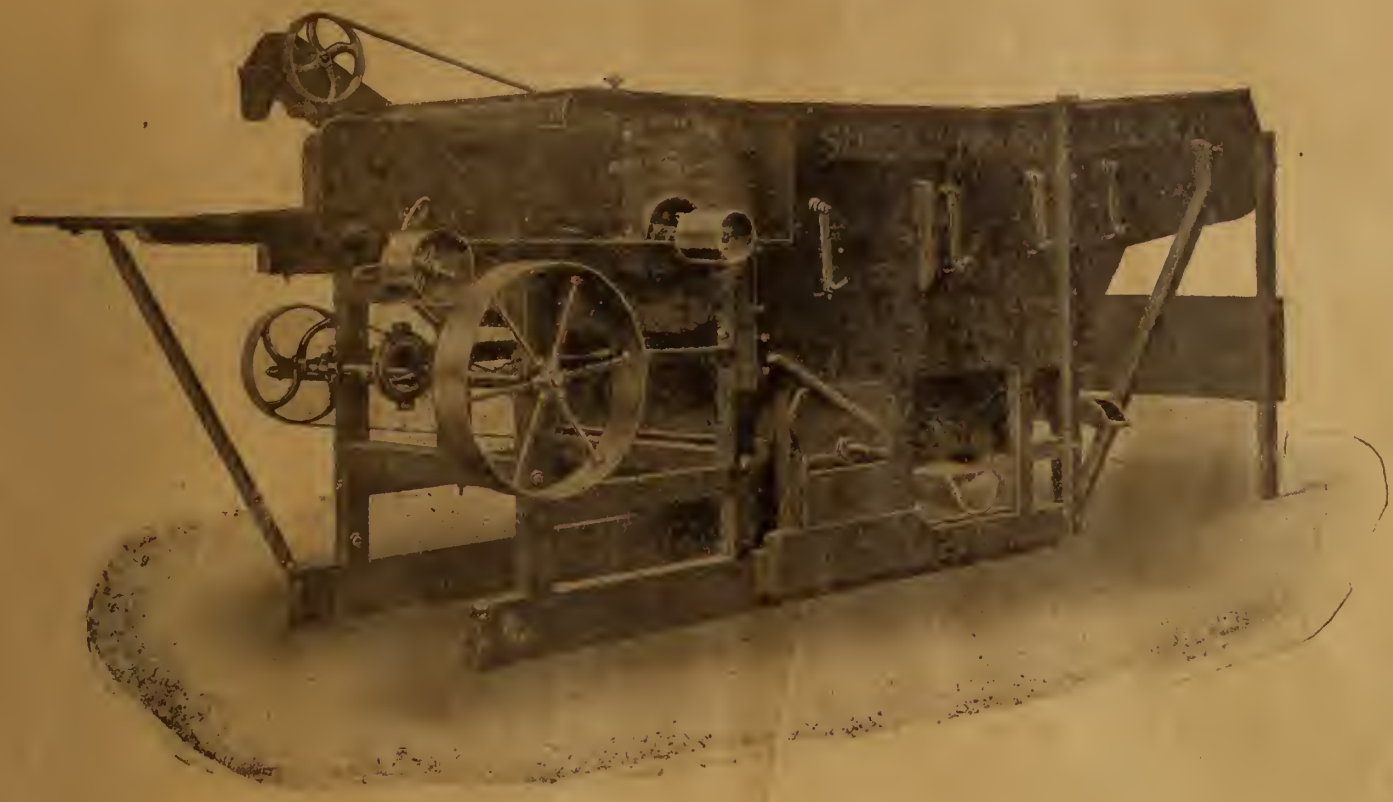

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Vol. 25 SUSSEX, N. B., AUGUST 17, 1920 No 23.

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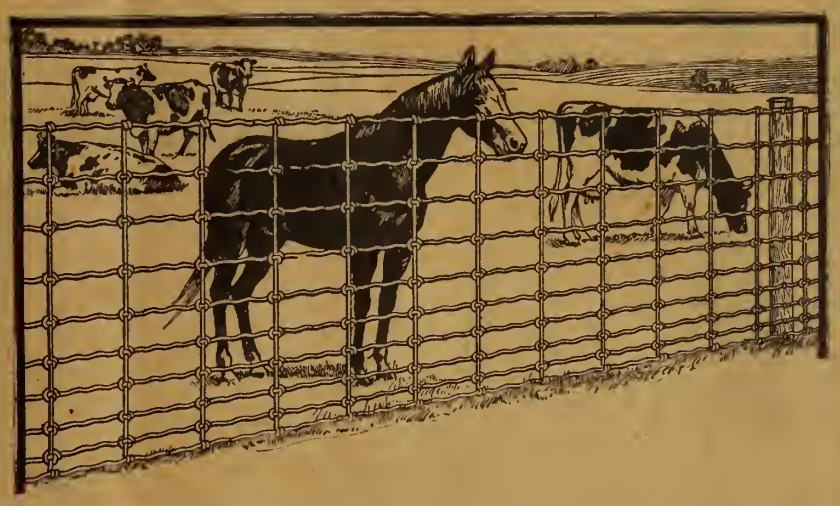

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Volume 25. SUSSEX, NEW BRUNSWICK, AUGUST 17, 1920. Number 23.

Safe Water for the Dairy

Orin Crooker, Illinois in Hoard's Dairyman

Water that is not entirely safe for drinking purposes is not safe for use in the dairy. It must be quite above suspicion. To some persons it may appear that we assume in these statements a woeful lack of intelligence on the part of dairymen. This, however, is by no means the point. The average dairyman is as well versed in such matters, no doubt, as the average individual. Possibly he is more so. On the other hand, it is a fact that there is very little real understanding on the part of people generally in regard to what constitutes a safe drinking water. In this regard dairymen are in fully as much need as others of more knowledge. Too often the basis of judgment is the taste or appearance of the water. If it is cool, clear, without odor or disagreeable taste it is usually termed good and safe to use. These factors, however, may have little or nothing to do with its purity or impurity. Furthermore, people accustomed to drink all the time from the same well are poor judges of the taste or odor of the water in question. Our purpose in this article is to state what constitutes a safe drinking water and to indicate some of the more common factors which cause water to fall below this standard of fitness.

Briefly told, water that is free from sewage or other waste products is a safe water to use so far as human health is concerned. It is worth while, in passing to note that a water may be free from such contamination and still possess taste or odor, or both, as is the case with many of the waters from so-called mineral springs. It may be free from sewage and still be highly colored, as in the instance of certain water supplies in New England where the coloring is due to causes that are entirely harmless. On the other hand, water may bubble clear, cool, and sparkling from a spring, yet notwithstanding its attractiveness it may contain sewage or other waste products. Let us, first of all, set to one side any notion we may have that the taste, appearance, or ordor is any sure index of its quality.

It is not surprising, perhaps, that many farm water supplies are not above suspicion. Every farm owner is his own health commissioner, so to speak, and in most cases he acts in this capacity without any training or experience. City water supplies are safeguarded by men especially trained for this work. Not so on the farm. The well is sunk or dug as a rule, in the most convenient spot, often with complete disregard of its surroundings. Little heed or attention may be given to sources of possible contamination. It is common enough to find the well curbing broken or insufficeint. All told, it should be looked upon as a fortunate circumstance, perhaps, that farm waters are as good as they are.

On the assumption that a safe drinking water is one that is free from sewage or other wastes let us now group together the more common sources of such contamination.

(1) Underground seepage from privy vaults, barnyards, hog pens, cesspools, and so on.

(2) Foreign material entering the well through broken or insufficient curbings. Such include the droppings from poultry and farm animals permitted access to the vicinity of the well, leachings from mud and filth left around the well by the feet of those who have visited the barnyard, hog pen ,and so on. Many small creatures, such as mice, toads, snakes, and even rabbits, have found their way into wells equipped with poor curbing.

(3) Slop water thrown upon the ground from the kitchen door or discharged from the kitchen sink into a broken drain may influence quite readily the water of a well that lies within easy dsitance.

(4) To the factors indicated above should be added this additional one, namely, that when water is piped from a spring located on the farm it is not unusual to find it influenced by the droppings of stock permitted to run in close proximity to the point where the spring rises to the surface of the ground.

In each of these instances, save the third, it will be seen that the chief factor of contamination is human or animal excrement, which we cover by the term "sewage." The possible contamination set forth under the third heading is of an uncertain kind which may or may not carry disease producing germs. It is, however, undesirable at best, and should be classed with the others as factors to be guarded against.

Looking back at this point over the four divisions into which we have classified, roughly, the sources of contamination most easily possible in farm water supplies, we are impressed with the fact that most of them can be easily obviated. Indeed, all of them, if need be, may be eliminated in some instances without unnecessary hardship. The source of possible pollution indicated in the third division needs nothing, for instance, to remove the menace it holds save a tight tile or drain and a discontinuance of a disagreeable practice which some farm housewives follow in the manner of emptying their dishpans. Where the ground has become thoroughly impregnated from kitchen slop water the effect of it, of course, will remain for a long time.

In much the same way other factors may be minimized or overcome. A proper curbing over the top and for six feet underground around the sides of the well, will keep out foreign material indicated under the second heading. The fencing off of stock, and smaller applications of manure in the neighborhood of a spring will do much to overcome the situation spoken of under heading four. There remain, then, as sources of possible contamination which may not be so easily remedied, those first enumerated. The location of the privy or cesspool vaults may be changed, but even so the ground in the vicinity of the old vaults will be highly charged with impurities and will so remain for a long period of time. The relocation of barnyard and hog pen may be impracticable or at best attended with difficulties. If such be the case, the only way out, if it is found that the water supply is unsafe, will be through a deep driven well. Ordinarily, the factors of which we have been speaking do not have much influence on a driven well which picks up its water from a deep level, save in instances where the well casing or its joints are imperfect, or where there are faults in the geologic formation which extend to considerable depths. In one southern city a public well over a thousand feet deep had to be abandoned because of surface contamination which found its way to this depth through faults and crevices in the rocks.

After this resume of possible sources of contamination of water supply with sewage and waste, one is interested to know how the ordinary dairyman may assure himself that the water from his well is safe to use. In most instances—indeed in all instances where absolute certainty is desirable—an analysis and examination by a competent person is essential. There are, however, several way in which an approximate idea may be gathered by any farmer in regard to the state of his water supply. If his well is the dug variety he should consider, first of all, the likelihood of seepage from barnyard, privy vault, and so on. He should look at the matter candidly—having in mind the general contour of the surroondings with the understanding that the area of infection may include a circle drawn around the well, the radius of which circle may vary from one to several times the depth of the well.

While lack of taste, odor, and color in waters from dug wells is no indication of purity, the presence of such is a pretty reliable sign that everything is not right. Indications of this kind point to the necessity of an analysis. If the well is a driven one, turbitity or roiliness should be regarded as a signaling for attention, though it is possible for such to come from harmless causes. However, driven wells often leak water from points and corroded surfaces and surface contamination may work in. If the leak is bad it may perhaps be detected by placing the ear against the pump, or it may be seen in some cases by throwing a beam of light down the inside of the casing by means of a mirror. With leaky casings that admit contamination the pipes must be replaced by new ones, save where the trouble lies so near the surface that it can be remedied by the use of cement. Odors and tastes in deep well waters are as a rule less to be feared than those in shallower wells. Water from a depth is apt to be more highly charged with minerals and dissolved gases. The pipe which brings it up from below not infrequently imparts a slight iron taste.

A water analysis will cost, perhaps, from $15 to $25, depending upon how thorough it is and the standing of the person who makes it. The value of such an analysis is in direct proportion to the knowledge and experience of the one who makes it and interprets it. It is possible to tell many things by a determination of this kind. First of all the presence of sewage can be determined with accuracy. It is possible to tell whether the water has received its dose of impurity from a nearby source or from a point considerably removed both as to space and time. It is possible ,also, to distinguish in most cases whether the sewage content comes from the privy or the barnyard. How all this is done would be too technical to explain in this article, but as a matter of general interest it may be said that a thorough examination of water takes account of the presence or nonpresence of the colon bacillus. This is an organism that inhabits the intestinal tract, or part of it, of both man and the farm animals. This bacillus occurs in very great numbers, therefore, in all human excrement and in the usual farm wastes. If it is found in a water supply it is positive evidence that "sewage" has found its way into it. Whether the sewage is of human or animal origin may be determined with fair accuracy by other factors. Human exrement carries more chlorine than that of animals. The slop water from the kitchen sink is also high in chlorine. Where the amount of chlorine in water is high and there appears no slop water influence from the kitchen drain it is a reasonable inference that the privy valut or the cesspool, if there is such, is responsible in part, if not wholly.

The approximate source from which the contamination comes—both in point of distance and recentness—can be inferred from the resutls of the several chemical tests which are made. It is quite possible for sewage contamination to be picked up by ground water at some distance from the farm, or it may be the result of a direct seepage from vaults or barn surroundings. With an analysis before him a person skilled and experienced in such things can tell approximately the situation without visiting the location. If any doubt exists an

(Continued on page 836.)

Notes From the Nova Scotia Agricultural College

N. S. POULTRY MAKING GREAT RECORD.

A summary is given below of the results to date in the first Nova Scotia Egg-Laying Contest at the Agricultural College. It is in no sense by way of boast that it is given, but in order to demonstrated to Nova Scotia poultry men what a good thing they have in the laying strains here being tested, and to the casual keeper of a flock of hens what possibilities are within his reach.

The average egg production of the Nova Scotia hen is 80 eggs per year. In the period running from November 1st to August 6th, the hens in this contest produced an average of 133.5 per hen. Out of the 150 birds in the contest 54 have laid over 150 eggs each. Five hens have reached the splendid total of over 200 eggs each.

The conditions under which these birds are working are good, but in no sense so special that they cannot be duplicated on thousands of farms, or by any industrious poultry keeper. The margin between the average hen and these is very wide, and means all the difference between an unprofitable and a highly profitable line of work:

CHANGE IN COURSES AT THE N. S. A. C.

Beginning with November next, two regular courses will be offered at the Nova Scotia Agricultural College. The first will be a two years' course very similar to the one heretofore given, but in this two year course more attention will be given to so-called practical subjects, and less to the more purely scientific subjects. All boys and young men who have had a reasonable amount of farm experience will be admitted to this course, irrespective of previous school training. In a word, this is to be a Farmer's Course.

The other will be called the Four Years' Course, although many who take it may only complete the two years' course, which is all that in the meantime will be given at the Nova Scotia College. The remaining two years may be obtained at any Agricultural College in America which offers a four years' course. The only students who will be admitted to this course are those who have university matriculation standing in general education.

Students completing this second course will be admitted without examination to the third year at Guelph, MacDonald, or any other Canadian or American Agricultural College.

For the information of the general public it may be stated that heretofore these two courses were conducted as one, and while the arrangement worked out fairly satisfactorily, yet students who only planned to take two years, and then take up farming, felt that they did not get as much practical instruction as they would like. On the other hand they were called on to devote more time than they wished to purely scientific subjects.

Students, however, who wished to continue to the degree of B. Sc. A., felt that they were being held back too much in class work by those who had not sufficient general education before entering the classes.

It is confidently expected that the new arrangement will meet the wishes and needs of both classes of students This same arrangement will this year be put in force both at the Agricultural College at Guelph and at MacDonald College, Quebec.

"NEXT YEAR I'LL—"

Each season, in fact each month, brings home to the alert farmer some lesson. If these are not recorded, however, they are apt to be forgotten by the time they should be put in practice.

This year there are hundreds of farmers in the Maritime Provinces whose cows are now falling off in milk flow because of bare pastures. On the other hand, those who have grown some green feed, such as the oats, peas, and vetches, or corn, are reaping their reward in a well sustained return from their dairy herds.

The experience of this year should be either indelibly stamped on the memory or else an emphatic note made of it, so that every farmer who can possibly do so may sow a quarter acre, half acre or more to green fodder next spring.

THREE SILAGE CROPS AT COLLEGE FARM.

Any farmer within reach who is worried about providing feed for his cattle would find it worth while to visit the College farm and see the three silage crops being grown there this year. The O.P.V. mixture (oats, peas and vetches) comes first. There is a five acre field sown to this crop, and it is being put into silo this week (beginning August 9th). Then there is a four acre field of corn. This crop is making a better showing this year than for some time past. The third is an acre of sunflower. This crop has never before been tried on the College farm far silage purposes.

At the time of writing the bulk of sunflower appears to be nearly double that of the corn. The latter, however, will forge ahead during the next few weeks, but is not likely to overtake the new crop.

Farmers who are interested and are unable to see these silage crops for themselves would do well to write to Professor Trueman and get all possible information. A thorough test of the feeding qualities of all three will be made next winter, and reports will then appear in the press.

FALL PLOUGHING.

When is the right time, and what is the best method of fall ploughing sod land? Ordinarily the major part of the fall ploughing in Nova Scotia is left until the late fall season. At the Agricultural College, however, and on quite a number of farms in the province, the practice of commencing fall ploughing as soon as haying is over, and sometimes before, is adopted.

There are some big advantages in this system. Among these the three most important are: (1) The thorough rotting of the sod before the next seeding time. (2) The opportunity it gives to eradicate noxious weeds. (3) The assurance it gives that a most important piece of work will be done in good time.

Every farmer knows that a well rotted sod will provide plant food for the next spring's crop, and thus either give bigger crops or reduce the amount of fertilizer or manure necessary. For quick and thorough rotting three conditions are needed, heat, air, and moisture. Early ploughing ensures the first and takes full advantage of the third. The matter of air depends largely on the depth. Deep ploughing naturally reduces the air supply.

Early ploughing gives weed seeds a chance to germinate. Then, if the land is harrowed two or three times during the fall, practically all plant life is destroyed. There is no other method by which noxious weeds can be so effectively eradicated with as little labor.

The third advantage mentioned is obvious, viz., to begin early is to make sure that all fall ploughing will be done before winter sets in. While crop and labour conditions on many farms may not leave much time during the summer, yet, on most there is opportunity on dark and dull days, and no better use can be made of such days than in ploughing sod land.

All this is especially applicable in the case of pasture lands. In breaking up these the aim should be to get the best possible conditions for next year's crop, with the minimum application of high priced fertilizer or manure.

Certainly one cannot plough in August if the land is hard and dry. But it is often the case that a few mid-summer rains leave the land in better condition than will be reached again until late October. The Secretary for Agriculture states that he has observed a clover sod rot almost completely in a single month when turned over before the cool weather.

One exception to the rule of early ploughing is in cases when the farmer wisely decides to turn under a clover sod so as to increase the humus content of his land and thus add to its fertility. In such cases it is often desirable to get the maximum of aftergrowth before the land is ploughed.

An important matter to observe in early ploughing is the turning over flat of the sod. If a roller is available to press the slice down on the under soil so much the better. If the furrow is set up on edge and the sod thus partially exposed to the light there is sure to be growth, and very little rotting will occur. If, for any reason, the farmer prefers to set up the furrow slice, the land should be immediately harrowed so as to fill in the spaces between furrow slices.

Tuber Diseases of Potatoes

When digging potatoes, a number of diseases may be observed on the tubers; for example, spots of corky tissue on the skin, called Common Scab; or black surface spots which look like pieces of soil, but remain sticking to the tuber when it is washed—this is the so-called Black Scurf or Rhizoctonia. Again, there may be brown spots somewhat silvery, especially when moistened, the Silver Scurf disease. These diseases do not affect the edible qualities of the potatoes; only when they are badly infected is a loss incurred, due to a deterioration in the saleable value.

Later, however, after the potatoes have been in storage for some months, more or less rotting of the tubers takes place, which in bad cases may result in 30 per cent. or 40 per cent. of the tubers becoming valueless. The rotting may be observed externally through its causing spots to appear which are brown under the surface of the skin. This rot is due to Late Blight; this being a disease which first makes its appearance on the leaves as dead, water-soaked areas, occasionally killing the whole plant as well as infecting the tubers. Thus it is most important to spray your plants regularly during the growing season, particularly in warm and damp weather. Again, one may also find a dry rot with white pustules breaking through the surface; in this case the cause is a Fusarium Dry Rot, which is nearly always associated with a crack or bruise of the tuber.

Other diseases may be noticed when the potatoes are cut or peeled; for instance, a black discoloration extending from the skin inwards which is sometimes wet roted. This is Black Leg, a disease which also attacks the growing plant, causing an unthrifty condition which often results in the plant turning yellow, falling over and dying. It cannot be controlled by spraying, but is easily held in check by planting sound potatoes, for the disease is transmitted to the plant by the tuber.

To control these diseases it is necessary to adopt a careful routine for the selection and treatment of the seed tubr at planting time, and to provide the best possible conditions of storage. These two points are briefly outlined as follows:

Seed Treatment

1—Do not use seed from a field known to have been badly attacked by some disease.

2—Discard all cut, broken, or bruised tubers.

3—Before cutting, soak them in either: (a) Corrosive sublimate solution, 2 ounces in 25 gallons of water, for four hours. N. B.—Corrosive sublimate is a deadly poison; or (b) Formalin solution, 1 pint in 30 gallons of water, for two hours.

4—When cutting tubers, keep a jar of formalin at hand with a spare knife in it and, when a tuber is cut which shows any discoloration, discard it, drop the knife into the jar, and use the other one for the next tuber.

5—Do not plant potatoes in a wet, undrained soil, for such soil furnishes conditions favorable to many diseases.

Storage Conditions

1—See that the potatoes are thoroughly ripened, and exercise the greatest care to avoid any injury to the tuber.

2—Keep the temperature of the store room about 36 degrees, F. Potatoes freeze at 26-28 degrees, F., and freezing must be avoided.

3—There should be ample ventilation with sufficient moisture to prevent the potato drying, but not enough to cause water to condense on the surface of the tuber.

4—Direct sunlight should be excluded.

It is of the utmost importance to spray regularly during the growing season, since, more particularly in the case of late blight, mentioned above, there is a direct relationship between the diseased plant and the later rotting of the potato in storage. In this article, however, we haev aimed at emphasizing (1) the planting of healthy tubers, disinfected so as to kill externally adhering diseases and (2) the providing of conditions in storage which will reduce the losses from rotting to a minimum.

PRUNING RASPBERRIES

I set out some raspberries last spring and didn't have time to look after them. They have grown too long. I would like to know how to prune them. M. K.

For the black raspberry, you should prune by pinching out the tip of the young growing canes, when they are about 18 to 24 inches high during the summer. Be sure to pinch back the canes as soon as they have reached the desired height. To do this, it is usually necessary to go over the patch several times during the growing season, as all of the canes do not appear at the same time. Weaker plants result, if the canes are allowed to grow beyond the desired height and are cut back later. In the spring, the canes should be thinned out leaving only three to five strong canes to each plant, and all lateral or side shoots out back to 12 to 18 inches in length.

Some Common Dairy Feeds--Their Use in the Ration

Before the farmer can feed intelligently and economically he must study the individuality of each cow in his herd. Just as much as we need knowledge of an auto before attempting to run it, so we must know what the cow does with the feed she gets and how the different feeds affect her.

How a Cow Feeds.

Most dairymen know that the cow possesses four stomachs. The first one, or pouch, as it is called, is located on the left side of the body, the others being in close union with it. The cow is a seemingly fast eater. We wonder how she can hold so much and get filled up in such short order, but in reality she does not eat at all, but simply crams that pouch full of half-chewed food. lookc for a nice shady spot in the pasture, or lies down in the barn and begins chewing her cud. The cud is small morsels of food drawn from the pouch and up into the mouth, where it is thoroughly chewed, and sent back to the other stomachs, and digested and placed for different uses in the body.

This act of chewing the cud is one of the best indicators of good health that we have. Nothing is ever very serious with a cow if she is chewing her cud. Did you ever see a better expression of contentment than that of a well-fed cow chewing her cud? If she doesn't chew her cud daily, look to her, something is wrong; her digestive tract is out of order, possibly she is over-fed, too cold, barn poorly ventilated, or maybe you keep her in a perpetual state of fear. If you do she couldn't chew her cud if she wanted ed.

There is very little danger of a cow hurting herself by the use of good, clean roughage. That is, if judgment is used in feeding her. Not over forty pounds of corn silage should be fed daily, because silage is a succulent feed, is laxative to quite an extent, and is acid. The cow cannot stand that sort of a food and nothing else. How do we feel when we go for a day at the fair, eat nothing but candy, popcorn, soft drinks, etc.? Our stomachs won't stand for such treatment; neither will the cow's. She needs good hay, along with the silage and grain ration in order to do well.

Be careful of the grain feed; grain is the part that does the most damage when no care is used in feeding. Try to get feeds that the cow likes; that will increase the flow of milk and furnish some bulk; and then feed one pound of grain to every three or four pounds of milk produced. Such feeds as cotton-seed meal and beet pulp are unpalatable so they need to he fed with something that they like, just the same as mother puts sugar on the castor oil; we like the sugar, not the oil.

The feeding experts tell us that two-thirds of everything a cow eats is used for the upkeep of her body; the other third we get, in the form of milk, that is, if she is fed so that she will have it to spare.

The Common Concentrated Feeds.

Bran is one of the very best foods for dairy cattle. It combines many virtues for which it is difficult to substitute other feeds. Bran is bulky, being composed of the outer kernels of wheat. It is extremely palatable, and because of this palatability and bulkiness it has a cooling and slightly laxative effect on the system. We use much bran before and after the cows freshen. It puts them in fine condition to give easy birth to calves. A little brain placed into lukewarm water acts as a fine tonic and conditioner soon after freshening. The present high price of bran is what cuts down the use of this by-product to a great extent. However, we need not let this worrk us about getting a good ration, because alfalfa or clover hay comes so near to being equal in feeding value to bran that we can grow the bran part of the ration right on the farm.

Another feed that ranks high as a dairy feed is oats. As a single concentrated feed for all classes of live stock, oats have no superior. When ground, rolled or crushed they are easily digested, light, bulky, palatable, and when fed with clover or other leguminous hay they furnish feeding nutrients in about the right proportion. Oats are a safe feed to use on account of their light, bulky character. Very few cows ever go "off" feed when plenty of oats are fed. Oats are the great feed for horses. They contain the feeding value that give a horse nerve and energy.

Linseed meal is a very valuable feed for dairy cows, being high in protein and fat, and its having such a good effect on the cow's digestive system that small amounts should be included at intervals during the feeding period. The present high price of this food prohibits its more general use.

One of our greatest milk-making nutrients is cottonseed meal. Cottonseed meal is very concentrated in form, and must be fed with feeds more bulky in character. It is constipating in its effect on the system, so it should be fed along with such feeds that are very laxative, such as corn silage, bran, linseed meal, etc. It cannot be recommended as a feed for young calves.—O. V. Journal.

Care of Sick Animals on the Farm

On the farm where a number of animals are kept the owner seldom escapes without several cases of sickness among them each year. It may be a mere indisposition and it may be serious illness. Of course, when animals are really sick they should be given the best care and attention, and since it is not always possible to get a veterinarian when needed, and never possible to keep one on the farm, while the animals are recovering, the owner should understand how to handle them himself. When an animal is really sick, it should at once be removed from the other stock and put in a comfortable place. A roomy stall into which plenty of sunshine enters is an ideal place to keep the animal except during the hot summer time. At that time a cool shady place is best. Any kind of flooring may be used, but in winter concrete is somewhat cold. The floor should have clean straw spread over it and in colic cases this should be extra thick, but never bunchy. The door of the stall should be large, and the stall should be roomy enough so that any animal may wallow in it without injuring himself.

The Pulse

In sickness very little food is required, but plenty of pure fresh water never does harm. The animal should be fed and watered at regular periods each day. In acute stomach disorders, very little or no food should be given. Bran mashes, bright well-cured hay in small quantities and oats are good in cases of sickness. To make a good bran mash, take a clean pail, put in a gallon of wheat bran, a small handful of salt and pour it over a quart of boiling water. Cover the pail with a grain bag and allow it to stand for about twenty minutes when it will be cool enough for feeding. Some raw eggs and a few oats may be mixed with this if desired. If the animal can swallow and will not drink, give water as a drench. Drugs should ordinarily be given only under the direction of a competent veterinarian.

The heart action of any animal is determined by the pulse. The pulse of the horse and cow is found by feeling the small artery just under the lower jaw. The larger the animal the slower the pulse. The normal pulse of an ordinary sized horse is about 40 feats per minute. A false pulse indicates fever, of course, while a slow pulse indicates bad heart action or weakness from sickness. The respiration of an animal may be taken as an indication of the condition of his lungs, throat and bronchial tubes. Pain always accelerates breathing. A horse in normal condition breathes from 16 to 20 times a minute and a cow from 20 to 25. These points are very helpful in determining the nature of the sickness of the animal. Every farmer should have and know how to use a clinical thermometer. The place for taking the temperature is in the lower bowel. The most convenient thermometers are those having pear-shaped bulbs. Tying a spring clip to the thermometer by a short string and clipping the thermometer to the hair will keep the animal from shaking it to the floor. If the thermometer has no hole in it through which a string can be run, wrap a rubber band around it tightly several times with a string underneath.

The Temperature.

The normal temperature of the horse is about 100 degrees Fahrenheit. When inflammation is present the temperature rises. The thermometer will reveal oncoming sickness several hourse before the animal will show any violent symptoms of pain in many cases. The temperature of the cow is normal at 101 to 102 degrees Fahrenheit. In case of the disease known as milk fever, the temperature falls about three degrees. Inflammation of the generative organs runs the temperature rather high, as does also any lung trouble, which latter, however, could be detected by noting the breathing. The hog has a normal temperature of 102 tao 103 degrees Fahrenheit. The thermometer is one of the surest detectors of cholera known. When the temperature of the hog goes above 105 degrees or reaches it even, suspect cholera.

In cases of bowel trouble in an animal, injections of warm, soapy water are beneficial. Salt, turpentine or glycerine may be added in small quantities if desired. Poultices are often useful in case of accidents causing sprains, or other hurts, but they are mussy to apply. The best plan is to keep a reliable liniment on hand for such purposes. In applying the liniment, rub it in well.

Liniments go but skin deep at best; it is the rubbing that gives relief by causing blood to flow to the affected part and remove poisons caused by the injury.

In case an animal is sick for several days, give him clean bedding often, and if he is unable to turn over or get up on his feet, change his position of lying often. If a horse has shoes on, it is well to remove the shoes if they are sharp enough to be likely to injure him. If he is delirious rope his feet together. See that the sick animal rests with he head higher than the rest of his body. If bedsores appear, or the animal injures himself by rubbing against any sharp projection, paint the injury with iodine, and sprinkle on boracic acid powder. If the eyes are sore, wash them in a solution of boracic acid. If the owner finds that he cannot give a sick animal relief, he should take into consideration the value of the animal, and not delay in employing the services of a competent veterinarian, if one can be had.

W. H. UNDERWOOD.

FARMER MUST NURSE SICK WORLD

Factories can start up at once, but a demoralized agriculture will take years to restore—more years perhaps than we can afford to wait when all the world has returned to its senses and is ready again to settle down to busniess. Wherefore let the farmer, as is his wont, go ahead and plan for seed time and harvest, taking care only not to run too great risks in any single enterprise. In that way he will do much to hold the situation together—and we need somebody to steady the boat.

The farmer cannot expect large returns under present conditions. It does not even look as if the world is willing to work enough to pay him a decent price for food. But the world it a bit sick, and the farmer will have to underwrite the situation, as he has done before, and see society out of its tantrum. In a sense the farmer can afford to be patient; for whatever happens to the rest of the world, he is sure of three good meals a day and a good bed at night, fundamental luxuries "not to be sneezed at," as the old saying goes.

Wherefore, let the farmer keep both his temper and his courage the best he can, remembering that the Good Book says "A merry heart doeth good like a medicine." So shall the sick old world get well and the farmer will be its nurse, as he has always been.—Country Gentleman.

TILE DRAINAGE EXPERIMENTS.

Field Experiments—Most of the land drained at the Charlottetown Experimental Station is a sandy loam underlaid with a gravelly brick-clay subsoil. There is an impervious hardpan at from 14 tnches to 2 feet below the surface.

In June, 1910, an area of this wet land was sown to barley. The season was favourable, but for want of drainage the crop was not worth as much as the seed sown. That area was then drained, the laterals laid on 33 foot centres, and it has since produced regularly heavy crops of grain, roots and hay. In 1917, 35 bushels and 27 lbs. of barley were threshed from an acre of this land.

Draining Muck Swamp.—Two acres of a heavy muck swamp were cleared and drained by laying tile 30 feet apart, leading to 3 drilled wells 4 inches in diameter for outlets. These wells were drilled through brick clay, sandstone and limestone, until a strong spring was reached. They range in depth from 40 feet to 85 feet. One, about 65 feet deep, carried off over 7,000 gallons of water per day. Such wells are useful when the land rises on all sides and there is no satisfactory surface outlet. They require cleaning occasionally, as the brick clay oozes in and clogs tehm.

THE MARITIME FARMER

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AUGUST 17, 1920

CHANGING SEED

Many farmers still think it advisable to change their seed grain every two or three years. In the light of the work done by the various experimental farms of Canada, this practice has nothing to recommend it, while on the contrary, it has been shown that there are distinct advantages in not changing seed. By the use of a good fanning-mill it is quite possible to grow the same grain year after year on the same farm and maintain its productivity, provided that the grain is seeded early each season on well-drained, fertile soil. The seed should not be blamed for poor farming, which is most frequently the cause of the farmer's dissatisfaction.

Many of those who favor a change of seed have possibly based their belief on faulty observations. An error that is often made is that of comparing the results of one season with the results of the next. If the seed has been changed between times and the second season is unusually favorable, it is assumed immediately that the change of seed has brought the increased yield. The weather conditions in different seasons may alone make a difference in yield of from twenty to forty bushels per acre, depending on the kind of grain. Again the use of different fields may give rise to the same error of judgment, also differences in the dates of seeding.

When the change of seed is made with a neighbor it is a gamble whether one gets anything that is superior to their own or not. The variety is usually doubtful, and the labor, cost and inconvenience have to be considered as well, while there is always a possibility of introducing noxious weeds.

There is one change of seed that every farmer who has been following this practice should make. He should change to the best variety of whatever kind of grain he is growing and stick to it. If he is not satisfied with his seed, he should discard it and buy seed of a well-known and proved variety. Its purity and productivity can be maintained by the combined use of the seed plot and the fanning-mill, and a change of seed is unnecessary.

GRADE—CROSSBRED—MONGREL

All animals that are not purebred are usually termed as being grades, which is a misnomer. A grade is the production of a pure-bred on the one side (usually the sires' side) upon common or unregistered stock on the other side, with the object of improving or grading up, and if good judgment is used, each generation will show improvement upon the previous one.

Possibly more advance is being made in live-stock circles through this practice than by any other. Crossbreeding is the making of pure breds of two different breeds, viz., a Hereford upon a Shorthorn, an Angus upon a Hereford, a Berkshire upon a Yorkshire, etc., etc., or vice versa—a system that is practised comparatively little, excepting in breeding hogs for the market or beef animals for the block or show purposes.

The third term, mongrel, occupies a larger place than many of us imagine, and, sorry to say, the word improvement cannot be applied to it, as can to the two other terms. While we occasionally hear it said of a pure-bred: "Oh, he is just a mongrel," that may apply to the individual, but not to his breeding. His breeding may be all right, but we can't say that of the mongrel, as it applies to inferior breeding.

A mongrel is the offspring of a sire and dam, both of which are of mixed breeding, while the sire or dam, or both, may be of fair quality, owing to some splash of pure blood that may be in them. The breeding is usually so mixed that their produce is no two alike, and none of them satisfying; no improvement in the herd, from year to year, no improvement in the community, no natural increase in the bank accounts, very few modern farm buildings or homes; in short, there is scarcely any pleasure or profit in spending a lifetime producing mongrels. Trying to make ourselves believe that we are producing grades is not much satisfaction, if the finances are not forthcoming to correspond. Better to right about face, and make a start with a few good animals, then feed them well, and success will surely follow.

THE DIFFERENCE IN FARMERS

Regions in which improved live stock is extensively bred and fed are distinguished by substantial, attractive farm residences, good barns and fences, modern structural and mechanical conveniences, and uniformly large crop yields. What is more significant, however, is that they are noted for the character and quality of the people who live in them. Men who engage in and remain identified with purebred stockraising have higher ideals and nobler motives than those who practise any other system of specialized agriculture which excludes live stock.

The average farmer is not interested in purebred live stock; it is the exceptional farmer who engages in its production. Stock-farmers are therefore a select class, unique in ideals, purposes and personal characteristics. By keeping improved farm animals they cultivate those human traits which find expression in kindliness and mercy; they also undergo a refinement of mind and heart which is always associated with neighborliness, fairness, justice and straightness.

A farmer may be a good citizen without even knowing the names of the breeds, but he would be a better one if he kept improved animals on his farm. Moreover, his boys would grow up to be better citizens, and in all probability remain on the farm. A boy who grows to manhood on a stock-farm, buys or inherits the farm, and dedicates his life to the improvement of the breed or breeds of his choice, is almost sure, to be a first-class citizen.

COMMON SENSE SAFETY

Those living in danger get so accustomed to it that they get reckless. They forget, or refuse to acknowledge that it is the gun that is "not loaded" that usually goes off and kills someone; that it is the "gentle" bull that unexpectedly gores someone to death; that it is the speed fiend who runs the auto into a pole, over a bank, or onto a track ahead of a train, and that it is the little injury that may develop blood poisoning or lockjaw. It is the old proverb in action—"Familiarity breeds contempt" to danger.

Every man owes it to his dependent family that he keep his health and his life. Recklessness may result in far reaching effects upon the family. It is not only the injured one who suffers. The death of a father due to recklessness may cause one or more of his children to grow up without schooling.

If guns were regarded as dangerous as gasoline, fewer accidents would result. If all bulls were considered as dangerous as mad dogs they would not claim so many victims. If ordinary care were taken in driving autos and motorcycles there would be fewer funerals. Safety devices are good, but ordinary, common sense caution will prevent many a sad story being put in the local newspapers.

AFTER 70 YEARS

"A great and successful farmer who had been farming for seventy years, when asked what was the greatest farming lesson he had learned, replied: 'The lesson that good farming pays better than any other business in the world; pays not only in money, but in health and contentment of mind. It is one business in which a man can live the Golden Rule every day, in all his dealings; and the longer he lives the more his satisfaction with it grows; and at the sunset of life he can look back over the years without a single regret, knowing that they have been well spent and that he has contributed his best to the sum of human happiness and lived closest to the Scriptural injunction as to how a man should live.'"

The farmer works for himself; the laborer works for another. The farmer tries to see how much he can produce; too often the laborer tries to see how little he can do and uses his organization to reduce production but at the same time to increase his income.

There is almost no limit to the amount of food, the quantity of clothing, the kind of housing, the number of automobiles, pianos, phonographs and what not other comforts or luxuries the world might have, if everybody would go to work with the understanding that it could have as much as it could make and no more. Then, if man would work at the job half as industriously as the boy will dig for worms while his fish pole leans by the tree, the world would literally be overflowing, not only with milk and honey, but also with every conceivable thing desirable for our care and comfort. We can have anything we are willing to work for, and cursed be he who shifts the responsibility to his neighbor.

The secret of success lies in the man, and not in the stuff he works on.

* * *

Farm tasks often seem to be all labeled: "Me next!"

Using Small Potatoes for Seed

After several years' experience in the use of small potatoes as seed, I feel impelled to make the results public. It s moire and more borne in upon me that potato growers have been dodging the use of small seed because of what they think should be the effect, whereas no such effect is to be expected.

When I started in to raise the potato crop I used the seed as it came from the lot, large and small, and either fed the surplus small tubers, or picked up the large ones and left the small ones to spoil. One year I tried two rows of little ones through the middle of the field. They yielded just one bushel more to the row, or 20 bushels more to the acre than the large seed. This gave me food for thought. The next year the potato crop was short and the price high, and I planted all of my early small seed (Irish Cobbler). The yield was fully as good as that of the large cut seed, one end of the piece going at the rate of 240 bushels per acre.

From that time on, I always saved the small seed from the fields that had been planted with large seed, but continued to throw away the small seed from small seed. After about three years' additional experience I have at last brought myself to the point where I am perfectly brazen about using small seed. I have been watching results now for seven years and have yet to see the time when seed cut to two-eye pieces weighing about an ounce have beaten small seed of the same weight when soil and moisture conditions were equal, whereas the small seed have come out ahead repeatedly. I have had 300 bushels of Irish Cobblers to the acre from small seed, while the best the large seed has done is 190 bushels. This year is a good example. I have eleven acres of potatoes planted from small seeds and one-half acre from large seed, selected during two years by the tuber unit. This last is my seed plot. Part of the small seed was from small seed last year; in fact, fully two-thirds of it, and some of this was from small seed the year before.

The yield from the small seed averaged 120 bushels per acre, that of the seed plot 102 bushels per acre. The seed plot was planted under test conditions. They were planted on the same piece of land, with the same amount of the same kind of fertilizer, and were planted at the same time as the last acre of the small seed. The last acre of the small seed averaged 148 bushels per acre, as against 102 for the seed plot. It should be understood that all this seed, large and small, is from the same lot originally.

Small seed is supposed to cause the crop to run small, but the seed plot had 15 bushels of small seed per acre as against 32 for the small seed which is exactly the same ration as the yield of large potatoes.

The reasons for the increased yield are as follows:

Small seed is less affected by unfavorable conditions than cut seed.

Under favorable conditions there are more vines from the small seed than from the cut seed, hence the yield is likely to be larger.

The sprouts from small seed come mostly from the seed end of the tuber, and these are more vigorous than those from the stem end.

In my case a large proportion of the small seed is not entirely mature.

As an illustration of the better growth under unfavorable conditions, in 1917 the spring was very wet, and my seed rotted in spots. In these spots some plants appeared, and on investigation I found that these were nearly all from uncut seed; in other words, where 90 per cent of the cut seed rotted, 90 per cent of the uncut seed grew.

In cutting seed in large quantities it is not practicable to cut the same number of eyes on every piece. Sometimes there are pieces with one eye or even with none. This makes missing hills and small tops and cuts down the yield.

The potato is an underground stem, and on them as on twigs of trees and other plants, the terminal buds (seed end in the case of the potato) are the most vigorous, and start into growth first. Cut seed must either be split lengthwise giving long thin pieces, with a large cut surface, or part of the pieces must be from the stem end.

Contrary to the popular belief, seed which is dug before it is fully mature is superior to that which is mature. I am unable to state why this should be so.

No one of these things makes a great deal of difference in the yield, but together they account for the increase.

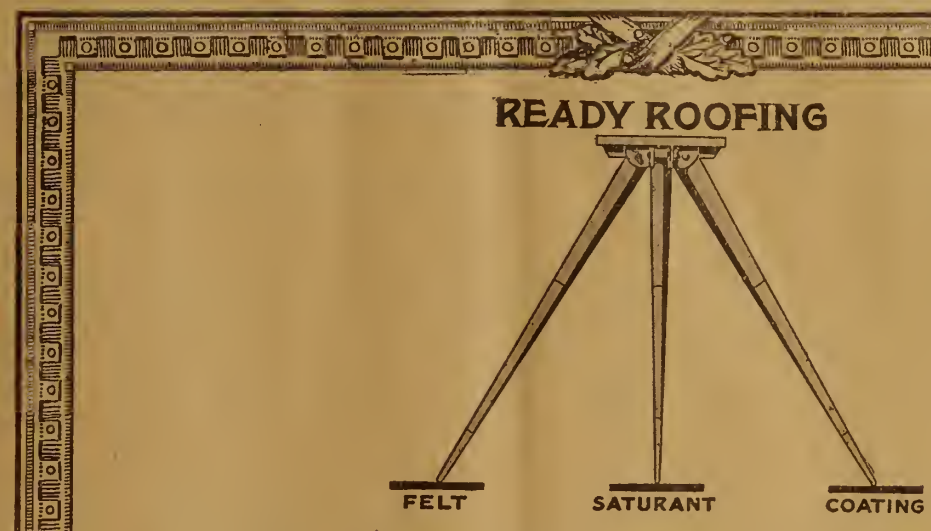
In England, where the large growers go into the matter of seed in a thorough and scientific manner, they plant special seed plots from selected seed, which is planted twice as thickly as usual in order to get a heavy yield of small tubers. These small potatoes are reserved for seed, while the large ones from the seed plot are sold. They are dug from ten days to two weeks before they are fully grown.

In my own case I raise a seed plot of a half acre every year, always using large seed. This is for insurance. If I ever see that my small seed is running out, all I have to do is to discard it and plant all large seed one year and then commence over with the small seed regime. The time to do this would be when potatoes are cheap.

In addition to the above advantages in growth I must mention the fact that cutting seed is an expensive and time consuming operation when done on a large scale, and with labor scarce and every minute valuable at planting time this is a large item. Also it should be mentioned that the small seed works better in the planter than cut seed.

Lastly, the question of economy enters into the matter. When one can use as seed, potatoes that otherwise would be fed out or wasted, and sell the potatoes that otherwise would have been used for seed, it saves the grower from $6.00 to $24.00 per acre.

When saving small potatoes for seed one should use some judgment in picking up. Whenever there is a hill that has all or nearly all small potatoes, I have it discarded, and also this is the time to throw out any of the odd varieties.—A. H. Graff, New York.



The Tripod of Ready Roofing

There is much more to ready-roofing than appears on the surface. You can't judge a roofing by its looks alone.

The three principal elements of ready-roofing—felt, saturant, and coating—may be compared to a tripod. This tripod supports the quality of the roofing. If one leg fails, quality suffers. When you buy Ru-ber-oid you know that no flaw will develop and a leaky roof result. The tripod which supports Ru-ber-oid Quality is sound at every point. Briefly, here are the facts:—

Felt

The backbone of ready-roofing is felt. Upon its quality, primarily, depends the life of the roofing. Because of this fact The Standard Paint Company of Canada makes, in its own factory, the felt which goes into Ru-ber-oid Roofing. This important work is intrusted to no outside concern. We know that only materials of the highest grade are used in the making of our felt.

Saturant

The saturant, properly compounded and applied, preserves the felt and will remain unchanged for many years. *It will not evaporate.*

The saturant used in Ru-ber-oid is composed of the highest grade of bituminous materials. It is forced into the felt under heat so that every pore is filled. *It stays where it is put; it cannot evaporate.*

Coating

The function of the coating is to seal in the saturant. Ru-ber-oid coating compound is a special mixture of animal and vegetable matter compounded with high grade asphalt. These materials can be mixed in many combinations but the one used for Ru-ber-oid will last longest without becoming hard or brittle, peeling, powdering, blistering or drying up.

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HORTICULTURE.

THE SUMMER CARE OF THE STRAWBERRY PLANTATION.

The strawberry plantation very often receives little attention during the first year, resulting in much disappointment in crop the following season. Weeds or grass, if allowed to grow, take up nourishment that should go to the developpment of good strong plants, without which abundant crops cannot be hoped for.

The usual system is to grow the plants in the matted row. The plants are set about fourteen inches apart in the row and from these runners develop forming a number of plants. These runners should be handled before they strike roots so that the plants will not be bunched together. The plants should be spaced about six inches apart, and the row allowed to form about twelve to fifteen inches wide. It is wise, in cultivating, to run the cultivator always the one way between the rows as in this way the rooting runners are not so liable to be disturbed. The cultivator will tend to draw the runners lengthwise of the row so that they require less handling and will form a better row than if attention is not given to this detail. The strip of plants gets wider and wider, from the runners sending out new laterals and plants forming, so the cultivated space between the rows becomes correspondingly narrower and narrower, making it necessary to use care in closing up the cultivator, or in not cultivating too close to the roots of the plants.

It should be kept in mind that the older plants have the best development of roots and crown and every care should be given not to disturb the early-rooted plants by careless handling. It will be seen, therefore, that, as soon as the runners commence to form, the only way to keep the part where the plants are growing free from weeds is by hand work, hence the importance of being thorough with the early cultivation, keeping the ground mellow and destroying weeds that may start at that time. Shallow cultivation only is necessary and broad teeth on the cultivator that leaves the soil ridged are not desirable.

Careful hoeing is necessary, otherwise the plants striking roots are likely to be disturbed. Much of the work can best be done by hand pulling the weeds which start. It is exceedingly difficult to handle the plants where couch grass is abundant, and, should this be the case, work with the hand trowel may be necessary. The plants may be handled to advantage by spacing them to avoid more than one plant in a place as much as possible and pressing the plant ready to root into the soil lightly or working a little extra soil around it at this point.

Toward autumn the row should be restricted by cutting off the runners along the edge when enough plants have been formed, and new runner plants forming within the latter row may be cut as well thus avoiding the formation of small late plants which may be abjectionable as weeds.

It will be seen, therefore, that to attend to this properly means considerable work, but it has been found that it pays to give attention to these details if the best returns are to be looked for.

The hill system may be employed. This consists of growing the individaul plants in hills and all runners are cut off as soon as they begin to form. If this is done, the individual plant makes many crowns, or buds, close to its base and becomes a broad, stocky plant capable of developing many clusters on its various crowns thus producing an abundance of fruit. If a plant is allowed to form runners these buds will not multiply at the crown, but it will produce from its runners a colony of plants around it, each forming a crown of its own. It will be seen therefore that, if the hill system is to be a success, close attention must be given to keeping all runners that form cut off and this must be done right into the autumn. This means considerable labor, but, if followed properly, large fruit crops are possible.

One advantage of this system is that hoeing can be done close to the plant, and the plants may be cultivated both ways. The plants are easily cultivated next season and, if earth is worked up to the edge of the old plant from year to year, they may continue to crop for several years.

The mulching of the strawberry patch as soon as the ground freezes, usually about the first of November, consists of placing a light coating of straw over the plants. Thih should be scattered lightly, just sufficient so that the plants may be seen at places through the straw. Too heavy a coating is not desirable. Brush may be used for this purpose.—W. S. Blair, Superintendent, Experimental Station, Kentville, N. S.

Fruit Packages

We Manufacture Strawberry Boxes and Crates for same, 6 qt. Baskets, Apple Boxes, Box Shooks, Apple Graders, Wheelbarrows. Now is the time to lay in a supply of Fruit Packages for the coming season. We have a good stock on hand, order early and ensure prompt shipment. Price on application to

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AGENCIES EVERYWHERE

CANNING, DRYING AND STORING FRUITS AND VEGETABLES.

It is now the season for canning fruits and vegetables and, though the price of sugar may be high, thus tending to discourage housekeepers from canning as much fruit as they otherwise would do, yet there are few who will care to be without a fair supply for the long period until the fresh product is available again.

Every year a large number of cans of fruit and vegetables spoil, and, especially under present conditions, it is important to reduce the loss to a minimum. This is done by ensuring thorough sterilization of the jars into which the product is put and thorough sterilization o fthe product itself. The germs of decay, moulds and bacteria are practically always present and unless destroyed, will attack and spoil the fruit and vegetables. Moulds usually form on the surface only, but when the product becomes soured the whole o fthe product is spoiled. This souring, or "Flat Sour" as it is called, is due to various causes.

In the bulletin on "The Preservation of Fruits and Vegetables," issued by the Horticultural Division in 1919, the author, Miss Margaret Macfarlane, gives the ollowing causes for Flat Sour:

1. By the vegetables being allowed to stand in the cold water of the blanching period for a longer time than is necessary. Never blanch or cold dip more than you can pack at once.

2. By the jars being allowed to stand after being filled with boiling water, before being placed in the canner or sterilizer. If one or two of the jars are in the canner a few minutes longer than is necessary the fruit or vegetables will not be affected, while if the jar were left on the table for a corresponding length of time "flat sour" might be started.

3. By the jars being placed close together after being taken from the canner which prevents their cooling rapidly.

4. By the product being allowed to stand over night before canning. Peas, beans, corn and asparatgus which are over-ripe or too mature when canned will readily "flat sour."

To prevent "flat sour":

1. Can within five hours after picking.

2. Can only young, tender, fresh products.

3. Blanch, cold dip and pack one jar

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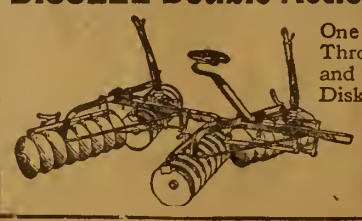

T. E. BISSELL CO., LTD., Elora, Ont.

of the product at a time, and place each jar in the canner as it is packed. The first jar will not be affected by extra cooking.

4. Cool the jars as quickly as possible, but do not let a draught strike them.

Another important factor in successful canning is the preparation of the canning utensils. The following quotation from the bulletin already referred to deals with this:

"If jar has been used the previous year, special attention must be paid to washing. Wash carefully in clean, hot, soapy water. Rinse in hot water and test. Test every jar, top, and rubber. See that the edges of the jar or top are not rough, by running your finger around the edge. All sharp edges should be filed or scraped off. Fill each jar half full of warm water, adjuts the rubber, put on the cover and snap the wire clamp. Turn jar upside down to see if it leaks. In using a Perfect Seal jar, if the jar leaks, the clamp may be tightened by turning the spring of the clamp underneath the word "tight" on the neck of the bottle.

Never use a rubber ring which has been used before. Old rubbers lose their ealsticity, are brittle and break when stretched. Test rubber by folding the ring and pressing tightly. Turn it over and reverse the fold in the same place. A good rubber ring will show no crease or break where the rubber has been folded.

After the jars have been tested they should be put on in warm water and boiled for 10 minutes. The tops and rubbers should also be sterilized for the same length of time.

Fruits and vegetables can be dried quite successfully and simply, and many take advantage of this. Where one is assured of lot, bright days, drying in the sun is the easiest method. The plan is to spread the product out thinly on something clean, and then to ensure its being protected from dust and insects it is covered wtih cheesecloth, which permits a circulation of air, the cheesecloth being supported on a frame and not directly on the fruit. The fruit or vegetable should be turned once or twice a day. The product should be taken inside at night and if rain threatens. Another method is to dry in the oven or on trays hung over the stove. When sufficiently dried the product should be somewhat pliable rather than brittle. The latter condition is often found when drying is done too rapidly. The dried product is left in open boxes for a few days to make sure it is sufficiently dried and pour from one box to another each day to mix thoroughly and ensure all being dry. It is then put in tightly closed cans or even strong paper bags well closed. Beans, celery, corn, peas, onions and pumpkin are among the vegetables that may be easily dried. Apples and resp-berries are two of the most satisfactory fruits.

In storing fresh vegetables for winter it is well to remember that onions must be kept very dry. They should be dried as much as possible outside, and when brought in spread out thinly in a well ventilated place. If stored with much moisture in them they are very liable to rot.

Celery needs moisture at the roots when stored, but the tops should be kept dry to lessen danger from disease.

One of the best methods of ripening green tomatoes is to store them before they are touched with frost in closed drawers in a room where the temperature is between 60 and 70 deg. or above.

Potatoes should be dry when stored as there is less likelihood of rot if there is disease in them. A dry, cool. well ventilated cellar where the temperature is between 33 and 35 deg. F. is best for potatoes.

Squash should be stored in a comparatively warm, dry place if they are to keep well. The temperature should be about 50 deg. Fahr., or more.—W. T. Macoun, Dominion Horticulturist.

Currant Jelly

The best zest with all red meats

A pretty and economical cake filling

A beautiful garnish for fancy desserts

MAKE plenty of currant jelly. All men like this piquant sweet. Children never get enough of it. You can use it in many ways by itself or in other dishes. Good home-made jelly is not only an enjoyable relish but a nourishing and valuable food.

A Reliable Recipe for Currant Jelly

Gather the currants as soon as they are red. Do not let them overripen. Wash and mash them lightly in the kettle. Heat slowly until the skins look blanched and transparent. Turn the hot fruit into a flannel jelly bag wrung out of warm water and let the juice drip through slowly. It will take several hours. Measure the juice into a clean kettle and boil hard for ten minutes. Do not boil more than six or eight cupfuls at a time. Meantime heat in the oven a cup of LANTIC PURE CANE SUGAR for each cup of juice and add this at the end of the ten minutes. Under the most favorable conditions the jelly will begin to coat the spoon by the time the sugar is all dissolved. Sometimes it will need to be boiled for a few minutes more. You can tell when the jelly is done by trying a spoonful on a cold dry plate.

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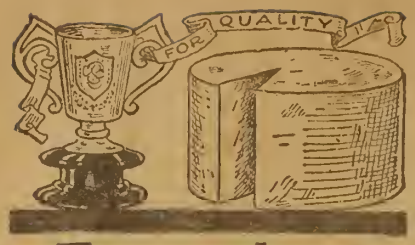

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DAIRYING.

ROPY MILK ON THE FARM.

(H. A. Harding and M. J. Phucha, Illinois Agricultural Experiment Station.)

The term ropy milk or slimy is applied to milk which has become noticeably more viscuous than ordinary milk. When this ropiness is only slightly developed it is ordinarily overlooked. It is sometimes noticed from the fact that the milk pours more slowly or because the last portion drips from the container with the formation of an evident thread of milk.

Where the viscosity is more pronounced, the milk may be drawn out by means of a fork, or similar object, into threads. In extreme cases these threads may be fine and silky and more than a foot long, though more frequently they break when only an inch or less in length.

In extreme cases the milk takes on almost the consistency of a sticky, stiff dough, and a cup of it may be inverted without the milk being spilled.

Ropy milk should not be confused with the results of garget. Garget is an inflamed condition of the udder of the cow, and milk as it comes from such inflamed udders frequently contains white masses or strings of coagulated material. Milk which becomes ropy, on the other hand, comes from healthy udders and is normal when drawn, but the ropiness may appear at any time after twelve hours.

Why is Roppy Milk Objectionable?

With milk, as with other foods, custom is a large factor in establishing market demands. There is no question but that our retail milk trade calls for a sweet milk of normal consistency and taste. While the growth of the ropy milk germs ordinarily produces little change in the taste of milk, these organizations do change its consistency so noticeably as to arouse the suspicions of the consumer.

The agitation of recent years for milk of low germ content has made the consumer very suspicious of any evidence of germ growth in milk and doubly so of unusual appearances.

While there is no evidence nor any reason to believe that the growth of the ropy milk organism is in any way harmful to the consumer, such milk is not acceptable to the American consuming public, and accordingly is neither profitable nor desirable in the city milk supply.

Why is Ropy Milk so Common a Trobule?

It should be remembered that the germs of ropy milk which ordinarily make trouble in connection with the city supply do not thrive in connection with the ordinary acid-prpoducing germs. When milk is produced wtih a lack of care as to the utensils and is handled without proper regard to cooling, the rapid development of the acid-producing germs interferes with the activity of the ropy milk organisms even if present.

Before the cause of ropy milk was clearly understood, a treatment often recommended was to rinse all utensils with sour milk and allow them to stand some hours before washing. In this case the remedy was worse than the trouble it aimed to cure because it resulted in the quick souring of the milk, but it was efficient in checking the development of the ropiness. The germs producing roppy milk thrive at a temperature much below that most favorable for the growth of the ordinary acid-producing germs. Accordingly, when the ropy milk germs are present, cooling of the milk checks them but little and in such cooled milk they have an advantage over the acid producers.

It is a matter of common knowledge that during the warm summer weather the acid-producing germs develop quickly in the milk and unless considerable care is exercised the milk does not remain sweet for twenty-four hours. On the other hand, in the winter the low temperatures are favorable to the development in the milk of quite a different class of germ life, with the result that if the milk is kept cold it will frequently remain sweet for two weeks and even then will not become sour but will undergo undesirable changes.

In the spring when winter is changing to summer conditions, and again in the fall when the reverse change takes place, the germ life in the milk is quite variable. At these times of the year a majority of the outbreaks of ropy milk appear. In case an outbreak at such a time becomes well established it may persist for some weeks or months.

Samples taken in connection with many different outbreaks on farms have ordinarily shown that the utensils are the source from which the

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On the first sign of any weakness of the heart Milburn's Heart and Nerve Pills should be taken, and thus secure prompt and permanent relief.

Mrs. Thomas Hopkins, Crowell, N.S., writes:—"I had heart trouble for several years, sometimes better and sometimes worse, but a year ago last fall I could not lie down in bed for that distressed feeling, and had to get up and sit up a great many nights, and when I did lie down it was with my head very high. I purchased two boxes of Milburn's Heart and Nerve Pills and feel a lot better. I can now lie down quite comfortably and the pains have gone too."

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ropy milk germs enter the milk. Since the utensils on the farm are commonly all washed together it is to be expected, and it is common experience, that where one is infected, the ropy germs are present on many or all of the utensils. It should be noted in this connection that in an outbreak studied by one of the authors in New York, the ropy germs were found only in the cans, and the indications were that in this outbreak the cans were being contaminated while being washed at the milk plant.

The source from which the first utensil became contaminated in the outbreaks which have been studied has not been made clear. The germ which has been most commonly found in ropy milk was originally found in water, and in outbreaks on the farm it is often found in the water in the cooling tanks. As in such outbreaks the germs are also found in the utensils it is customary to explain the presence of the germ in the cooling tank as resulting from the infected cans having been put in the tank. Where no definite information is at hand to explain how the utensils became infected it is quite as logical to assume that they became infected from the water. The assumption that it is a form occurring occasionally in water and that it occasionally finds its way into milk is supported by many of the known facts. Such an assumption also serves to explain the wide distribution of this trouble as well as its occasional appearance without any known connection with any previous outbreak.

Ordinary Treatment on Farms.

Dairymen are usually most interested in promptly removing the source of infection, even if this summary treatment involves perhaps a little unnecessary work.

Under cooling conditions the trouble is most effectively attacked by emptying the cooling tank, scrubbing it, and filling it with clean water to which some active disinfectant is added. A twelve-ounce can of good strength bleaching powder (chlorinated lime) added to a 100-gallon tank will give a powerful disinfecting solution. In case the tank has a capacity of more than 200 gallons, additional bleaching powder should be added.

All pails, strainers, stirrers, cloths, brushes, and other utensils which come into contact with the milk are then put into this solution and allowed to remain fifteen to twenty minutes. The tank and floor of the milk house are then scrubbed with the disinfecting solution. Where facilities are at hand, the interior of the milk house may be whitewashed, or it may be drenched with the solution from the tank.

Where a cooling tank is not used, but a large iron kettle or food cooker is available, the same result may be attained by filling this with boiling water and giving all cloths, brushes, and utensils a thorough treatment with hot water.

Where the dairy is located near a canning factory, all these utensils may be placed in a large steam kettle and an exposure to the influence of steam under pressure will promptly destroy the ropy milk germs.

Bottling plants are often provided with steam chambers in which these dairy utensils may be quickly and thoroughly treated.

Bringing all parts of these utensils to the temperature of boiling water, or exposing them to the action of a strong disinfectant for a few minutes, will kill all germs of ropy milk. Accordingly a single treatment of the cooling tank and the utensils usually puts an end to an outbreak on a farm.

It should be understood that this exposure to heat or to disinfectants followed by thorough washing leaves nothing on the utensils which will prevent the growth of ropy milk organisms if they find their way to the utensils after treatment. In actually carrying out such a disinfecting campaign at the farm it occasionally happens that some pail, dipper, or other object which has been in contact with the ropy milk, is overlooked. If in connection with the handling of the milk the germs on this one utensil spread to the others, the result of the disinfection is lost and the trouble will reappear in the milk. Fortunately in the actual handling of outbreaks the trouble rarely reappears where the work is carefully done.

Upper White Head, N.S.
"I suffered for years with Stomach Trouble and Indigestion and could not get anything to help me. I shall never regret the first day I started taking OLIVEINE EMULSION; now I am practically well. I recommend OLIVEINE EMULSION to anyone suffering from Stomach Trouble."
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POUNDS MILK FOR POUND BUTTER OR QUART CREAM.

The number of pound of milk necessary to contain enough fat to make a pound of butter or a quart of cream depends upon the fat content of the milk and cream. Milk averages a test of approximatelyy 3.8 per cent. fat. Since about eight-tenths of a pound of fat is sufficient to make a pound of butter, it will require approximately twenty-one pounds of 3.8 per cent milk to supply this fat. A quart of 20 per cent. cream contains approximately four-tenths of a pound of fat. It will take about ten pounds of 3.8 per cent. milk to furnish this quantity of fat.

It will require approximately eight pounds of 5 per cent. milk to furnish the fat in one quart of 20 per cent. cream and about 16 pounds to furnish the eight-tenths of a pound of fat necesasry in the making of a pound of butter.

THE ROYAL BANK OF CANADA

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Sometimes the money received from the sale of her eggs and butter is not deposited in the bank and she gets no benefit from them.

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LIVE STOCK.

TRAINING OF SHOW ANIMALS BIG HELP IN WINNING PRIZES.

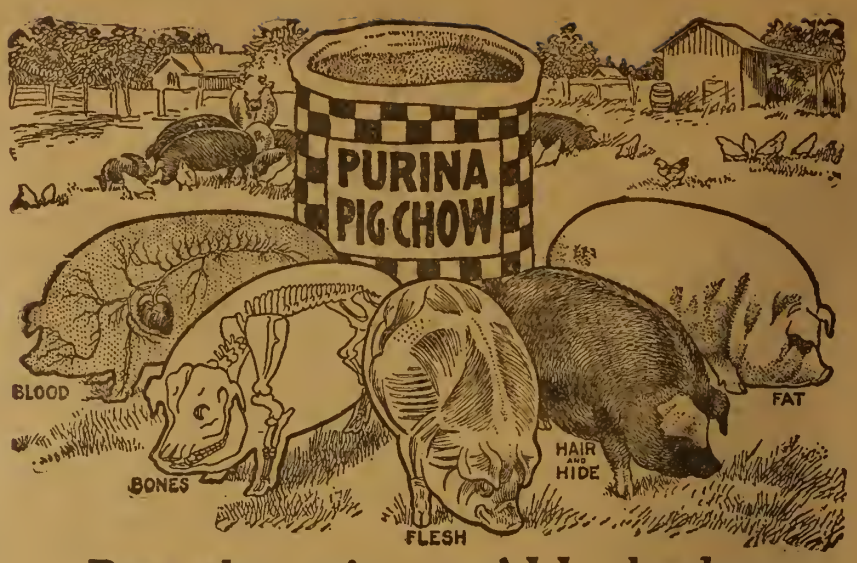
Time marches on and another midsummer is approaching. The rigors of the past winter have now been forgotten and with them also disappear the mud and dirt of early spring, till nothing remains but the memory of the uncomfortable days spent a few months ago. What a change from the cold, bleak plains of a February morning, with its whistling winds and shuddering trees, to the calm quiet of a June day, brightened by its luxuriant growth of foliage, rippling waters, and singing birds. It seems hard to understand how, in the space of a few short weeks, everything could be changed from its apparently dead appearance of the winter months to the healthy, laughing universe of today. The crops are growing rapidly and everything points to prosperity for the patient tiller of the soil—the farmer. Truly it is a most wonderful change, and one that puts new life into every living creature, but yet it is no different to what has appened every year since the beginning of time.

On the other hand, each new season brings its problems and its difficulties. It seems but a few short months since the live stock men were engaged in the hustle and bustle attending stock shows and exhibitions, and here they are upon us again. During the years that the world was engaged in the greatest struggle in history, the shows went on successfully. Of course many stockmen were prevented from showing on account of the war, but that cannot be advanced as an excuse this year. Many breeders have the stock and are just as anxious for the show game as ever, so that this year will be a record in showing, not only at the large fairs, but at the local exhibitions as well. The county feels the relief of peace, and in place of war has taken up another form of activity, namely, reconstruction, which has a mighty bearing upon the live stock industry of Canada.

It is not too soon to begin training now the pospective show animals so that they will appear to the best advantage. Show animals no matter of what breed or class require a lot of training, and it is an unfortunate truth that too few of our show men pay as much attention to the training of their show animals as they should. Only a few months ago the writer had occasion to stand at the ringside of a leading exhibition while several classes of live stock were being judged, and it was impossible to escape observing the apparent lack of show ring training that fully seventy-five per cent. of the animals in some of the classes had received. Some breeds suffered worse than others and some classes showed glaring examples of lack of pervious training and, worse still, their owners or grooms held them most carelessly while under the scrutiny of the judge. A most glaring example of this was in a certain class of aged bulls, and while the judge was standing at a distance, surveying the animals, no less than two out of the eight entries had their heads almost down to the ground, while a third was almost as bad. The showing they made certaintly was an advertisement for their owners, besides besing a grave source of danger. Such glaring examples of incompetency are usually always exhibited by amateurs who, of course, will improve with experience, but there is absolutely no excuse for such carelessness.

The show business is a great game and one must cultivate the spirit of give and take, yet after all it is one of the most difficult works it is possible to undertake and requires the greatest skill. Showing animals is an art, and it is doubtful if it can be taught to anyone unless they have the natural instinct and love for live stock, and although every stockman cannot become a real expert showman he can be the next thing to it by being careful and have his animals trained before entering the ring. The final decision in a close fight nearly always hinges upon the man showing the animal. It matters not whether it is a horse, cow, sheep, or a pig, the manner of showing has a great deal to do with the impressions made upon the judge, and, consequently, with the final awards, and it is not a rarity to see a poorer animal placed over a good one simply because the better was not shown properly, and its good qualities not brought out before the judge.

Such things are serious handicaps more especially for amateur exhibitors, and no time should be lost now in fitting the intended animals for the coming shows. A few minutes daily spent trainiug animals from now until show time will make a tremendous difference in their apeaprance on show day, and will also strengthen their chances of winning a prize. Showing live stock today has got to be such an art, even at our local shows, that it is very difficult to win unless the anials are properly train-



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Compared with corn, barley, shorts, hominy or similar ingredients by weight, Purina Pig Chow will produce 100 lbs. of live hog with one-third to one-half less feed. Fed individually or in combination with other feeds, Purint Pig Chow will produce 25 to 50% more weight.

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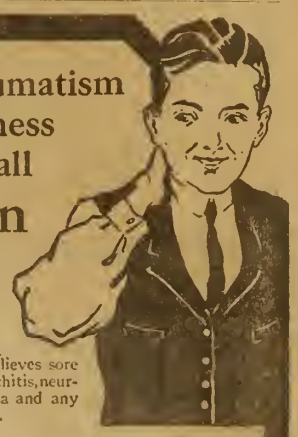

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Mrs. S. Fawcett, Hamilton St., Collingwood, Ont., writes,—Minard's Liniment surely is an old reliable remedy. I always keep a bottle in the house and have recommended it to quite a number of my friends, to whom it gave great relief. In most cases it was used as a cure for rheumatism.

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King of Pain
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Write for Folder.

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ed, and no one can afford to take a chance regardless of how good his animals may be. They should be fitted and trained before leaving home, and there is plenty of time yet if a start is made shortly. It is not a difficult matter to learn an animals to lead properly and to stand without showing fear of strangers or passers by, but the only way to get them in that happy position is to so handle them that they show no efar of the attendant and have confidence in him. What is more provoking in the show ring than to see an animal when led out before the judge go sideways to its attendant or grooom There is nothing wrong but fear of the man on the halter and that is a fault that can be easily remedied before the show. It takes time and patience, but if an animal is worth taking to the exhibition it should be worth training at home.

CAUTION TO ONE CONTEMPLATING INBREEDING.

One of my neighbors has an exceptionally fine bred Guernsey bull. I have my entire herd of cows with calf by him. Shouldn't the heifer calves from this bull be bred back to him to conform to the best practices in breeding I maintain that it is best but several of the farmers in this community say "No." Isn't this called "line-breeding" and isn't it the practice of our most successful breeders of live stock?

A. B. D.

The practice contemplated in this breeding herd is one which has brought about a great deal of the improvement which has been made in our pure-bred breeds. There is no question but that inbreeding and line-breeding, properly directed, are systems from which splendid results may be expected. The difficulty comes in the fact that very few men are able to direct this breeding correctly. With inbreeding and line-breeding the characteristics of the animals mated are intensified. Is this bull so good that it is desirable to impress his qualities strongly in her herd? I fhe has bad points about him, these will quite as certainly be made prominent in his inbred offspring as will his good qualities.

Breeding this bull to his own get cannot properly bet termed line-breeding, since line-breeding usually is used to indicate a system where the mated animals are less closely related. An arbitrary definition of line-breeding specifies that the mated animals shall have not less than 25 per cent. or more than 50 per cent. of the same blood. If this bull suits our inquirer's ideal of the breed and his heifers are vigorous and of strong individuality, inbreeding may be followed safely. We caution, however, that while good results may be secured from this system, very bad resutls may also follow, unles sthe animals are well chosen. It is in most cases a matter left with best profits to breeders of long expereince and close students of their animals.—Breeders Gazette.

SORES ON PIGS' MOUTHS.

I would like to know what is the matter with my pigs. They are about four weeks old and several of them have ulcerous spots and patches about their jaws and faces. They are not doing well. K. C.

Ans.—From the details given, it appears that the pigs are suffering from necrotis stomatitis, a disease which causes deep ulcers to form on the lips, gums and snouts of pigs. The disease is caused by filth germs invading scratches about the nose. The germs are present in the intestines of hogs and prevalent in manure and filth of pens and yards, where hogs are or have been present. In many cases, the disease is fatal and in others the pigs become stunted. Affected pigs should be isolated immediately. Scrape the ulcers clean and paint with tincture of iodine. Then swab daily with a 2 per cent. solution of permangenate of potash on an absorbent cotton tied on a stick. The lumps should be painted with tincture of iodine. It is best to burn pigs that die.

Like most diseases, prevention is easier than cure. Clean and disinfected farrowing and living quarters should be provided. A common way of getting the disease is through the wounds resulting from cutting off the sharp teeth of little pigs. These need not be cut off and it is not necessary to remove black teeth.

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Put up a fence that will last a lifetime—a fence that can't sag or break down—that will hold a wild horse—that hogs can't nose through—that can't rust—a fence that stands rough usage by animals or weather and is guaranteed. PEERLESS PERFECTION Fencing is made of Heavy Open Hearth Steel Wire with all the impurities burned out and all the strength and toughness left in. Heavily galvanized. Every intersection is locked together with the Peerless Lock.
Stiff stay wires keep it rigid, making fewer posts necessary. Send for Catalog today. It's attractive, interesting, well worth the stamp. Best dealers throughout Canada handle our complete line.
THE BANWELL-HOXIE WIRE FENCE CO., Ltd.
Winnipeg, Manitoba Hamilton, Ontario

RINGWORM IS VERY CONTAGIOUS

I have some cattle that have ringwork around their eyes and ears. The hair comes off and it is spreading all the time. What can be done to cure it? M. R.

Ringworm is caused by a vegetable parasite which lives on damp walls and woodwork as well as on the skin of animals and man. Isolate the affected animals, as the disease is very contagious. Treat the spots on the face and ears by scrubbing free of scabs and crusts, first saturating them daily with sweet oil. Then apply tincture of iodine twice daily. Rub iodoform powder into the spots upon the upper eye-lids, as the liquid iodine might run into the eyes and do damage and will be very painful. It will be well for you to get the animals clear of disease before you let them out on pasture, as there they would be liable to relieve the itchy feeling by rubbing on fences, etc., and in this way the disease would be spread. Cleanse and disinfect all the stalls and woodwork in the barn or in the yard where affected cattle have been exercising, and whitewash them with lime wash.

Teach the pigs to eat grain as early as possible. If they are given a chance, it will not take long for them to learn. Arrange a feeding pen for them separate from the sow by building a partition in one corner of the sow's pen eight inches from the ground. This allows the pig to crowl under, but keeps the cow out. When the pigs are four or five weeks old, place a trough in the pig section of the pen and feed the pigs a little warm milk sweet twice a day.

Be careful to wash out the trough every time before the milk is poured into it, and place it where the sun will shine into it between feeds. Cleanliness is very important, and if the pigs get milk that has soured or is filthy, it is very apt to cause scours or other digestive troubles.

Every farmer who keeps live stock —and all should keep animals to the limit of the feeding and pasturing capacity of the farm—should have a silo because it is the cheapest and best feed producer on the farm.

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Have You a Sick or Lame Horse

You can get two preparations—endorsed by the leading horsemen of the Dominion—which will save and preserve the lives of your sick, ailing, lame horses and cattle.

Dr. J. Woodbury's Horse Liniment and Condition Powders

They are specifics for Cough, Distemper, Colic, Glanders, Spavins, Pink Eye, Splints, Curb, Enlargements, Cracked Hoof, Founders, Kidney Troubles, Fever, Cuts, Sores, and will remove bunches of any kind.

Every Horseman and Farmer should keep these standard preparations in the stable.

Sold by all Druggists and General Stores.

Prepared by
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THE HORSE

FEEDING AND WATERING HORSES IN HOT WEATHER.

While it is wise at all times to exercise care and regularity in feeding horses that are used for either fast or slow work, it is especially so in very warm weather. The feed should be of the best quality and given in limited puantities. The quantity of bulky feed should be limited in all cases when time is limited, and the horses are expected to go to work or drive shortly after eating. The stomach of the horse being a comparatively small organ, the majority of horses will, if allowed, eat until it becomes distended. If an animal under such conditions be put to work on a hot day he will perspire freely, digestion is very liable to become partially arrested, and a case of acute indigestion may result. It is good practice to allow a horse to rest an hour or longer after eating a hearty meal in order that digestion may be advanced before exercise be given, but this is not practicable in many cases, especially on the farm. The only safe method, therefore, of avoiding danger of sickness, or, if not an attack of illness, at least discomfort to the animal for an hour or two, is to limit the quantity of bulky feeed given. The morning's feed should be from 4 to 6 quarts of oats, according to the size of the animal, and the nature of the work to be performed, and a small ration of hay; at noon the same. In the evening it is good practice to give a little hay first, then the grain ration, and then more hay. As he will have several hours of idleness now, it is safe to allow him all the hay he will eat with a relish, but in no case should he be allowed more than he will consume. It is not only wasteful but injurious to the animal to keep feed before him all the time. In many cases farm horses are turned out on grass at night, but it is seldom that they will refuse a reasonable grain ration in the morning, even after coming off good pasture. Where this method is followed, it is good practice to allow them to stand an hour or longer in the stable after eating their grain ration in the evening. (Of course, under such conditions no hay should be fed.) This allows the digestice juices of the stomach to at least partially perform their functions, and at least a portion of the contents of the stomach will have passed into the small intestine, where digestion will be completed; while, if the animals be turned on grass immediately after eating grain they may eat so greedily as to force the grain out of the stomach before the said juices have acted properly upon it. And, while it is not probable that this will cause any noticeable trouble or uneasiness to the animals, digestion will not be as complete as it should be, hence the animals will not receive as much benefit as otherwise.

There is no doubt that crushed or rolled oats are more beneficial, pound for pound, than whole oats. It is seldom, even in hot weather, that a horse is so warn that it is unsafe to feed him grain. In cases where he has been subjected to long-continued, severe exercise, and has become excessively hot, it is wise to allow him to stand for a few minutes, and to rub him down before feeding, but such conditions seldom occur. When the time that he will be allowed to stand in the stable is limited to from one to one and a half hours, as is the case at noon, even though the weather be hot and he is perspiring freely, it is better to give him his grain and allow him a few minutes after eating, than to allow him to cool off, then feed him, and put him to work immediately after eating. Horses that are kept in the stable should be given a feed of bran, at least twice weekly, in addition to the grain ration, if at regular work. This aids indigestion and tends to keep the bowels in a normal condition; but those that go to grass at night do not require this, as the grass is all that is needed.

In hot weather horses probably suffer more from an injudicious system of watering. It would be well if horses could have free access to clear, cold water at will, but of course this is impracticable. Still, the popular idea that it is unsafe to allow a horse to drink when he is perspiring freely, even in hot weather, is unfounded. Of course, as in feeding grain, there may be times when it would be hurtful to allow him all the cold water he would drink, such as cases where he has been subjected to long continued, severe exercise and long abstinence from watear. In such cases he should be allowed a few mouthfuls, and after a few minutes a litle more, and a few minutes afterwards, all he desires. When a horse is excessively warm the introduction into the stomach of large quantities of cold water may cause such violent reaction as to excite gastritis, indigestion or founder. It seldom occurs that a horse used for either ordinary farm or road work is so warm that it is not safe to allow him all the water he will drink, unless a long period has elapsed since he had a drink.

Many people act upon the theory that a horse should be allowed water only before meals, on the assumption that if allowed to drink soon after a meal the water will force the injesta out of the stomach before it has been acted upon by the digestive fluids. We doubt the force of this theory. We are of the opinion that fluids cannot force solids through a constricted orifice through which the injesta must pass to reach the intestine, but rather that it percolates through the solid particles and itself passes to the small intestine. In practice we find that

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horses want water after a meal, especially in hot weather, and that, with few exceptions, it is wise to allow them to quench their thirst. There are some horses so predisposed to colic that it is unsafe to allow water shortly after a meal; such should be treated accordingly, but fortunately such animals are few.

It is probable that the sense of thirst is as acute in a horse as in the teamster. When he is thirsty "he wants a drink," and usually manages to get one. The horse also "wants a drink" when he is thirsty, and the careful, thoughtful teamster will endeavor to see that he is gratified. It would be well if horses could be given at least one drink between meals in hot weather.—Whip, in Farmers' Advocate.

PREVENTIVE AND CURATIVE TREATMENT OF JOINT-ILL.

Joint-ill annually exacts a heavy toll from the foal crop in this Dominion. It is more severe some seasons than others, and is often quite prevalent in some districts and absent from others. The theory upon which the veterinary profession base treatment is that the germ gains entrance through some raw surface, particularly the navel, at time of birth or shortly after. It locates in the joints, multiplies rapidly and gives rise to characteristic symptoms. It was once thought that the disease could be contracted before birth, and was therefore congenital, but modern science does not recognize this as a fact. However, the horsemen at several famous British studs still cling to the belief that preventive measures against prebirth contraction of the disease are worth while, as the following excerpt from the Live-Stock Journal will indicate:

"A simple treatment adopted at the Carlton Stud of Messrs. James Forshaw and Sons, as a safeguard against joint-ill will save breeders many troubles with their foals. The treatment was adopted by the late James Forshaw, and has been consistently carried out ever since. When the foal is twelve hours old an injection is given of about a pint of warm water (about the temperature of milk when freshly drawn from the cow), to which a little soap has been added. The quantity of soap required is so small that it is sufficient to rub a little on the hands and wash it off in the watetr to be injected by an enema or rubber ball syringe, the latter being preferred. The whole of the liquid is slowly injected into the rectum. Even if there are signs of looseness or purging after this treatment the dose must be repeated in twenty-four hours.

"The reasons for the process are thus explained. Examinations of the young foal often revealed the presence of hard dung, which in many cases could not be discharged until dissolved by the soap solution. This obstruction retarded the cleansing process, and the system became poisoned. A second injection is given because even though the foal may have shown signs of looseness small, hard balls of dung have been found in the passage, and great importance is attached to thorough cleansing of the bowels. Without venturing any opinions as to the cause and cures of joint-ill, which are matters for the scientists who are engaged on research work, the fact remains that at Carlton there has not been a case of joint-ill for twenty years, and it is also important to know that the farmers in the districts surrounding the stud who have adopted the practice, have also ha da remarkable immunity from this trouble.

"Another simple form of preventive treatment is adopted in Messrs. H. and R. Ainscough's old-established Burscough Shire Stud, in which there are at present fifteen out of sixteen mares in foal. A few days before foaling time iodine of potassium (five grames to each meal) is mixed night and morning with the mare's feed, and this quantity is given every second or third day. For three or four days after foaling the same dose is supplied daily, and then every alternate day until the foal is eight or ten days old, after which time outbreaks of joint-ill are rare. In numerous cases on farms in the district a timely dose of iodide of potassium given to the dam —the foal gets the benefit through the mother's milk—has had the desired result."

Preventive Treatment.

If we accept the theory that infection occurs at or subsequent to birth, then it is obvious that measures should be taken to prevent the entrance of the germ into the system.

All dust, cobwebs, etc., should be swept out of the stable, and the stall in which the prospective foal is to be born, should be thoroughly and regularly cleaned, and it is good practice to scatter slaked lime on the floor each morning before providing fresh bedding. It is good practice to give the stall a thorough coat of hot lime wash with about 5 per cent. carbolic acid, or, if whitewash be objectionable give it a thorough scrubbing with hot water containing 5 per cent. of the acid. It is also good practice to wash the external genital organs, tail and hind quarters of the mare occasionally with an antiseptic and germicide, as a 5-per-ectn. solution of one of the coal-tar antiseptics or carbolic acid. When the mare is to foal on grass, of course, all these precautions cannot be taken, but there is little danger of the germ existing on grass, but it may be found in sand or clay devoid of grass. The most essential preventative measure that can be observed in all cases is local attention to the navel as soon as possible after birth, and several times daily afterwards until it dries up and is thoroughly healed. The breeder should have on hand a supply of strong antiseptic and germicide when his mare is about to foal. This may be a 10 per cent. solution of carbolic acid or one of the coal-tar antiseptics, tincture of iodine, or a solution of corrosive sublimate 30 to 40 grains to a pint of water. Whatever is used should be applied as soon as possible after birth and every few hours until the navel opening has healed.

Symptoms of Joint-ill.

The symptoms may become apparent soon after the infection enters the system. From a few hours to a few days, and in rare cases a few weeks after birth, the foal is noticed to be full, lies a great deal, and manifests

(Continued on page 836.)

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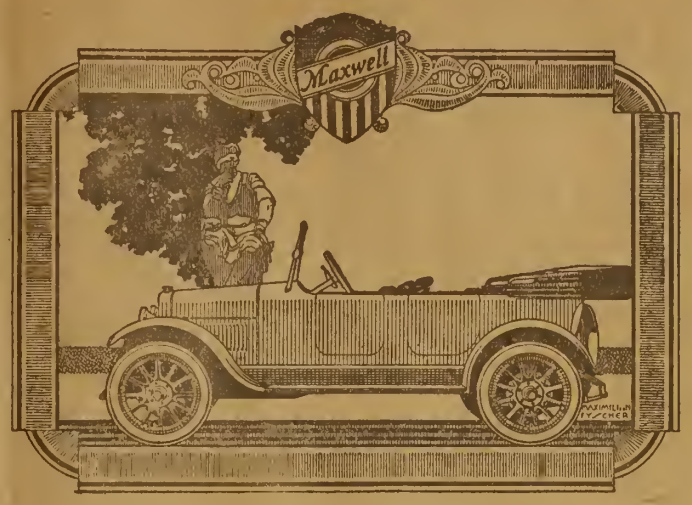

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POULTRY.

HENHOUSE NEEDS TO BE WELL BUILT

A glance at about four out of every five farm poultry houses conveys the impression that the builder worked on the assumption that any sort of a box or shed would serve to house poultry.

The successful poultrymen will contend that as much attention should be given in the building of the poultry house toward making it comfortable for the birds as to make a dwelling comfortable for the people who are to inhabit the same. There are three main essentials for comfort that should be observed, namely, good ventilation, abundance of light, and absence of draft. Another essential which might be added is that of warmth. If, however, the three first mentioned essentials are looked after, this latter will be practically taken care of.

The question of the proper location is one that should be studied in order to take advantage of as many natural conditions as possible. A dry, well drained location should be selected which is well protected from the cold wintry winds, and should be open toward the south to admit of an abundance of sunlight. If a south front can be obtained it is preferable to any other. This, however, is not always possible. Some thought should also be given in the selection of the location to the arranging of ground for the poultry and also to the possibility of having the chickens about certain sections of the farmsteads, such as the feeding ground and the orchard.

After deciding upon the location of the poultry house the next important step is determining the size. This can only be done by taking into consideration the size of the flock or flocks to be kept. A good general rule is to allow from four to five square feet of floor space for each bird.

Foundation and Construction

A first class foundation should be constructed. It should be made eight or nine inches thick, about sixteen inches deep, and should extend six or eight inches above the surface of the ground. A concrete floor will give very good satisfaction and it may be placed immediately following the placing of the foundation. It is well to put a layer of three or four inches of cinders on the ground and then place a three or four-inch concrete floor on this layer of cinders. The cinders will tend to keep the floor dry, also prevent improper drainage so that any accumulation of moisture underneath will be readily carried away. Bolts should be placed in the foundation at six or eight-foot intervals to which the sills are fastened.

The frame work for the walls should be constructed of two by four-inch material. The outer walls should be constructed of a good grade of drop sidings, or in case a very substantial construction is desired, they may be constructed of sheeting and lapsing with a layer of building paper between the sheeting and the siding. Attention must be given while building the walls to the proper placing of windows. These windows should be arranged to open to admit of a greater circulation of air than will be obtained through the open ventilators at the top, in case it is desired. The proper way is to hinge these windows at the bottom allowing them to open in at the top.

The roof may be covered with shingles or prepared roofing. If it is rather flat, that is, less than one-fourth pitch, which means a rise of six inches for each foot in width, some form of prepared roofing should be used. The roof should be tight so that it will not leak during a rain. A plan that is sometimes followed is to place a ventilator at the rear of the roof which can be opened.

The roosts should be placed at the rear o fthe house and the wall and roof adjacent to the roost lined with flooring or ceiling boards to make a double wall with an air space between the roost and the outer wall and the roof directly above. This will tend to keep the cold walls from chilling the birds and will also prevent an accum-

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ulation of moisture through condensation on the walls.

All feed hoppers and water pans should be placed about 18 inches above the floor. The reason for this is that the entire floor space can be used as a scratching area or space. In this way the need for the separate scratching shed can be overcome. O. W. S.

PLAN TO TRY A FEW TURKEYS.

People should know by this time that the raising of turkeys offers a chance to make some very good moneyp in connection with the general farm poultry work. The reason for the high prices which prevailed the past holiday season is due entirely to a lack of sufficient production to meet the demand.

Turkey raising has always been looked upon as a hard trick to learn, due to a popular myth to the effect that the turkey is a delicate fowl which can seldom be brought through the various stages to maturity.

I for one know that the turkey is not a delicate fowl, that it can be raised on any farm in the country successfully and at a good profit. It is true that the turkey differs materially from any other fowl and often does not thrive, largely because the farmer has tried to apply principles applicable to other fowls to it, which will seldom succeed. The turkey is a bird of a nature all its own. As soon as you learn that nature, and cater to it, you will find yourself raising turkeys successfully with less effort than your brood of chicks require and with no greater losses.

Turkey hens do their laying generally in April. The eggs are gathered often in order to prevent chilling and are preferably set under hens, although they may be hatched in any good incubator. Unless you are an experienced incubator operator it is best not to experiment, as the turkey eggs are too valuable for this.

The eggs hatch in four weeks. It is best not to set the turkey hens but to induce them to lay a second clutch of eggs in order to incubate that many more. One hen may be allowed to set in order that she can brood or lead the whole flock of youngsters.

Now comes the most important period of the young turk's life. Keep the youngsters, or the mother heh, penned up until the turks are large enough to follow her afield. Each morning turn them out to range after the dew has gone off the grass. Drive them back into their enclosure for a few nights until they learn to come in to roost.

As to feeding the young turks, use some judgment. Nature does not start the young turks out on sloppy foods especially cornmeal. It is better to feed clean, whole grains, dried bread crumbs, ordinary chick food will answer the need admirably, until the turks can be allowed free range.

Where they have a free range all their own, especially through a wooded tract they will require absolutely no feeding whatever throughout the growing season, although they may be topped off later in the summer on corn in order to fatten them up quickly for the early holidays.

The nice thing about turkey raising is that the attention they require comes early in the season, doesn't last more than two or three weeks, and then they shift for themselves. The feed they eat costs nothing, so that they are almost pure "velvet." Try a few this season.

DEPENDABLE HENS FOR BREEDING.

Eggs from the poorest layers art generally used for hatching on the farms. Hens though not particularly good layers will lay in the spring and early summer, and the eggs from these are the ones likely to be taken for hatching.

No hen is a really good layer unless she lays during the winter. In the nature of things a hen must lay in winter in order to produce eggs enough in a year to take even moderately high rank. If the poultry owner would take the precaution to mark the hens which lay in winter so they could be selected to produce the eggs used in hatching in the spring a great improvement in laying ability would take place at once, no matter what kinds of hens were being kept. There are good layers among the veriest scrub hens. One of the best layers we ever owned was a nondescript hen, one of a half-dozen picked up in market and selected because their breeding was so mixed that no idea could be had by looking at them how many different varieties were represented in their blood lines. The hens were selected, to be trapnested in order to prove a theiry which this particular hen emphatically negatived. Anyone who gets on familiar terms with his hens, an easy thing to do in winter, willl be able to determine which hens are laying during the cold months. We put an extra leg brand on such hens, noting the number in a book. This gives us a line on the winter layers, the ones we want to breed from.

Under ordinary farm practice these hens go unmarked. As they have been laying through the winter they go broody earlier than the hens that have loafed during the winter, and as early chicks are always desired these best layers are used as sitters and the eggs put under them are those produced by the hens that did not lay until hatching time in the spring. Thus eggs from the poorest layers are used for hatching and the laying ability of the flock is impaired instead of being augmented. The result of this method is that the average annual egg production of the hens of this country is seven dozen instead of twelve which ought to be the average and would be if the eggs from winter layers were used for hatching. Setting the hens that go broody early in the spring is unprofitable. They should be broken up and when they begin laying again their eggs used for the spring crop of chicks.

MILLER PURVIS.

LATE CHICKENS NEED GOOD CARE.

Like everything else this spring, the hatching of chickens is three or four weeks late, and in order to have the required number of chicks, hatching must be continued later than usual. This later or delayed hatching necessarily means that the chicks will have to get first class care and feed if they are to develop and mature before cold weather comes in the fall.

May and the first half of June is not too late to hatch chickens, according to Professor Herner, of the M.A.C. Poultry Department, providing the chicks get proper attention. Care and feed have just as much to do with growth and development of chicks as date of hatching, and it is quite possible to take what are called late chickens and make out of them really good winter layers.

These late chickens should be given a variety of feed. Cracked wheat, wheat screenings, pin head or granulated oatmeal, combined or fed separately, make excellent hard grain feed for them. In addition, chickens should be fed all they can eat of some dry mash. Fine oat chop and shorts make a good mash and should be available for chicks from the time they are a day or two old till they are full grown. Buttermilk or skim milk and a good range of green grass also helpp the chickens to grow.

WHITEWASH FOR THE HEN HOUSE.

When everything else around the farm is being cleaned and put in shape for the summer, a coat of whitewash will add greatly to the appearance and sanitation of the interior of the poultry house. It is the cheapest of all paints and may be used on the exterior of the building, too, if desired.

Whitewash is made by slacking about ten pounds of quicklime in a pail with two gallons of water, covering the pail wtih cloth or burlap and allowing it to slake for one hour. Water is then added to bring the whitewash to a consistency which may be applied readily.

A weatherproof whitewash for exterior surfaces may be made as follows: (1) Slake one bushel of quicklime in twelve gallons of hot water; (2) dissolve two pounds of common salt and one pound of sulphate of zinc in two gallons of boiling water; pour (2) into (1), then add two gallons of skim milk, and mix thoroughly. Whitewash is spread lightly over the surface with a broad brush.

Without sufficient acilities for taking care of implements, vehicles, machinery and other equipment, there may be such a loss that the owner cannot maintain the fertility of his soil.

For horses that gnaw wood a remedy is to keep all wooden corners within reach smeared with crude oil.

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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Shbjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N. B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

"A LITTLE CHILD"

Abby Cooper was thinning out her poppy bed. She thought there were poppies enough to supply the whole town, and they were a very special kind, too.

From the next house an old woman came out and stood for a moment watching Abby. She had a gentle, time-worn face. As though acting under strong resolution, she stepped off the porch and approached the line fence. "What you doing, Abby? Weeding " she asked.

Abby did not look up. She answered with a single word so like a grunt that no one could have recognized it as "No."

The other woman continued to watch her. Finally she stooped, and squeezing through a broken place in the fence came close to Abby's side.

"Oh!" she remarked. "You're thinning out your poppies. My, you're pulling up an awful lot of 'em, ain't you?"

Abby grunted agani.

Mrs. Briggs picked up a handful of the discarded plants. "I guess I'll take these home wtih me, seeing you've no use for them," she said.

Abby got up quickly. Something lit in her face that was not pleasant to see. She caught the plants from the other woman's hands and tore them into bits.

"Abby!" Mrs. Briggs cried, aghast. "It wouldn't hurt you to let me have just two or three."

"I don't know whethre 'twould hurt me or not," Abby replied coldly. "I've never given any away to find out. And, what's more, shan't ever give any away. My grandmother never did, nor my own mother. There ain't another poppy like these in the whole town, and I don't mean there ever shall be. They're one thing I've got that other folks haven't, and I shall be just as stingy with 'em as I choose."

Mrs. Briggs looked at her between tears and anger. She had wanted some of those poppies for years and Abby's outspoken meanness affected her scarcely less than her own disappoinmtnet at not getting her heart's desire. "I wouldn't do a thing like that to noboby," she said, when she could speak. "I should think you'd be ashamed. I should think you'd just despise yourself. 'Tisn't poppies alone. It's everything. You're mean all the way through. Everybody says so. I say so. You're the first woman I ever lived by that I couldn't neighbor with. I've done my last of trying to be nice to you. I don't want anything more to do with you." She turned and went away, leaving Abby alone with her poppies.

Abby knelt again and began to tear up the unnecessary plants, but now there was a kind of violence in her touch. Her cheeks had reddened. "I don't care; I don't care," she kept muttering over and over. When she had finished the work she took the discarded plants to the refuse heap and set fire to them. "There," she said, "if they get any of my poppies now they'll have to steal 'em, and then they'll be meaner than I am."

Abby stood raking down the burning heap that the last poppy might be consumed when she heard her name spoken. Because it was a man's voice, and therefore unusual on her premises, she turned quickly. The man who stood there was about her own age, but he looked younger in spite of the dust of a waggon journey. Abby had known him all her life. For 20 years quite regularly, winter and summer, he had driven the Sharruck stage past her door.

"I got a passenger for you, Abby," he said. "Out there in the stage." He made a motion of the head. "Burning up your love lettters, Abby?"

"No. I never had any to burn up."

"I didn't know, but George Wallace used to write to you them days he was shining round you."

Abby did not speak.

"I suppose you knew he was dead?"

"I saw it in the paper."

"Well, his wife's dead, too. They left a youngster."

"What of it?" Abby's eyes snapped. "It's nothing to me."

"I don't know about that. Wouldn't you take a present if one was offered you, Abby "

Abby raked the little heap of dying fire ruthlessly. "As far as I can see," she remarked, "there isn't a mite of sense in what you're saying."

"Now, there you're off, Abby," said the stage driver. "There's a lot of sense in what I'm saying. I never was one to tell all I knew in a minute. That child of George's was left between two people, according to his dying wish. One of them people was his cousin, Olivia Hawkins, at Sharruck. But Olivia's got that there tuberculosis they talk so much about. 'Twarn't fitten for the child to stay there. So I've brought her to you."

"To me!" The rake dropped from Abby's hand.

The stage driver nodded. "She's out there in the stage now. She's the present I spoke of. You got to take she 'cause she's delivered. Besides," and here the stage driver attained a height of dignity that was really commanding. "Abby, a dying man's wish is not to be disregarded. You'd have married George Wallace if he'd a had you. Maybe he regretted he hadn't. From what I hear his wife wasn't much comfort to him. Anyhow, he left you his little girl. That shows he put a lot of confidence in you, Abby, and don't you betray it." He waited. Abby continued to make dabs at the ashes with her rake. She did not speak, but her voice had softened.

"Come out to the stage and see Bessie," the man said.

He turned away and Abby followed. In the front seat sat a little girl of five in a shrunken blue cap and coat. She turned blue eyes upon the stage driver and smiled. "I told you to watch the horses while I was gone, and you did, didn't you, Bessie?" asked the stage driver. "She's a pretty good girl, I guess. My woman says so. She kept her last night, after she came, because she couldn't go back to Olivia's, of course. I'd like to take her back with me, I would so."

"Why don't you " Abby returned.

"Because," said the stage driver sternly, "I've got seven at home, and staging it ain't what it was, and it's your place to take her, anyway."

"Iift her down," Abby said.

The stage driver lifted the child out tenderly. "You've got to auntie's house now," he said gently. "Auntie'll take good care of you if you're a good girl. You will be, won't you?" He stooped and looked into the blue eyes. Bessie nodded solemnly. Then with great sweetness he kissed her and put her hand in Abby's. "I ain't no great hand at quoting scripture," he said, with a catch in his voice, "but there's one passage kinda comes to my mind now—about a little child shall lead them. Maybe you know which one that is, Abby? Well, good-by. This ain't earning any victuals for my babies." He climbed into the muddy old stage and drove away.

Abby was left with the child clinging to her hand. It was a curious situation for an old maid past middle age who was unloved, unloving, lonely and addicted to her own selfish ways of living. She felt singularly embarrassed by the little form beside her . The way the child looked up at her, the touch of the soft little hand stirred her strangely. She never had any children about her and her own childhood was long since unremembered. Even those far away days when the child's father had come so near to proposing to her and never had were dreamily indistinct. She had heard that he said he would have married her but for her selfish, miserly nature. So near had she come to happiness. And now out of that dim old dream had come this little blue-eyed child.

"I'm glad I've come to live with you, auntie," Bessie said trustingly. "I like your house. Have you got a kitty?"

"No, I haven't got a kitty."

"Nor a dog? Nor any little boys and girls?"

"Nobody but you."

"We'll have to love each other a lot then, won't we " Bessie asked.

"We'll—try to," gulped Abby. She led the child in doors.

"My, it's awful nice here, ain't it, auntie?" Bessie exclaimed as she looked about.

"It might be nicer, I guess," Abby replied.

"I think it's nice," the child said conclusively.

To herself Abby was saying: "What shall I do It isn't nice here, yet she seems to think so. She's got such innocent eyes. Why she—she seems to believe that I'm going to do what's right by her, she actually does."

Bessie was the most unself-conscious and friendly of children. She prattled to Abby as unrestrainedly as though she had been in the woman's keeping for months instead of moments. She brought a fresh delight to everything. "What booful flowers!" she murmured.

"Mustn't touch," Abby warned.

"I wasn't going to," Bessie rejoined quickly. "I never touch things less I'm given p'mission."

At the supper table Abby filled Bessie's plate before her own, but the child dod not eat. "What's the matter? Ain't you hungry?" Abby asked.

Bessie nodded emphatically. "But you haven't said thinks for this our daily bread."

"My goodness!" though Abby. She flushed scarlet. Then hastily bowing her head she mumbled an old form that she remembered her father had used. After that the meal went very well.

The child had no clothing. There had been a satchelful, she told Abby, but It had got lost on the way. That night, after she had bathed, she slept in one of Abby's nightgowns. Abby nerself scarcely slept at all; her mind was too full of problems.

Next morning Abby went to the store with Bessie trotting beside her. At the counter she asked to look at brown check gingham, but the child pointed to the shelf where were pieces of delicate pinks and blues.

"I like those," she remarked calmly.

So Abby bought pink and blue instead of the ugly brown. She bought other things, too, a great many of them—in which Bessie's choice somehow dominated her own. In fact, she was astonished at the sum of money she spent for needs that were not selfishly her own.

On the way home she met Mrs. Mackin, leading her little daughter. Abby had not spoken to Mrs. Macklin for a long time, but she had to speak now, for Bessie and Margaret recognized in each other kiss-mates.

"I love you," Bessie said to Margaret as they embraced.

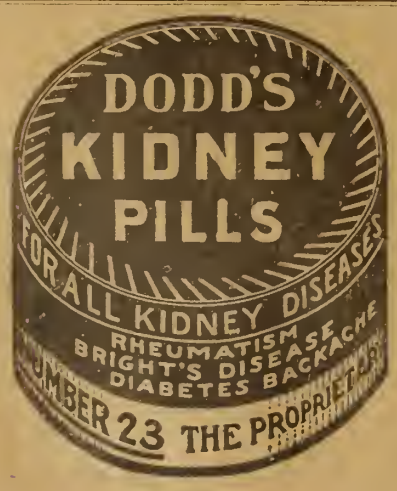
"What little girl is that?" Mrs. Macklin asked.

"She's my little girl," Abby answered.

"Your—— Why, what in the world do you mean?"

Abby explained.

"I remember George," Mrs. Macklin said. "So he's dead? Poor fellow! It's a very sweet face his child's got.



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Miss Mary Prouse, R.R. No. 1, Cedardale, Ont., writes:—"I had the Influenza in November last, and it left me with a terrible cough. I did not attend to it until it got so severe people warned me it was time to see about it. I went to the doctor and got some medicine. He told me it was a bad attack of bronchitis. I could not sleep, and would have to sit up nearly all night, it was so difficult for me to get my breath. The doctor's medicine did not seem to be helping me the least bit.

One of our neighbors came in one day, and told me about Dr. Wood's Norway Pine Syrup. I tried it and took two bottles. No person could believe how it helped me. I have recommended it to different people since, for I believe I have reasons for doing so.

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I imagine, Abby, you'll find it something of a trial to bring up a child. If you ever need advice or anything come to me. And, Abby, she'll need other children to play with. Let her come to see Margaret sometimes."

Abby found herself trying to sing as she stitched away, making clothes for the child. The house was becoming quite a different place these days. Everybody knew there was a child in it, and everybody was trying to do something for her out of pity. Mrs. Macklin sent picture books, Mrs. Morse gave some of Teddy's old toys, and Mrs. Grant begged Abby to accept almost a complete wardrobe which the Grant twins had outgrown. It was impossible to refuse. Abby had tried once to refuse a gift when Bessie was by and the child's awe struck into her calloused heart.

Bessie's friends sprang up everywhere. She was sunshine, flowers, music, wherever she went. The stage-driver brought her gifts from his children, even Mrs. Briggs unbent so far as to send a loaf of her famous graham bread—"It'll be so good for Bessie," she said.

Gradually Abby herself felt the beneficence of that generous, loving little heart beating so closely beside her own.

"You're growing pretty, auntie," Bessie said one day as she smoothed Abby's cheek. "You smile so nice now. And the wrinkles are going away."

"Do you love me. Bessie " Abby pleaded. It was becoming as necessary to her as her daily bread to have Bessie love her. And when the child hugged her close and cuddled in to her shoulder, Abby felt the meanness and selfishness that had dwarfed her life going out of her poor soul forever.

It was the following summer that Abby began to find that the whole town seemed to be sown with poppies from her bed. Mrs. Briggs had them and Mrs. Macklin had them and Miss Jones had them. Then she understood. Bessie had gathered the seed to start a bed for herself, as Abby's mother had taugh her to do when she was Bessie's age. But instead of keeping the seed, she had given it away.

"You said it was to be my very own," she explained when Abby questioned her. "And when a thing's your own you don't have to ask what you shall do with it, do you? I wanted to give something back for the toys and things. You don't care, do you, auntie "

"No," Abby replied. "I don't care." And, strange to say, she didn't.

Good for Father and Good for Son

MR. C. ROY PRAISES DODD'S KIDNEY PILLS.

He States That They Relieved His Son of Bed Wetting and Himself of Bladder Trouble—Ask Your Neighbors About Dodd's Kidney Pills.

Thivierge Office, Bonaventure Co., Que., August 6th—(Special)—That Dodd's Kidney Pills have been successfully used by both old and young as a remedy for kidney ills is again shown by the statement of Mr. Clement Roy, of this place.

"I am glad to be able to state," Mr. Roy says, "that Dodd's Kidney Pills relieved my little boy of bed wetting. They also helped my bladder trouble. I cannot say too much in praise of Dodd's Kidney Pills."

Dodd's Kidney Pills are a kidney remedy pure and simple. But bladdder and urinary troubles come as a result of weak or diseased kidneys. The natural way to treat such troubles is to strengthen or help the kidneys.

Mr. Roy acted on this principle when he used Dodd's Kidney Pills for his own and his son's troubles. The satisfaction he got is voiced by his statement.

If you have not used them yourself ask your neighbors if Dodd's Kidney Pills are not the remedy for kidney ills.

WARM WEATHER DESSERTS.

Heavy desserts are being eliminated gradually from the family menu. Housekeepers are realizing that, although not an entirely superfluous course, as some people who have no sweet tooth would have us believe, the real purpose of the dessert is merely to put a period to the meal.

For this reason its preparation demands more than a passing thought. Its mission is two-fold: it must be of such a nature that, for the time being, nothing is left to be desired. At the same time it must furnish the gastronomic motif which will stimulate the flagging appetite in order that in its turn the dessert may be relished.

It is particularly true in summer time, when dainty desserts that appeal to the eye will also tempt the appetite. A great many housekeepers have a notion that ice cream is an expensive and troublesome dessert.

Frozen Dainities.

On the contrary, almost all frozen mixtures are much cheaper than pies, puddings, and similar sweets; and with a modern freezer, of a size suited to the family needs, the freezing process is so simple that even the bugbear of extra work is removed. Indeed if time enough for self-freezing is allowed, no labor, save the packing down in ice and salt, is entailed.

The following frozen dainty will appeal to those who have an eye as well as a cultivated taste for food harmony:

zDry-whip a quart of thick, sweet cream and add sugar to make quite sweet, as freezing extracts the sweetness as well as the flavor from any mixture. Chop a cupful of maraschine cherries very fine, then add them togther with their liquor to the cream. Turn the mixture into a mold, cover closely and bind around the opening wtih a strip of buttered muslin to prevent any salt from finding its way inside. Bury in crushed ice and salt for six hours. Dish for individual serving, masking each serving with whipped cream and garnishing it with split, blanched almonds.

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Sponge Cake Transformations.

Spongecake, fresh or stale, is always stock in trade to the housewife of resourceful mind. Serve with a mask of custard, rich fruit sauce or whipped cream, it is transformed from an uninteresting slice of cake into a culinery joy.

Another spongecake transformation, not so familiar but most certainly worthy of a more intimate acquaintance, is wrought as follows: Cut thin horizontal slices of the cake; then spread each slice with chopped and sweetened fruit or with preserves. Pile the slices one on top of the other, layer cake fashion, and cover the whole with a kind of white icing which, though it hardens on the surface, is soft in consistency underneath. Cut into square and eat with a fork.

Rhubarb Lemonade.

Cut into large pieces a bunch of rhubarb, and after covering with three pints of cold water cook for twenty minutes. Add in order mentioned: one pound granulated sugar, ½ shredded pineapple, one thinly sliced lime, ½ glass orange juice, and one cup maraschino cherries. Stir the fruit puree until the sugar is entirely dissolved and when very cold pour in one pint of Vinchy water. Serve from a high tankard into stemmed goblets with long handled spoons so that the fruit may be eaten.

Strawberry Ambrosia.

This delicious beverage, which is as delectable to the eye as to the palate, is prepared by removing the milk from a large, fresh cocoanut and placing it where it will become very cold. Press through a sieve a quart of strawberries (reserving a few of the largest for decorative purposes). Add to these a small cup of sugar, confectioner's, and place directly on the ice.

At serving time add to the fruit the merest pinch of baking soda, one cup of stiffly whipped cheam, the cocoanut milk, and sufficient iced milk to form three pints of liquid. Serve in a high glass pitcher in which has been placed a cup of shaved ice and pour into small spiral glasses, garnishing with large, luscious strawberries.

Cocoanut Timbales.

In a double boiler cook together two cups of milk, three tablespoonfuls of corn starch, and sugar to taste. When smooth and thick remove from the fire, add the stiffly whipped whites of two eggs and one cup of grated cocoanut, pour into timbale moulds. Garnish with bright dots of jelly and blanched almonds, and serve with either carmel or chocolate sauce. Served in this way cocoanut is especially delicious.

Custard Desserts.

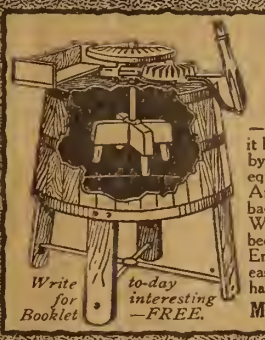
Given a smooth rich custard as a basis, nuumbers of delicious and attractive desserts are possible. Nuts of any kind but especially blanched almonds, ground fine, then added to the custard, and the mixture frozen is all it promises to be n the way of a palatable delight. To serve, heap high in sherbet glasses and garnish with English wanut meats.

Another custard variation is the following: Dip macaroons into dissolved gelatine that has been strained; then let them become slightly congealed. Put together to form a cup standing together in a pretty fruit saucer. Stand on ice until thoroughly set, then fill each cup with custard and garnish with whipped cream or chocolate meringue.

Any of the succulent fruits may be cut small and added to the custard, provided the latter is quite cold bebore the fruit is stirred in; otherwise there is danger of curdling. Fruit custard is a most acceptable change. A garnish of whipped cream is always a pleasing touch to any custard dish, also stiffly beaten egg whites.

Almond Souffle.

Make a soft custard using the yolks of two eggs, 1½ cups of milk, 2 tablespoons of sugar. Into this stir ½ cup of chopped dates, and one tablespoon of finely cut alronds. Drop a spoonful of this mixture in the bottom of butered ramekins, heap them with stiffly beaten egg whites that have been sweetened and flavored with almond extract, decorate with whole blanched almonds and candied violets. Place in moderate oven until nicely puffed and browned, serve immediately with whipped cream.



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SAFE WATER FOR THE DAIRY.

(Continued from page 819.)

inspection of the premises will invariably remove all uncertainty. Safe water for the dairy is essential—quite as much as in the afrm home. Milk is an ideal carrier of germs. An unsafe water supply used in the milk house is certain to result in contamination of the product sent forth.

PREVENTIVE AND CURATIVE TREATMENT OF JOINT-ILL.

(Continued from page 831.)

lameness or stiffness in one or more limbs. An examination usually reveals a swelling, heat and tenderness of one or more joints, often in the hocks or knees, but it may be the stifle, hip, elbow, shoulder, fetlock or pastern. Any joint or joints may be affected. The trouble is often thought to have been caused by the dam treading upon the foal, or by injury in other ways. The symptoms increase in intensity, sometimes quick, ly, in others more slowly. The swellings increase in size and soreness, the patient becomes weaker, less able to move, and lies most of the time. If helped to his feet he goes lame and sore, but in some cases will nurse fairly well, but soon lies down again. As the symptoms increase in intensity the general debility also increases, and the desire for or the ability to take nourishment diminishes. The joint or joints involved become puffy, and if they burst or are lanced a muddy-colored liquid escapes. In many cases the articular cartilages of the joint become destroyed. In these cases manipulation of the joint reveals a grating sound, caused by the ends of the bones rubbing against each other. When this stage has been reached it is a humane act to destroy the patient, as, though it is possible in some cases to preserve life by careful nursing and attention, the animal will always be a cripple.

Curative Treatment.

When a foal once contracts joint-ill its chances for complete recovery are not good, but success sometimes crowns one's efforts when treatment is persevered in. We cannot do better under this head than to reproduce the treatment recommened in the columns of the Farmers' Advocate, which is as follows:

Curative treatment is often effective when given early. The use of serums and anti-toxins especially prepared for the purpose, and which can be administered only by a veterinarian, has been reasonably successful both as a preventive and cure, hence it is wise for a breeder to employ a veterinarian as soon as possible after the first symptoms are noticed. Even amateur treatment may occasionally be successful. It consists in bathing the joints long and often with hot water, and after bathing rubbing well with a camphorated liniment as one made of ½ oz. tincture of iodine, 2 drams gum camphor, 4 oz. extract of witch hazel and alcohol to make a pint. The foal should be given 5 to 10 grains (according to class and size) of iodide of potassium in a little of the dam's milk three times daily, and it should be helped to nurse at least every hour if not able to nurse without help. The mare should be well fed on milk-producing feed, as bran, rolled oats, good hay, raw roots or grass if procurable, and should be given 1 to 1½ drams iodide of potassium 3 times daily. Such treatment may be successful in arresting the ravages of the germ and destroying those present. When the disease has reached that stage where abscesses are formed they should be lanced, and cavities flushed out well three times daily with a 5 per cent. solution of carbolic acid. When the articular cartilages have been destroyed and the bones can be heard or felt grating against each other, the patient should be destroyed.

A VITAL SPOT IN FARMING

Is the Boy Interested?

The other day the writer was passing a farm when he saw a young lad out plowing in the field. He was the son of the farmer who owned the land the lad was plowing. When asked what he got for wages for his labor, he bluntly answered: "Get? Why, nothing if I do, but a scolding if I don't."

This answer presents an interesting side light on the business end of farming as it is conducted on the average farm. It presents a feature of rural life that touches the vital spot in agriculture. It shows clearly that all efforts of Governmets or Departments of Education will answer no valuable purpose without the co-operation of the parents on the farm. Only the home and the home folks on the farm can settle the disinterestedness of the young people in rural industries, a problem that meantime is being ignorantly laid at the charge of education and legislation. Education and legislation are only the secondary means to the end; the business end of farming as it is conducted at the farm home is the primary element in guiding the destinies of a country's agriculture. Any one who has known and watched boys and girls at work on the farm, has seen what miracle the right sort of encouragement works in young people's nature.

To be happy and contented, a healthy, vigorous boy must have some sort of purpose or interest in life, the same as a man. He must work to an end. He must accomplish something for himself. A parent can command him to work from boyhood to manhood for his board and clothes and he will render service, grudgingly or otherwise, until prompted by his unsatisfied boyish longing to plan and do something for himself, to achieve some results with benefit to himself, he will either jump at the first opportunity to escape from so humdrum an existence, and leave the place. And once he goes it is not likely that he will ever again go back to the farm. He is not to blame for this feeling, in fact it is to his credit; it is proof of the good sutff in him, though the chances are he is making a great mistake.

Guiding the Boy's Budding Ability

There is just one sort of encouragement that will get him over this perilous stage of his development, and that is to give him a personal interest in his work. Give him something to do beside simply obeying orders and something to handle and manage on the farm in his own way. While he is yet young and unable to grasp the farm management in its wider field of business, give him an animal or some side line of the farm, and put him on his metal for the outcome or the income. As he ripens in years give him a substantial or personal share or partnership. Do this and you will succeed in the measure in which you are successful in awakening his interest and arousing his sense of responsibility, and eventually you will find your boy rising surprisingly to your expectations.

Should there be a family of boys this practical interest can be specialized in different lines. What will enthuse one boy will not enthuse another; boys' like, faculties and interests differ. The lad who is good with live stock will have more interest and better success in that branch of farming than he will have in the field, and the boy who has a fancy for fruit raising or likes to see things grow, naturally will do better in that direction. Boys should be encouraged to follow their bents and develop the faculties that rise to the surface in them. The wise father will acquaint himself with these faculties in his boys, and will encourage them to bring out their ideas. He will encourage them to plan and experiment for themselves, and in giving each of

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them dominion over, and an interest in something on the farm suited to their budding abilities, or some part of farm work. Every farmer should be on friendly terms of comradeship with his sons, making each boy a sort of manager of his end of the farm and giving him a financial interest, so as to encourage the boy to advance his ideas.

Should any boy show a distinctive faculty as a trader or bookkeeper, let him put the farm into a business shape, by keeping accounts and records, and draw statements at the end of the season whereby much interest and direct value will be learned.

As a general rule there is a great lack of interest taken by many farmers, whose chief outlook apparently is to make as much as they can by robbing the soil and retire with the spoil at the earliest possible date. There are many who retire to town when their children are yet young. They make the excuse that it is for the sake of their children's education. The parents in all these cases seek to throw the whole responsibility of educating their children on the school teacher, and are shirking their own duty in training the child's mind and are robbing their children of their best chance in life. Parents that heedlessly take their children away from the farm are depriving them of a valuable heirloom in health of body and mind. The men who guide successful business enterprises in the city or country make it the chief part of that business for their sons to follow in their footsteps and the family name becomes a business principle. In like manner real success in the rural industry cannot come by any other means than by encouragement of the boys on the farm by friendly terms of comradeship and partnership with their parents.—Ottawa Farm Journal.

THE PRESENT COST AND SELLING PRICE OF HOGS

(Experimental Farms Note)

When a man states that there is no money in hogs he bases his contention largely on more or less accurate records of feeding costs, and feeding costs only. If the market hog cannot even pay for his feed, what then of interest on investment, labour, risk, losses, marketing expenses, etc., etc.?

The feed cost to produce one hundred pounds of pork may be calculated by including the cost of maintenance of the breeding stock responsible for the market hogs. Applying this method, one hundred pounds of pork would require about 600 pounds of meal. American farm survey figures indicate even a higher meal cost,—615 pounds. Valuing meal and grain at $70.00 per ton which is conservative enough, the herd feeding charges per hundred pounds of pork would amount to $21.00 on the 6 to 1 basis. Even this does not cover all farm costs.

Figures available from herds on the Experimental Farm System compare very closely with those obtained in farm survey reports i. e., that approximately 78% of the cost of pork production is for feeds and the remaining 22% to cover farm costs exclusive of shipping charges. To produce 100 pounds of pork under average Canadian conditions requires from 450 to 500 pounds of grain or the equivalent. At $70.00 per ton for meal this would represent a feed cost per cwt. of pork of $16.62 which figure represents only 78% of the total cost. One hundred per cent. or the feed plus the farm charge would amount to $21.28 per cwt.

The above figure may appear startling. There are hundreds of small feeders who can feed a litter or so of pigs on a much cheaper basis. Otherwise there would be very little pork produced. Why can a few hogs be raised comparatively cheaply on the farm? Simply because of the fact that a considerable proportion of the feed is in the nature of a by-product or perhaps home-grown. Multiply the swine activities on the farm and it is necessary to purchase more meal and grain at market prices. The cost to produce mounts alarmingly. So with the farm flock of poultry.

What shall we feed hogs? Grain, mill feeds and by product feeds are becoming scarcer than ever. Wheat by-products are practically off the market. The feed markets of the future are most discouraging in prospect. The wholesale price of hogs has not appreciated correspondingly. The man who can feed hogs profitably today must have a comparatively cheap product or by-product to replace meal as largely as possible. Such are scarce. Milk products form the greatest of all. City and hotel refuse is another. Green feed intelligently used, soiled or under the right conditions, pastured—is a third. Barley is one of the best of Canadian hog feeds—too little appreciated. Elevator screenings, if of standard quality, must be utilized wherever available. The man who is raising young pigs, who plans to feed them almost entirely on a grain ration, who has little or no milk or grain feed available, will almost certainly be forced to place a high valuation on manure and experience if he is to get an even break next fall.—G. B. Rothwell, Dominion Animal Husbandman.

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TOMATO ROT AND BORDEAUX MIXTURE

What is the reason that my tomatoes last year rotted on the stems as soon as they commenced to ripen?

What is Bordeaux mixture made from? D. F.

Ans: Anthracnose or ripe rot in tomatoes is greatly favored by damp, rainy weather. It is more prevalent in varieties that grow on heavy, close vines. When gathering up the first pickings instead of leaving the diseased fruits on the ground they should be placed in a separate basket, and burned. Spraying will not control it. Thorough cultivation and change of land will help to control the disease.

Bordeaux mixture is made from copper sulphate and lime in the following proportions, four pounds of copper sulphate, four pounds of lime, and 40 gallons of water. The way to prepare it is to get a barrel that will hold 40 gallons and two tubs that will hold 20 gallons each. Arrange the tubs so that one is on each side of the barrel. Dissolve the copper sulphate in hot water and dilute it to 20 gallons with cold water in one tub. In the other tub carefully slake four pounds of lime using only sufficient hot water to have the lime slaked in the form of a thick paste, in which form it should be allowed to cool. When cold, dilute to 20 gallons with cold water. The copper sulphate and milk of lime are now ready to mix, two persons being necessary for the operation. Have the contents of each tub well stirred; then pour a bucket of each simultaneously into the barrel, allowing the two streams to come together. Continue in the same way until the entire amount is made. Stir the mixture in the barrel and transfer it through a strainer into the spray tank. It is then ready for application.

FLY SPRAY.

A subscriber wants to make a good fly spray and asks for ingredients and how to apply it.

A good fly spray can be made from 4½ quarts coal tar dip, 4½ quarts fish oil, 3 yards coal oil, 3 quarts whale oil, and 1½ quarts oil of tar.

Dissolve 3 lbs. laundry soap in water, add the ingredients of the pray, and bring the whole up to 30 gallons with lukewarm soft water. This spray will keep off the flies and prevent the coats of the animals from becoming harsh.

The cows should be sprayed twice a day—in the morning after milking and in the afternoon when in the barn for silage or green feed. With a portable cart, made from a half barrel by attachingwheels and a spray pump and nozzle, two men can spray 40 cows in five minutes.

Thirty gallons of mixture will spray 4 0cows 2 times a day for 10 days at a cost of one cent per cow per day.

There is some danger of overfeeding newly weaned pigs. They seem to have an insatiable appetite, and discretion should be used in satisfying their hunger. The reason for their seeming enormous appetite is not because a larger amount of feed is needed, but because they are accustomed to sucking their mothers many times a day. The secret in keeping young pigs thrifty and growing following weaning is to feed in small amounts several times a day.

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WILLIAM WILLIS, last heard of about 30 years ago when living near St. John, New Brunswick. Niece Ada asks. H. O. O. 12 Central News Agency, Johannesburg, S. Africa.

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For further particulars and inspection inquire of

W. A. KINNEY
Port Monton, Queens Co., Nova Scotia.
July 20th, 1920.

Willow Glen Shorthorns !

Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

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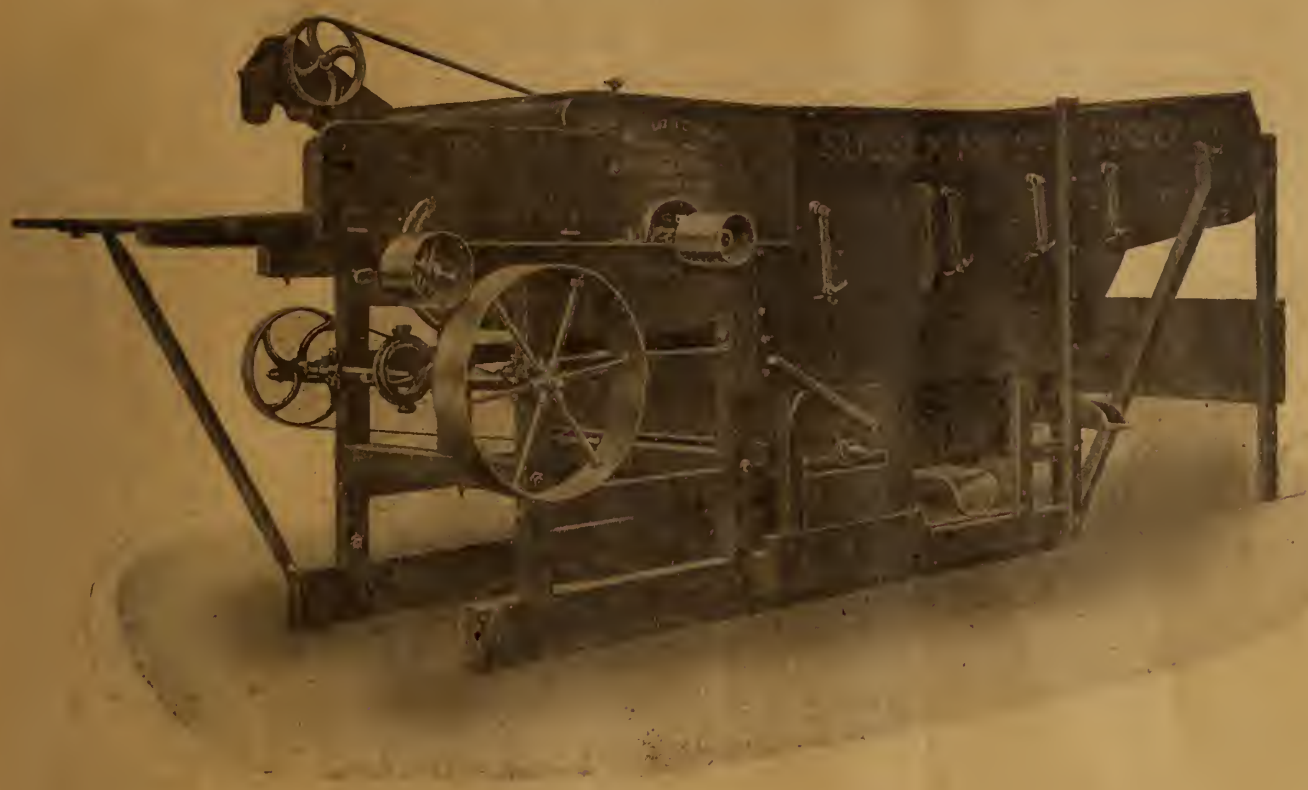

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Vol. 25 | SUSSEX, N. B., AUGUST 31, 1920 | No 24.

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Volume 25. SUSSEX, NEW BRUNSWICK, AUGUST 31, 1920. Number 24.

THE CITY MILK SUPPLY

Reports From Leading Cities in Eight Provinces

The milk supply of Montreal City was carefully studied several years ago from a bacteriological standpoint by Messrs. Harrison, Savage and Sadler of Macdonald College, Quebec. A report of their findings was published in a Macdonald College bulletin which showed clearly the reasons for under taking the investigation, explained the methods, stated milk standards used, and gave recommendations for the guidance of persons interested in the city milk trade. In The Agricultural Gazette of Canada for February 1915, (Vol. II. No. 2, page 142), a report of this investigation was published.

Since that time an effort has been put forth in other Canadian cities to improve the milk supply, which is of such importance to human life in thickly populated centres. A number of the cities of Canada have made an attempt to improve the herds, farms, milk depots, transportation media and equipment used in the milk business. In many cases the results have been gratifying.

Following up the findings of Dr. F. C. Harrison and his associates The Gazette has endeavored to secure data from other large Canadian cities in the interests of better milk. With this object in view a questionnaire was sent out to the cities of major importance. The questions were intended to be suggestive rather than interrogative, and in some cases the officials treated them as such, supplying full data and valuable information while in other cases yes' or no' were the main replies. However, considerable information of value has come to hand and is treated in the paragraphs following:—

Questionnaire

The circular contained eleven questions as follows:—

1. What are your standards as to
   (a) Butter fat?
   (b) Total solids?
   (c) Bacteria per cubic centimeter?
2. What kind of public control is exercised over milk distribution, from the standpoint of
   (a) Sanitary protection—
   (b) Delivery service—
   (c) Dairy farm inspection—
3. What classes of milk are recognized?
4. What percentage of milk is sold as certified?
5. What are the requirements re pasteurization and at what temperature and exposure is pasteurization done?
6. Have you a municipal laboratory
7. How much milk is consumed daily, per capita?
8. Have you a Sunday delivery?
9. From how large a radius of miles surrounding your city is the milk supply drawn and what is the maximum of time that elapses between the milking and the delivery?
10. What are your requirements re tuberculin test?
    (a) By who is the test conducted?
11. Do milk producers have to obtain a license to sell or ship milk to your city?

IN NOVA SCOTIA

Twenty five cities in different parts of Canada responded with the required information together with copies of by-laws governing the milk trade. From these replies, and from a perusal of the by-laws, it is evident that many cities are putting forth honest efforts to protest the consumer against the carelessness of producer and dealer. In some cases assistance and encouragement are meted out to those engaged in the production and distribution of this commodity.

From Nova Scotia two replies were received indicating that in Truro and Halifax persons engaged in the milk supply business must secure a permit licensing them to carry on. The by-laws in each case point out clearly the responsibility of the milkman and the penalty in case of transgression. The Health Board of the city of Halifax prepared a poster for use in prominent places on the premises of dairymen and dealers. The suggestions contained in this poster are worthy of consideration by all persons engaged in the mlk trade. For this reason they are given in full as follows—

The Barnyard

1. It should be well drained clean and dry and should be as much sheltered as possible from the wind and cold. There should be no pools of stagnant water or urine therein.
2. Manure should not be allowed to collect in the barnyard and should not be at any time in contact with the stable or milk house.

The Stable

1. Cow tables should be well lighted and ventilated. The ventilation should preferably be from the top.
2. There should be at least 400 cubic feet of air space for each cow, otherwise extra ventilation should be provided.
3. Walls and ceilings should be kept clean. The table hould be white washed twice a year, and more often if necessary.
4. It is desirable that the place where the cows are kept be used for no other purpose. A cow barn should not be used as a storage place for straw, hay or other feeds, or as a wagon or tool house, as the dust and dirt which accumulates in a place of ths character is liable to drop into the milk while it is being drawn from the cow.
5. The ceilings should be so constructed that dust and dirt therefrom shall not readily fall to the floor or into the milk. If the space over the cow is used for storage of hay, the celing should be made tight to prevent chaff and dust from falling through.
6. Stable floors should be made tight and smooth and be of some non absorbent material. Dirt or earth floors and gutters cannot be tolerated.
7. The flooring where the cows stand should be short enough so that all manure will be dropped into the gutter and not upon the floor itself.
8. The floor should be swept every day, but not before milking.
9. Cement gutters and mangers are the best, as they can be more easily kept clean than if made of wood.
10. The manure gutter should be from six to eight nches deep and should be kept at all tmes fairly free from manure.
11. Manure should be removed from the stalls and gutters before the morning milking and also before the afternoon milking, where the cows remain in the stable all day.
12. The use of land plaster or lime is recommended in the gutters.
13. Allow no strong smelling material in the stable for any length of time. Store the manure under or outside the cow stable and remove it to a distance as often as practicable.
14. If individual drinking basins are used for the cows they should be frequently drained and cleaned.

The Cows

1. The cows should be kept clean and be free from disease.
2. Have the herd examned at least twice a year by a skilled veterinarian ..ever add an animal to a herd until certain it is free from disease, especially tuberculosis.
3. Promptly remove from the herd any animal suspected of being in bad health, and reject her milk.
4. The cows should be groomed daily, and all collections of manure, mud or other filth hsould not be allowed to remain upon their flanks, udders, sides, or bellies.
5. The clipping of long hairs from the udder and the right side of the cow is of assistance in preventing the collection of filth, which may drop into the milk.
6. The hair on the tails should be cut so that the brush will be well above the ground.
7. The cows may be bedded with sawdust, shavings, leaves, straw or some equally clean material.
8. The use of horse manure for bedding is to be condemned. Sand or loam must never be used for bedding
9. To prevent the cows from lying down and getting dirty between the cleaning and milking, a throat latch or rope or chain should be fastened across the stanchions under the cow's neck.

The Food

1. Feed liberally, and use only fresh, palatable feed stuffs, in no case should strong smelling or decomposed or mouldy material be used.
2. Do not allow any strong flavored food, like garlic, cabbage and turnips to be eaten by milch cows.
3. Provide water for cattle in abundance, easy of access, always pure and fresh.
4. Salt should always be accessible

The Utensils

1. Milk utensils, for farm use should be made of metal and well tinned and have all joints smooothly soldered. Never use them if they become rusty or rough on the inside.
2. Dairy utensils should be cleansed directly after using by first thoroughly rinsing them in water; then clean inside and out with hot water in which a cleanng material is dissolved; then thoroughly rinse with plenty of water; and lastly sterilize by boiling water or steam. Use pure water only.
3. All milk utensils and strainers should be thoroughly cleansed by the use of boiling water, and all cans, utensils and strainers must be sterilized before they are used.
4. Milk strainers should be kept exceedingly clean, and scalded a second time just before using. If cloth strainers are used, several of them should be provided in order that they may be frequently changed during the straining of the milk.
5. After cleaning, utensils should be inverted in pure air. Milk utensils and cans must not be left in the cows stables, by the dusty roadside, near the sink drain outlet, and pig sty, or the open privy vault.
6. Ice tubs and cooling tanks should be thoroughly cleansed by a scrubbing at least once a week.
7. Remember that the milk cans must not be used to carry water for cattle or for other uses on the farm.

The Milk and Milkers

1. No person having any communicable disease, or one caring for persons having such disease, should be allowed to handle the milk or milk utensils or assist in the milking.
2. The hands of the milkers should be carefully washed immediately before milking. The hands should be thoroughly washed with soap and water and carefully dried on a clean towel.

(Continued on page 858)

Notes From the Nova Scotia Agricultural College

THE ARMY WORM SITUATION

During the past two weeks two insects have wrought serious damage to cereal and turnip crops in Nova Scotia, the army worm attacking grain crops, and the aphis or green plant louse attacking turnip and other root crops. As soon as information reached the office of the Department of Agriculture, Truro, field men were sent out. These soon found that the outbreak of army worm was too extensive for their limited forces to cover, so the circulars given below were issued through the Press and by mail, giving directions for fighting both insects.

Word has since been received from many farmers who have tried these remedies with striking success. One man in whose grain field the army worm was so numerous and widespread that he had given up hope of saving it, and was with difficulty persuaded to try, states that he will never again fear the army worm. The trench system was in this case out of the question, so the poisoned bran was scattered over a part of the field In the morning there were thousands of dead worms, in some places numbering thirty or forty to a square foot. This was enough. He drove post haste to the nearest town for a full supply of the materials, and has saved the major part of his field.

This preparaton seems to be preferred by the worms to any other food and where they were plentiful not a speck would be left. The army worm pest may occur at any time, and when it comes there is little time for preparation if the crop is to be saved. It is well worth while, therefore, to cut out and preserve the directions given, as a safe-guard for the future.

HOW TO FIGHT THE ARMY WORM

1. To Protect Uninfested Fields.

Plow a furrow around them, throwing the land away from the field to be protected, dig a series of holes a foot or more deep at intervales in the furrow and scatter in poison bran mash. ,

To protect the remainder of field part which is infested, mow a swath between the infected and uninfected portion and proceed as above. If time permits the plowing of an additional furrow, is an added protection.

2 To Protect Fields Already Infested

Broadcast poison bran mash over the field all through the grain, usng from 50 to 60 lbs. to the acre.

In some cases where the grain is already turning it may be cheapest to harvest the grain immediately, allowing it to ripen in the straw. If still very green, however, it should pay well to apply the poison.

HOW TO MAKE POISON BRAN MASH

Mix thoroughly 5 lbs. Paris Green White Arsenic or Arsenate of Lime, with 100 lbs. of bran or 50 lbs. bran and 50 lbs. fine sawdust, while dry. Then add enough water to make the mixture moist but not sloppy, mixing well.

The addition of 2 gallons of molasses to the water is believed to increase the effectiveness of the mixture.

TREATMENT OF PLANT LICE

Aphids, or plant lice, are this year causing extensive damage to crops, especially to turnips, carrots and parsnips. Only the prompt application of the correct treatment can save much valuable food.

For use against this class of pests Blackleaf 40 is the approved remedy. This powerful nicotine compound is used in the strength of 1 pint to each 100 gallons of water to which should be added 4 lbs. (not cakes but actual pounds) of laundry soap, first shaved fine and dissolved in warm water. The materal is best applied by means of an ordinary orchard sprayer equipped with either one or two leads of hose attached to the regular bamboo rods. A good pressure should be secured and the spray directed against the under sides of the leaves. Unfortunately in the case of the potato aphis which is also very abundant, the leaves are badly curled and it is now useless in most cases to attempt treatment. It should be clearly understood this material kills only by contact and that every insect must be covered in order to get results. Also the higher pressure we can secure the better the results.

Blackleaf 40 is the trade name for nicotine sulphate manufactured by the Kentucky Bye-Products and Chemical Corporation, Louisville, Ky. It is sold in packages varying from a ten pound tin to a small bottle selling for 25 cents and holding enough to make 6 gallons of spray. Nicotine Sulphate is on the free list and therefore can be obtained from the manufacturers without the payment of duty. Considerable quantities are sold by the United Fruit Companies, Kentville, who have on hand a supply of ten pound and two pound tins selling for $13.75 and $4.00 respectively.

The Companies will ship to any address at the foregoing figure provided cash accompanies order. Every farmer should have a quantity of this material on hand all the time, as it is useful against all sucking nsects, and when necessary to use it, there is usually little time to lose, the outbreak being very irregular and sporadic.

A PROGRESSIVE CREAMERY

Your correspondent recently visited the La Have creamery, which is situated in one of the beauty spots of Nova Scotia, on the banks of the La Have river, at Bridgewater. This creamery was opened in 1914. In its first year of operations it had 140 patrons, and did a business of $11,122. In 1919, these figures had grown to 550 patrons and a total business of $126,965.

This year a fifteen ton mechancal cold storage and ice cream freezing plant has been installed, and is now ready for operation. The ice cream section of the business has grown immensely within the past two years.

The La Have Creamery Company is to be congratulated on their management. Mr. J. D. MacKenzie is not merely a capable and energetic creamery man, important as these qualties are, but is also a public spirited citizen, who, by his other activities and interests creates an honoured place in the community for his business enterprise.

One of the main problems of this creamery as of others is that of securing the cream from its patrons in a sweet condition. This difficulty is perhaps more acute in this district than in some others on account of the owners of the smaller herds being more inclined to hold their cream over. A great deal can be done by the individual patron to lessen this difficulty, and thus to make possble the very hghest quality of product.

DAIRY PROGRESS AND PROSPECT

During his itinerary of the creamery districts of Eastern Nova Scotia Dairy Commissioner Ruddick quoted some interesting figures regarding dairy progress and prospects in Canada as a whole.

The greatest expansion has taken place in the four western Provinces. In the period from 1900—1919, the creamery butter production in these Provinces grew from a total of 2,699,802 lbs., to 26,956,711 lbs. The increase in the number of patrons of dairy factories in the period 1915—1918 was greatest in Manitoba. In Nova Scotia patrons in 1915 numbered 2,972, in 1918 the number had arisen to 4,345. Dairy products for the Dominion in 1919 reached the immense total value of $251,526,201. This in addition to the huge indirect return through skim milk, whey, etc., fed to hogs and other stock.

The impression prevails among expert dairymen that market prices for dairy products will be among the last to drop back. A single fact may be mentioned which indicates some of the reasons why. Denmark, a neutral country, suffered a reduction of 22 per cent in the number of her milch cows during the war. Since peace was restored in Western Europe, the number has slowly increased, but the total increase to date is only 2 per cent. It will take a long time to restore normal feed and stock conditions overseas, and a bare overseas market of course, means high prices in Canada.

INFORMATION AND EQUIPMENT

These are two absolute fundamentals in modern farming. The farmer of today must be supplied with materials and implements of which his for bears never dreamed.

An illustration of this necessity came out in a recent chat with the Secretary for Agriculture, who had just returned from a business trip to Inverness County, N.S. Driving along a road, he noticed a turnip field which was apparently suffering from some disease. Going to the field he found it infested with the green plant louse or aphid, which, by the way, has done much damage to root crops ni different parts of the Province.

The owner of the field blamed the drought. More than half his turnip crop was already lost. The Secretary pointed out the real enemy, and told him that the only reliable cure was a spray of Black Leaf 40, a tobacco or nicotine preparation. On enquiry he found that there was none of this within a radius of many miles. By telegraph he made sure that a supply would be forthcoming within two days. It then transpired that the farmer had no spraying outfit except the ordinary watering can wth which he had been applying Paris green to was a sprayng apparatus within his potatoes. It was doubtful if there was a spraying aparatus within twenty miles, and a message was sent to the college at Truro for one to be sent.

Had this farmer known what was wrong and what to use to exterminate his foe, he could easly have saved enough turnips in that one field to more than pay for outfit and materials.

On another farm the Secretary found a man laboriously applying Paris green in an effort to save his turnips. The material and effort were being wasted, because this material is of no use at all in fighting the aphis. Scores of farmers in outlying districts, when they learned what the trouble was had no means of combating it.

All this points to the necessity of even the small farmer having at hand aspraying outfit for emergencies. The Department of Agriculture also would again urge upon farmers their desire to assist n cases of this kind. When a crop is suffering from a disease or from insect attacks, drop a line to the Department, and at the earliest possible moment the latest information on methods and materials for saving that crop will be forwarded.

Improvement in Strawberries in America by Hybridization and Selection

Varieties of strawberries which, under favourable weather conditions continue to bear fruit throughout the summer and autumn after having given a good yield in spring are more and more appreciated by growers. These types which produce continuously have the stolons very slightly developed and an abundant formation of tufts of fertile branches. They are all derived from Pan American, which originally was a mutation from the Bismarck, an old commercial variety of Fragaria Virginiana.

Among the new types the first place is held by Progressive and Superb, which are rapidly propagated by seed and subjected to suitable crosses with European Alpine varieties of Fragaria vesca with the object of adding valuable new characters. Fragaria vesca (both the European and Mexican types) cannot flourish in North America because of the excessively hot summer, and the fruit, although fragrant, is small and not very firm.

In 1914 Prof. W. F. Wight, of the U.S. Bureau of Plant Industry, who had been sent out to Chile as Agricultural Explorer, sent the Bureau seeds of a strawberry of the Alpine type (Fragaria vesca) bought on the market of Santiago. He was unable to discover their exact origin. These seeds were sown in the Experimental Acclimation Gardens at Rockville, Md. and Chico, Cal., and plants were obtained of vigorous growth, high productivity, and a capacity of adapting themselves to the climatic conditions of the United States, superior to that of any other variety of Fragaria hitherto studied. The characteristics of the new strawberry (No. 35,905) obtained are:

(1) Resistance to the hot, dry summers of North America.

(2) Continuous production from June till the first autumn frosts.

(3) The fruit is fine and large, but not very firm, and in this respect, inferior to the fruit of Fragaria Virginiana.

(4) Abundant formation of sterile branches accompanied by an abundant production of stolons. In this respect the new Chilian variety is distinctly superior to the Virginiana types with a continuous production and floral ramification but a low stolon production.

In order to combine the positive characters of the South American variety with those of the Fragaria Virginiana variety, a series of crosses were started in February, 1916, on the Bell Experimental Plot at Glendale, Md., between the South American type and the two varieties Early Jersey Giant and Chesapeake. The hybrids thus obtained the characters of the parents in good proportions:—

(1) Uninterrupted production from July till November

(2) in addition to the very copious formation of fertile branches there is an abundant formation of stolons;

(3) the fruit is fine, large and compact.

Attempts are also being made to fix and propagate a new type which would satisfactorily replace the Pan American variety, which, as has been said, has the disadvantage of too slight a formation of stolons.—Van Fleet, W., in the Journal of Heredity. Vol. X. No. 1, pp. 12—16. Washington January 1919.)

Gleanings of Agricultural Progress in New Brunswick

SCHOOL FAIR FOR EVERY DISTRICT IN THE PROVINCE—SEE THAT YOUR SCHOOL RECEIVES THE BENEFITS.

Assistance Given by Department of Agriculture—Write Director A. C. Gorham, Sussex, for Full Particulars.

A concerted effort on the part of the Division of Agricultural Education and the teachers interested in this work will be made, on the opening of the schools, to make the school fair a more perfect organization than ever before.

Financial assistance will be given each district having a fair. Forty per cent. of the prize money will be supplied by this department, while sixty per cent. will be furnished by the school district.

The educational value of the school fair is becoming more fully recognized as trustees, teachers and ratepayers understand more fully the purpose of the fair and its organization.

In every rural community interest must centre around the one fundamental industry of agriculture. Therefore, we take the opporunity of training the boys and girls of the rising generation through the many activities in connection with the school fair.

The truly cultural comes through the practical, the interpretation of the rules set forth on the prize list, and the selection, for competition, specimens grown in the home or school garden tends to develop the powers of observation and discrimination.

It is intended that the organization of the school fair shall be so directed by the teacher that the greater part of the work and management will be carried on by the pupils themselves. Civics should be taught; every school district should know how to organize and manage a school fair. There should be a manager elected, committees appointed from among the pupils, and the duties of each clearly outlined.

The school fair forms a bond between the home and the school. Parents are usually interested in the boy's or girl's exhibit. They should assist the pupil by encouraging him to make his best selection, exhibit honestly and always with a spirit of fair play.

Judges should be chosen from a nearby district or any fair-minded person in the home district possessing sufficient knowledge of the subject should be able to do the judging satisfactorily. Judges should be decided upon at a conference of the teacher and the managing committee. At this meeting it should be clearly outlined as to how the exhibits are to be scored so that the prizes will be awarded for merit according to standards set in the best agricultural teaching. A representative from this department will assist in this connection.

The spirit of friendly rivalry which plays so large a part in stimulating interest, makes competition keener; every boy and girl looks forward with keen anticipation for the judge's report on the day of the fair. If he has won a prize it will be explained why his exhibit has been given a place higher than that of his competitor. If he has not been so fortunate he will find the cause of his failure, thus adding to his education along certain definite lines so that his chance for success next season is greatly increased. A standard has been set which he will be encouraged to attain.

The school fair is an institution where definite instruction has been given for organization, management and exhibiting of products of the garden and work of different kinds. In the fair the pupil is able to visualize the results of his efforts in his home plot, school garden and poultry project.

Almost without exception the exhibits of the school fair have shown better quality than the exhibits of the larger fairs of the district or county. While not so great in extent they forshadow a higher type of fair for the future and greater efficiency on the part of our rural citizens.

DEVELOPMENT OF THE SHEEP INDUSTRY IN NEW BRUNSWICK.

New Brunswick's policies for encouraging sheep production are receiving considerable secognition and publicity these days in other provinces. These policies developed under the direction of the Hon. J. F. Tweeddale, Minister of Agriculture, have been in operation long enough now to indicate their very great benefit in raising the standard of the stock produced and encouraging farmers to increase their output.

The Farmers Magazine, one of the leading agricultural journals in Canada, and published in Toronto, has this to say in an article published in the last number:

"Sheep raising in New Brunswick has received a distinct stimulus during the past few years. At the present time there are more breeders of pure breds in New Brunswick than in any other Maritime province. While years ago New Brunswick farmers were marketing only about 5,000 lbs. of wool co-operatively, during 1919 they marketed 60,000 lbs. and in 1920 the amount will reach 70,000. and the grader stated that it was one of the best lots of wool that he had ever hnadled. Moreover, the pure bred breeders agreed with Provincial and Dominion Departments to have their pure bred rams inspected and graded. By this procedure the man who is not producing a good class of pure bred stock is given a very low classification and the man who purchases a pure bred ram for the first time is protected from this type of breeder.

The Provincial Department of Agriculture gives a bonus to the men producing rams that would be considered of show quality, or, as it is termed 'three star rams.' For this grade they give a bonus of $3.00 per head. For the next grade or a 'two star ram' a bonus of $2.00 per head is given and for the last grade no bonus. Thus in many cases unsuspecting huyers were saved a good deal of money by being made aware of the quality of the animals. The Provincial and Dominion Departments of Agriculture co-operated in assisting farmers in different sections of the province in marketing their butcher lambs directly on the Montreal market. In this way the net gain was from two to three cents per lb. On a total of 2,600 lambs they made a gain of more than $5,000.00."

The above article does not tell the whole story but is an indication of the recognition being given to New Brunswick's methods. This province was the first to adopt the method of grading pure bred rams. In fact there is no record of it being done in any country in the world. Other provinces are now making plans to follow New Brunswick's lead. The system is undoubtedly good and has a very beneficial influence in improving the quality of rams being offered for sale by pure bred breeders and in the protection of the man buying a pure bred ram for his grade flock.

In still another way New Brunswick sets the pace. No other province has given financial assistance to induce a man who has never used a pure bred ram to purchase one, and determine for himself that it pays to do so. New Brunswick arranged last year to grant a bonus of $5.00 on the purchase price of a pure bred ram to any person never having used one before in his flock, this to supplement a ten dollar bonus given by the Federal Live Stock Branch for the same purpose. By means of this policy approximately one hundred men purchased pure bred rams for the first time. These men owner 1810 ewes and with an average of a lamb and a half per ewe would represent 2705 lambs in the province sired by a pure bred, that would otherwise have been sired by a grade or scrub ram. These figures speak for themselves and need no further commendation. In what better way could encouragement be given in raising the standard of quality of our sheep.

The Department are extending their operations further and have come to a definite agreement with Mr. H. S. Arkell, the Dominion Live Stock Commissioner, in regard to assisting in the further development of the co-operative marketing work. It is realized that this must go hand in hand with production work. In other words a profitable amrket must be found for the stock produced by the farmers and such a market will pay the world's marekt price and take any quantity that may be offered. Farmers will be assisted in organizing for co-operative marketing and everything possible will be done to develop this work in the province. Thus the chain will be made complete and New Brunswick will have a system in operation for the development of the sheep industry that is not equalled in Canada.

Tip Burn of Potatoes

(Experimental Farms Note)

A trouble which is widely distributed and very prevalent in some seasons, and to which the name "Tip Burn" has been given, is to be found among our potato crops. This trouble takes the form of a gradual turning and drying-up of the leaves of the plants, often commencing at a comparatively early stage in their growth and, in many cases, if allowed to go on unchecked, slowly but surely involving the whole of the plants so that they die down a considerable time before the tubers are fully developed.

The appearance of this trouble in the fields is often mistaken by growers for Late Blight. There is however, a marked distinction between the two, for Late Blight may commence by attacking any part of the plants—leaves and stems alike—has a dark, water-soaked appearance and, in its early stages is damp to the touch, while Tip Burn invariably commences at the margin or tips of the leaves and has a decidedly dry appearance and touch with the exception of after rain. It also appears much earlier in the season than Late Blight has ever been recorded, and does not cause the death of the plant so rapidly. Nor has it ever proven so destructive as Late Blight, although evidence has been obtained that in seasons when it is severe and where no effort is made to check it, a considerable reduction in the yield of marketable tubers, due to the premature death of the plants from this cause, may result.

Investigators of this trouble are not yet in agreement as to the cause. The observations of some have led to the belief that a period of hot, dry weather during the growing season causes the leaves to throw off moisture more rapidly than it can be furnished by the plant, the result being the appearance of Tip Burn. This belief seems however, to be disputed by the fact that the trouble it not found in the hot regions of the Western States where the temperature often becomes excessive and the air is especially dry.

More recent investigations lead to the belief that this burning of the leaves probably follows the depredations of the insect known as the Potato Leaf Hopper. These investigations are not yet complete, but enough evidence has been produced to serve as a warning to potato growers to keep these insect pests thoroughly under control in an endeavor to avoid Tip Burn.

We have found in our experimental work with potatoes that Bordeaux Mixture will to a large extent control this trouble. In 1918, when it was extremely prevalent, we had several plots to which, for the purpose of experiment, Bordeau mixture was not applied. These plots suffered from a severe attack of Tip Burn and the plants were all killed down by the second week in August, while other plots on the same land, and to which for the control of Late Blight, Bordeaux mixture was regularly and thoroughly applied, suffered to a very slight extent only, the plants remaining green until frost came. Bordeaux mixture acts as a repellent to the Leaf Hopper, as well as a protection to the plants; many other cases in addition to that referred to have come to our attention bearing evidence that regular and thorough spraying with this mixture will reduce to a minimum the ravages of Tip Burn.—Geo. Partridge, Asst. Plant Pathologist.

INSULATED MILK CANS.

At the Ottawa, Canada, Experimental Farms a test was made some few years ago to compare the relative effectiveness of the ordinary milk can with an insulated can for shipping milk in warm weather. The insulated can had a double jacket with felt insulation at the top and cork insulation at the sides and bottom between the metal jackets. The cover also had special felt insulation. The cans were each of 10-gallon capacity.

The milk was cooled by the use of the cooler and ice aanks and shipped by wagon. The temperatures as recorded at the farm and in the city are given in the following table:

	Temp. at farm—6 a.m.	Temp. at city—8.30 a.m.	
		Ord. can.	Insl. can.
	Degrees.	Degrees.	Degrees.
July 16....	41	50	42
" 17....	44	52	46
" 20....	39	50	42
" 22....	34	43	38
" 24....	36	48	38
" 27....	38	45	38
" 27....	36	45	38
" 29....	38	47	39
Av. 8 days	38-2	47-4	40-1

During the hot weather of the week of thi strial the milk in the insulated can increased in 2½ hours, not quite two degrees in tempperature, while in the ordinary can the increase was over nine degrees. Applying this result to conditions where the milk or cream is not cooled much below 48 degrees and where it must travel several hours without refrigeration, the value of the insulated can is clearly demonstrated.

Sweet clover is proving to be a valuable pasture crop. It appears capable of carrying more stock per acre than the other clovers and grasses.

THE MARITIME FARMER

And Co-operative Dairyman
Registered Trade Mark
Fortnightly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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DATES OF ISSUE.

September	14—28
October	12—26
November	9—23
December	7—21

AUGUST 31, 1920.

THE SEASON OF FAIRS

The time will soon be here again when everyone spends a few days at the county fair. It is a great place, isn't it? Lots of fun and so many things of interest to see. But don't forget the fair will be just about what the people of the county make it and you happen to be among the people of your county. If everyone is interested, then there is bound to be a good fair. I don't mean just interested to go and see what the other fellow has done but just interested enough to do something for ourselves. You want to learn about new things, then you should be willing to give the other fellow advantage of seeing and learning about the things you do. That is one of the best ways to learn.

Now, there is only one way to do this at a fair and that is to exhibit or show the results of some of your best work in the department which will be open for your entries in the shows and fairs this fall. This should be one of the things uppermost in your minds from now on. We don't want to miss it and that is why we are telling you about it now. Surely, every club boy and girl expects to exhibit. But it doesn't make any difference whether you belong to a club or not, you can exhibit something anyway. But think about it and lay your plans carefully for making the best exhibit you have ever made. Even if you have already won first money and blue ribbons, there is a chance for you to improve, for to be sure no once has yet reached his ideal in the samples he has exhibited before.

No farmer need sit back and say, "I wish I had something to exhibit" for there are so many things to show at a fair. Farm products and stock of all kinds are always included among the exhibits and to be sure, there is something on your farm or in your garden which would make an addition to any department of the show. Those who have already exhibited know something about how to put up exhibits. But there are always those who are entering for the first time and it is for these that this article is especially written.

DOES A FARM EDUCATION PAY?

Hundreds of young men will soon be leaving for the farm colleges of the country, and we will again hear the value of a farm education discussed pro and con. The thing overlooked in many of these exchanges of views is the receptivity of the student for education.

Some bodys pass through a college and see only professors, books and examinations. Others see in their places leaders who inspire an ambition to be something and do something, who elevate the thoughts and desires. They see in books the essence of men's experience and the accumulated knowledge of the world, which will guide them in after life. They see in examinations the test of their ability to profit by what they have studied. They see in them a stimulus of thought and expression. There are the differences.

In another way, the difference is shown in the viewpoint of two men looking at a farm or a fine animal. One sees only the broad expanse of dirt and objects familiar to the farm. The other sees a great factory for producing wonderful crops and good live stock, an object to engross one's thought and ambitions. One man sees in the fine animal only a four-legged brute; the other sees in the product the work of generations in molding the animal form and character.

Some concrete facts were brought out recently on the value of an education by the departversity. The test sought to discover if the eduversity. Thetest sought to discover if the education of the operator of the farm had any effect on the profits of that farm.

Nine hundred and twenty-eight of these farmers had received a high school education or less. The average labor income of these men was $502 over and above all expenses, and 5 per cent. on their investment. One hundred of the men whose farms were studied had received a college education along some other line than agriculture, and their labor income was $644. Twenty-seven men had received an agricultural college training. The labor income of these men averaged $1,520.

WHY PURE-BREDS?

Why do men engage in the breeding of pure-bred animals? In the census report taken of the Holstein-Friesian Association of America we find various reasons given for engaging in the breeding of pure-breds. The following are some of them:

"I engaged in the breeding of pure-breds because I could feed and care for them just as economically as grades and their offspring is worth more money."

"More profitable than grades. A good demand for all surplus stock. Also it is interesting to breed and develop pure-bred Holsteins."

"Wanted better cattle."

"I like their looks best and their money making."

"Want to breed the cattle that most buyers want to buy."

"To get the money and for the love of the cattle."

"First, because I consider they are the only cattle for milk production. Second, most of my neighbors are raising Holstein stock and I consider it good policy to work with my community on all lines."

It will be observed that these men selected pure-bred cattle because they consider them more profitable than scrubs or grades. It is pleasing to us, however, to observe that the breeding of pure-breds creates a greater interest in their work. In the conduct of any business, the monetary return must not be lost sight of. It is only the dreamer—the pure idealist—who ignores money returns. Those engaged in business appreciate that it is the dollar that measures their success, although it may not be the best measure of human endeavor or of service rendered.

There are no objections to a man making money providing he renders a service. He is entitled to earn and the man who does not have this desire is not, as a rule, a good citizen. In connection with the desire to make money, it is most wholesome to develop an interest in the work of developing animals or machines which are most efficient. Invariably when there is an interest in work, drudgery is removed. It is highly desirable to make work both profitable and pleasant. If a person is not happy and contented in his work, there is little opportunity for happiness in life.

VALUE OF A SOLDIER SETTLER.

What is the value of a soldier settler on the land?

The Canadian Pacific Railway Publicity Department has made a careful study of the question as it relates to farm settlement in the three Prairie Provinces. It finds that the total railway revenue from agriculture, coal and farmer passengers amounts to $163,516,318, taking the figures from September 1, 1915 to August 31, 1916. As there were at that time 219,105 farmers in the three Prairie Provinces the revenue per farmer was $716.33. This sum capitalized at 5½ per cent. gives a return of $13,569.62, the value of each farmer to the railways.

These figures may be accepted as reliable. The Soldier Settlement Board has made 17,003 individual loans to soldier settlers and about 15,000 of these have actually been established on the land. The value of these settlers to the Canadian railroads, therefore, works out to the sum of $81,414,000.

It is difficult to estimate the full value of this class of citizen to the country. If he is worth $13,569 to the railroads, what must he be worth to the country at large as a producer of foodstuffs, as a contributor to the revenue derived from taxation, as a well balanced and orderly unit of citizenship loyally supporting the country's institutions and contributing to its greatness?

The C. P. R. bulletin from which the above estimates are taken says concerning a settler's value as a farmer:

"That depends altogether on his knowledge of farming coupled with his energy, determination and enterprise, his stick-to-it-iveness, his ability to learn and his perseverance. Health enters largely into this also, for without health and strength no farmer—other than one possessed of immense means and directs the operations of his employees—can expect to succeed."

* * *

Mr. J. H. Corcoran, of Moncton, has been appointed General Travelling Agent for the Canadian National Railways with office at Moncton.

* * *

The season for Fall Fairs will start in the Maritime Provinces early in September. Are there not some things that you can profitably exhibit and help make the fairs as representative as possible of our great agricultural industry.

* * *

If the sheep have ticks, dip them; you can't afford to feed ticks, summer or winter.

EGGS, GOOD AND BAD.

(By G. R. Wilson, Dominion Poultry Dept. for N. B.)

The egg is a highly perishable product. It is at its best when freshly laid. Cheese improves with age (generally speaking), eggs deteriorate wtih age.

A Word to Producers

Your eggs will bring more money if you—

1. Produce infertile eggs by removing the roosters from your flock when the breeding season is over.
2. Provide clean nests and keep your eggs clean.
3. Do not wash eggs. Washing the eggs removes the resinous protective coat and permits bacterial infection, causing spot rot and mouldy eggs.
4. Gather your eggs twice daily during the summer to prevent them being heated by the hen.
5. Keep your eggs in a cool, dry place away from the flies.
6. Market them at least twice each week.
7. Insist that they be bought on a quality graded basis.

Why Eggs Should be Candled

1. Candling provides a fixed standard for trading by doing away with guess work.
2. It makes possible a fair price to the careful producer of good eggs.
3. It shows who is responsible for the bad eggs, and who wastes food.
4. It leads to a general improvement in quality.
5. It conforms to law.
6. It saves freight charges, transportation space, and case material, by eliminating the handling of worthless product.

Every egg you ship or sell should be fit for human food and you should be paid according to that food value.

A Word to Egg Dealers

The hen delivers a good egg—do you?

Do you realize that your profits will be greater and your products more uniform if you—

1. Buy eggs on a quality graded basis?
2. Candle carefully?
3. Pack carefully in new cases and new fillers?
4. Keep in a chilled room?
5. Handle eggs carefully to avoid breakage?
6. Ship often to avoid staleness?
7. Load properly to prevent damage?

Eggs which Cannot be sold or Shipped in Interstate Commerce

1. Black rots.
2. Mixed rots, white rots or addled eggs.
3. Blood rings.
4. Stuck yolks.
5. Moldy eggs.
6. Eggs with bloody whites.
7. Eggs with chickens in them.

Or any other egg unfit for food.

Eggs that Should be sold Nearby

1. Large hatch spots.
2. Heavily shrunken eggs.
3. Settled yolks.
4. Cracked eggs.
5. Leaking eggs.

A rotten egg feeds no one.

How to Candle Eggs

It is necessary to rotate an egg before the candle if one is to obtain an accurate knowledge of its condition. By tilting at various angles, the location and size of the air space can be seen, and very often the position of the yolk. The quality of the egg is very largely determined by the case with which the yolk moves and the direction of its motion. The operator therefore—

1. Grasps the pointed end of the egg with the tips of the fingers.
2. Holding the blunt end uppermost, places the egg closely against the opening, or spout, of the candle.
3. Gives the egg a quick turn to the right or left watching the movement of the yolk.

If the egg is perfectly fresh it may be difficult to find the yolk at first glance, but as the egg is turned a glimpse of it will be obtained.

Eggs Before the Candle

A good fresh egg will have a small air space. The yolk should be very distinct. There should be no black spots or rings. Sometimes the eggshell has fine cracks in it. This is commonly known as a 'check egg' and should not be shipped with first quality eggs. It spoils very quickly.

Blood Rings are partially incubated eggs, which show a distinct ring of blood on the yolk. They are unfit for food and should be rejetced.

Cause: A fertile egg in which the development of the germ has proceeded until blood has formed and the embryo has died. Ring formation is not present while the embryo is alive, although blood spots or veins may show.

Mouldy Eggs have black spots that show only before the candle. They are unfit for food.

Cause: Field nests or wet nests, holding eggs in a deep place, or washing them. Dampness allows mold spores to enter the pores of the shell and grow inside. Mold can also enter through cracks in the shell.

Black Rots look more or less black before the candle, and are unfit for food.

Cause: Dead chick, accompanied by bacterial decomposition, or extensive growth of mold and bacteria inside of the shell.

Mixed Rots, white rots or addled eggs when turned before the candle show the yolk more or less mixed with the white. They are unfit for food.

Cause: Bacterial decomposition usually following advanced staleness.

Stuck Yolk eggs have yolks apparently stuck to the shell. They are unfit for food.

Cause: In hot weather, when fertile eggs are kept without turning, the yolk may rise through the white and become attached to the shell membrane. In cool weather the yolk may settle in the shell and become fastened to the shell membrane.

Heated eggs before the candle will show dark, heavy yolks, easily movable and with a distinct reddish glow.

Cause: Egg is fertile and has been exposed to temperature which start chick development. If temperature is high enough and sufficient time elapses, development will continue until the embryo and blood form.

THE CASH VALUE OF A PEDIGREE

(Experimental Farms Note.)

All animals have a pedigree of some sort, whether pure-bred or scrub. Only the pure-bred animals have their pedigree registered and have pedigree certificates issued. A pedigree is valuable only when it proves some fact that is worth while about an animal, either favorably or otherwise. We frequently hear comments of some such nature as "I do not care about the papers, it is the cow I want." Speaking broadly that may be good business for a butcher, but the real stock breeder is paying more attention to pedigree than ever before and we often hear him say "that is a beautiful individual but I do not like her breeding."

The man who attaches the most value to a pedigree is the one who knows the most about its true value. The pedigree student may learn of a cow that has had a brilliant showring career. She may be particularly pleasing to the eye in type form and conformation. He studied her pedigree and finds that she has sprung from ancestors that were of little value and immediately decides to let her alone, regarding her as a freak. On the other hand he may find a cow that is not a particularly fine individual in type but he studies her pedigree and finds that she has for ancestors some of the very best animals of the breed. He decides to buy the cow, doing so on what he knows about her ancestors. He has made use of the pedigree to select a cow that he has not, as so many are inclined to state, paid a big figure for papers.

Pedigree does not make value, it decides value by establishing the history of ancestry. The cow backed by several generations of good producers is much more liable to be the dam of producers than the cow whose dam only, of all ancestors is a producer. This does not of course, always hold true. Just as we frequently find a good individual with a poor line of ancestors, so do we find poor individuals with strong ancestors. Like, as a general rule, produces like, but the law of variation is also felt. The pedigree student studies these laws and draws his conclusions.

When a cow is purchased for a breeding herd two things are kept in mind, first the value of the cow for what milk she will produce and secondly, the effect she will have upon the future of the herd. A good judge of dairy cattle can estimate closely her value as a milk producer but her worth as a herd improver must be determined chiefly by pedigree.

Individual merit is very important and should not be overlooked, yet it must not be the main deciding point. History shows us some excellent individuals who have apparently sprung from inferior stock and later have become wonderful foundation cows. Such animals are valuable if properly developed, but the owner must have skill and patience to handle a problem of this kind as often, after a few generations, there may be a reversion back to the old ancestral type.

Some herds have been built almost to perfection with the exception that possibly a single defect may be noticed through the entire herd. The owner is a true stock breeder and wishes to have as perfect a herd as possible. He decides to secure a new sire and correct this fault. He selects an animal not only strong itself where the defect is shown in the herd, but the breeder finds that the animal is from families perfect in this respect. This sire is more certain to correct the fault than an animal who is strong individually but part, or all, of his ancestors are weak.

This is where the real value of a pedigree is recognized. It is not so important to know simply that an animal is pure-bred as it is to know that the strain in the herd is of the very best.—W. M. Hicks, Supt., Agassiz, B. C.

SIXTY- FOUR CENT EGGS

We will pay sixty-four cents per dozen for strictly fresh eggs, delivered at St. John. This offer will hold good for two weeks. All shipments must be prepaid and addressed THE MARITIME FARMER, ST. JOHN, N. B. Ship in case lots. All eggs are subject to candle test. We will be glad to get fresh eggs right along and will offer the highest market price for them. Get your neighbor to make up a case with you. If one neighbor can't do it, ask others to help out. This price is well over the price being paid for eggs by any dealer in New Brunswick.

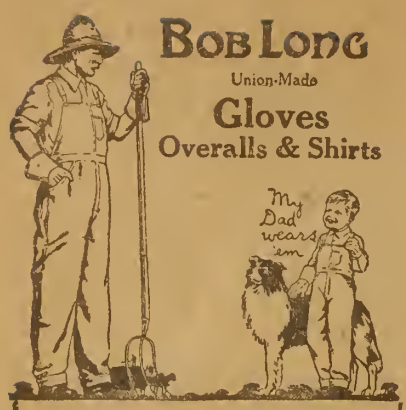
THE EFFECT OF CERTAIN ORGANIC SUBSTANCES ON SEED GERMINATION

Previous experiments have shown that green manure is unfavorable to the germination of certain seeds, the injurious factor being attributable to certain soil fungi. A continuation of these investigations gave further data on the effect of different organic compounds on germination. The results obtained showed that alfalfa powder, casein, and petpone, have little or no effect on the germination of different types of seeds except when used in large quantities. There is, however, no relation between the injurious effect of green manures and their nitrogen content. The reduced germination due to the application of excessive quantities of casein or alfalfa powder is not further reduced by applying celcium carbonate.

Sugar delays germination and, at the same time, favours bacterial development and also reduces the germination percentage. The retarding action of sugar on the germination of seeds is due to the large amount of carbon dioxide formed during the decomposition of the sugar.

Sterilization of the soil inhibits the germination of seeds to a considerable extent.—Fred, E. B., in Soil Science, Vol. VI, No. 5. pp. 333—342. Bibliography of 27 publications. Baltimore. November 1918.

While cleaning up tuberculosis in pure-bred herds some scheme should be inaugurated to lessen the disease in commercial herds. The industry is suffering heavy loss each year as a result of tuberculosis having made inroads into the herds.



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LIVE STOCK.

FEEDS THAT MAKE STRONG BONED HOGS.

If you want strong-boned hogs, hogs that will carry their flesh well, give them the feeds to make bone. A good bone development is a great asset to growing hogs; the lack of it is seen in the big stock yards where hogs with a light or weak bone are crushed or mashed, legs broken or ribs caved in through shipping and handling.

Mineral matter in the feed, or available, will produce good bone growth if of the proper kind. Most of the mineral feed eaten by hogs is utilized in the bony structure or skeleton. The grain we commonly feed hogs contains such a small proportion of the needed mineral elements that additional mineral feed must be supplied by some means in order to properly nourish the bones.

Oftentimes conditions are such that the hog picks up the minerals itself. Hogs having access to lots where ashes and limestone are dumped may supply themselves in liberal quantity of the calciums. Hogs running in the woods or woodlot or on pastures of most kinds commonly grown, supply their bodies with mineral nutrients.

You will never find weakened hogs where they have access to pastures. But if hogs are confined it is very essential that their bodies be supplied with mineral feeds; especially is this true of hogs kept for breeding purposes.

Wood ashes and cinders are eaten by hogs to satisfy a craving for mineral food. I have seen them crunch the fresh cinders as if they were corn. Charcoals are beneficial to the digestive tract. Besides these, bone flour is valuable to furish phosphorus and lime, also. Growing pigs require salt in their ration; t is an aid to digestion.

A good mixture which can be fed to pigs confined in small lots or that may be given to pigs on range, is made up of the following ingredients: One hundred pounds of wood ashes, 30 pounds of salt, 40 pounds of slaked lime, four pounds of copperas, 30 pounds of charcoal; mix well and feed three or four times a week. J. C. B.

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THE SHEEP BOT-FLY AND IT'S GRUBS.

There seems to be a good deal of misinformation regarding the sheep-bot-fly and the larvae or grubs from it which torture sheep. The maggot problem also is perplexing and we shall therefore give some proven facts on these matters which should be of interest and instruction.

Description of Bot-Fly.

A sheepman with whom we talked on this subject the other day said that he was unable to identify the exact fly that laid the eggs from which grubs develop in the nostrils. Asked what he thought the fly looked like, he said he thought it might be about like a honey-bee and of similar size. Taat seems to be the idea of several men with whom we have talked, but it is erroneous.

The sheep bot or gad-fly appears from June to October and is seen on bright, warm days, on pastures where sheep are grazing. The female is so small in size and flies so fast that it is difficult to observe it. It is a trifle larger than an ordinary house-fly, yellowish grey in color, covered with short fine hair and has five rings on its abdomen. It is known technically as the estrus ovis and is of world-wide distribution.

The Fly Deposits Larvae.

Most people believe that the fly lays eggs in the nostrils of the sheep and that larvae or grubs then hatch out and find their way up the nostrils. This is not the fact. The femals fly deposits hatched live farvae in the entrance or vestibule (anterior nares) of the nostrils. At this time the little larvae is creamy-white in color and about one-sixteenth of an inch in length. Later, according to Prof. Underhill, it becomes darker, and at maturity reaches a length of about three-quarters of an inch. Upon the head segment or porton of the body of the larvae there are two hooklets, the ponts of whch are curved downward and backward. Aided by these hooks the larvae at once climbs upward through the nasal passages until it reaches the frontal sinuses, where it attaches by its hooklets to the lining membrane. Then it feeds upon the mucus and serus fluid which flows from the membrane terribly irritated by the wriggling of the larvae and the prickling of the stiff spines of its rear segments, together with that from the two hooklets. The larvae remain in the sinuses or upper passages of the head about ten months, at the end of which time, having reached their larval maturity, they detach from the mucus membranes and pass to the nasal passages from which they are expelled by violent sneezing excited by their presence. Some of the farvae fail thus to escape from the sinuses and possibly become mummified, or are practically digested or absorbed. When the larvae reach the ground they quickly bury themselves, contract within their smooth, dark shells and enter upon the pupal stage of existence. In from four to six weeks they finish the pupal stage of life and emerge from the ground as flies to carry on the pestiferous work of their kind.

Signs of Fly Attack.

When sheep hear the buzzing or humming of the bot-fly they run, stick their noses into the sides of other sheep or into the ground, or try to raise a thick cloud of dust to keep the flies away. They are also seen to paw their noses with their feet to rid them of the flies; but all of their efforts usually fail and some larvae are sure to find their way into the nostrils. Goats are similarly attacked and act as do sheep.

Symptoms of Grubs in the Head.

After larvae begin to work upward in the nostrils, a discharge starts running from the nose and the sheep sneezes, coughs and tosses its head. These symptoms, slight at first, gradually become worse and the discharge turns to a muco-purulent flouid, or pul-like discharge, aften tinged with blood. When such a discharge is seen, many grubs are present. One or two grubs may cause comparatively little disturbance or distress. In very severe cases so much discharge forms that it tends to obstruct the air passages and the sheep has great difficulty in breathing, tosses its head backward, pants, sneezes and shows

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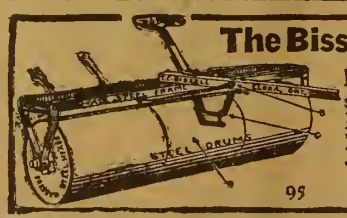

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all of the signs of threatened suffocation. It may then become emanciated and so weak that it goes down, ceases to eat and finally dies. Such cases comparatively are few in number.

Preventive Treatment.

If the flies could be prevented from depositing their embryo larvae in the nostrils there would, of course, be no trouble of the kind we have described; but there is the rub! Treatment rarely proves perfectly satisfactory. The old-fashioned plan of daubing the noses of sheep with pine tar to keep the flies away still is most popular and it cannot be condemned as altogether useless. Persisted in, there can be no question that it is fairly effective. The tar is applied by means of a brush or flat stick, or more commonly sheep are made to smear their noses with the tar by taking salt from holes bored in a squared log by means of an auger and kept well daubed with tar. Another plan is to spray the sheep with a commercial fly-repellant and to smear more of such fly-chaser where it will get on the noses of sheep as they take salt or feed.

Treatment of Affected Sheep.

This is not very satisfactory. Some shepherds state that they have had fairly good results by laying the sheep down, turning up its nose and pouring a teaspoonful of benzine into each nostril in turn, holding one nostril shut for a few seconds after the injection and then treating the other in the same way. Kerosene and oil has been used in the same way; also gasoline. Another plan is to blow snuff into the nostrils to induce sneezing, or a feather dipped in turpentine is inserted in the nostril, worked well upward and then twisted and then withdrawn with the object of bringing out some of the grubs, an effect sometimes attained. In valuable sheep trephining the skull may occasionally pay. This consists in cutting away a disc of bone from th skull, by means of a tubular saw, or trephine, to expose the frontal sinus. Then the grubs that can be seen or got at may be removed with forceps. We once dehorned an adult sheep and the grubs then were exposed and could be removed. The horns grow from the frontal bones, hence it can be understood that the frontal sinuses may be exposed by dehorning. We should not, however, advise that as a feasile treatment to be applied to all horned sheep. We merely mention the experience as one of considerable interest.

That Maggot Problem.

It is the Screw Worm Fly that causes so much trouble among farm animals in the southwestern states. It is technically known as compsomyia macellaria and is blueish green, with metallic reflections, three-eighths to half an inch in length and having three longitudinal black stripes upon its thorax. The head is reddish or yellowish brown and the body is covered with stiff, black hairs. The fly deposits masses of three to four hundred white cylindrical eggs upon wounds, sores, decaying flesh, or within the nostrils or other natural openings of the body. Hatching of the eggs may occur in from one to twelve hours. The larvae are white, slender and active. The head and segments are provided with spines which aid the larvae to borrow into the flesh. The mature larvae is half an inch or more in length and on leaving the flesh burrows into the ground and remains there, in the pupal state, for six to twelve days. The fly starts attacks in June and in July. August and September does its worst work. The larvae grow fast, feed on the flesh and may expose bare bones. Man may be fatally attacked. The maggots may be destroyed by thorough cleansing of wounds and injections of a five per cent. solution of carbolic acid or coal tar dip; or chloroform diluted to a strength of about twenty per cent. is recommended. A one to three per cent. solution of carbolic acid or coal tar dip will keep the flies away, when applied to wounds. Pine tar also is useful. A machinist's oil can is suitable for applying the destroying solutions. Pine tar is best used on oakum as a packing after the maggots have been destroyed. More tar and oakum, or cotton may then be placed on top as a covering.

The Flesh Fly (sarcophaga sarracenia) also is a troublesome house-fly, light grey in color, with reddish brown eyes and shiny body. The female deposits larvae upon fresh meat, or in wounds of living animals. The larval stage, according to Underhill, is completed in about six days and the pupal stage in from twelve to fourteen days. They do most harm to meat for human use. This should be kept screened away from flies. Wounds may be protected as against screw worm flies.

The Blow-fly or Bluebottle-fly causes most of the maggots in the eastern, northern and middle states. It is known as musco vomitoria or calliphora vomitoria, and is familiar to most people who recognize it as much larger than the house-fly, with brownish eyes and bluish green thorax and body. Its eggs are oval, white in color, and are deposteid upon decomposing animal and vegetable matter and in wounds of animals. Hatching occurs in a few hours to one or two days; most quickly in hot weather. In three to nine days the larvae (maggots) mature, drop to the ground, burrow, and in three weeks, or less in some instances, emerge as flies. It deposits eggs; not larvae as does the flesh fly and bot-fly. Treatment for these maggots is the same as for those of the crew worm fly and flesh fly. Preventive treatment is of great importance. All lambs should be docked and the rear kept free from faces-soiled wool during summer. All wounds should have protective treatment. This includes wounds made at shearing time. A little pine tar applied to them usually proves protective. A mixture of lard and sulphur also is useful. So is kerosene or turpentine in oil. The latter mixtures injected into maggot-infested wounds also prove effectual.—Dr. A. S. Alexander in American Sheep Breeder.

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DAIRYING.

PRODUCING CLEAN MILK ON EVERY DAIRY FARM

At every convention or assemblage of dairymen the audience patiently listens to one or perhaps many addresses in which the speakers put forth strong pleas for better care of the milk before it leaves the farm. The assembled farmers are told that milk may be either made the most nutritious of foods, or an extremely dangerous medium for carrying disease just according to the care and cleanliness practised in handling it from the time it is drawn from the cow's udder until the time it reaches the consumer's doorstep. The precautions which should be taken on the farm are outlined in detail, and the producer in the audience is told just exactly what he should do or should not do, if he is to work "according to Hoyle."

What kind of an impression do addresses of this type make on the average man in the audience? Well he probably listens—with some slight show of attention—to the whole address, then likely as not, promptly dismisses the subject from his mind entirely. If at a slightly later date a neighbor chances to ask him what he thought of that "lecture on milk," his reply would probably run something in this vein, "Well, if we farmers had as much time to attend to fussy little details as our many Government experts have to talk about them, these fine schemes might work in o.k., but when a man has a herd of ten or a dozen cows to look after, with little or no dependable help, it's a different matter altogether. He has got to cut the corners and get over the ground as quickly as he knows how."

Who is right, the farmer or the dairy expert? Certainly careful precautions in the dairy stable go a long way towards insuring good quality, but it is equally sure that labor shortage on 50 per cent. of the dairy farms prohibits some of the elaborate precautions that are so often preached from platform and press. But surely somewhere between these two extremes lies a golden medium of farm dairy practice which will provide a good, wholesome quality of milk, whether for cheese or city trade, without harrasing the producer to such a long round of routine dairy chores that he is within an ace of throwing the whole business to the four winds, and taking up some other line of work.

The Cowman's Golden Rules at Milking

There are, however, a few simple precautions, which, if put into effect in the dairy stable, would consume no great amount of time and yet might make difference between a bonus check and rather "hot" complaints about the quality of the milk, from the cheese factory or the city distributor.

To begin at the beginning the first chance for contamination is from dirt from the body of the cow falling into the milker's pail. Loose hair, dried mud picked up from a mud-hole in the pasture, bits of straw and the like are examples of the sort of filth that may come from this particular source. It is hardly necessary to outline precautions—about 30 seconds spent brushing the udder and adjacent parts of the body of each cow will serve to remove all such loose dirt.

Cleanliness on the part of the milker himself is another item worthy of attention. If we may be pardoned for saying so, milking "regalia" in many instances finds its way to the washtub not half often enough, purely through carelessness—a circumstance which does not help matters. Some, in fact many, milkers, persist in keeping the hands moistened with milk during the process, thus affording another convenient means of introducing foreign matter.

Milking utensils and the condition in which they are kept are other big items effecting milk quality. Partially covered milk pails are the choice in the very best dairies on the principle the smaller the aperature, the less the dirt that will fall into the pail during milking. After use all milking utensils should receive a thorough cleaning. They should be cleaned with a brush and the use of warm water and some sort of cleansing powder. After this they should be scalded with boiling water and placed out where they will dry quickly.

Rapid Cooling Essential.

Mistakes with serious consequences are often made in chilling milk. Keeping milk clean keeps most of the bacteria out, cooling it prevents the growth of those that do get it. Effective cooling means bringing the temperature of the milk not later than an hour after milking—and preferably sooner—to a temperature of 50 degrees F., or lower. In other words to the temperature of deep well water in the summer. The huge difference which rapid and effective cooling makes in the keeping qualities of milk has been proven time and again by experiment. In one experiment two eight gallon cans of milk were used. One of these was promptly cooled to and kept at a temperature of 75 degrees Fahrenheit, and the other at 50 degrees. The contents of the can kept at the higher temperature soured in 28 hours, whereas the milk in the low temperature can remained sweet for three days.

None of the above mentioned precautions require any lavish outlay either of money or time, and with slight modifications and arrangements to suit individual cases, could be and should be adopted on every dairy farm worthy of the name.

PURE MILK WITH A MILKING MACHINE.

In the production of pure milk with a milking machine, great care is necessary in the handling and mashing of the machine. Milk that is allowed to become dry on the parts is very difficult to get off. To avoid this,

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as soon as the last cows are milked and the milk emptied, but while the pump is still running, cold water should be drawn through the teat cups into the can. The machines should then be removed to the dairy and dismantled. The can covers to which the pulsator is usually attached should be washed, wiped dry and hung up. The teat cups and tubes should be washed in hot water, to which has been added some alkaline washing powder. This will dissolve any fats adhering to the parts. Once a day, a brush should be used on the interior of the teat cups. These parts should now be put into a sterilizing solution until next milking time. Once a week, the teat cups and attached rubbers should be taken apart and thoroughly washed in hot alkaline water with the special brushes supplied for this purpose. The cans may be handled with the rest of the dairy utensils in the ordinary way, steaming or scalding and draining in a room from from dust being important.

On taking the tea cups from the sterilizing solution for the next milking, they should be rinsed in fresh, cold water, and then be assembled. At this stage, the drawing of scalding water through the teat cups into the cans would have a beneficial effect, but it liable to injure the rubber. When adjusting ahe milker and attaching the tea cups to the cow's teats, be careful not to draw barn air through the tubes into the can. In shifting the machine from one cow to another and changing the cans let the milk and cans be exposed to the barn air as little as possible.

One of the best sterilizing solutions to use is composed of chloride of lime. Use fresh chloride of lime, preferably from sealed tins, and provide an earthenware crock. Into this put one pound of chloride of lime and add a gallon of cold water. Break up the lumps, stir thoroughly and then allow to settle. Cover and keep in a cool place. This is a stock solution, and only the clear liquid off the top is to be used. In making up the solution for the teat cups use one pint of this stock solution to every ten gallons of water. As the sterilizing action gradually decreases, add another half-pint of the stock solution every three or four days as long as this solution is kept in use. The old solution should be emptied out and a new solution made as often as is necessary to keep it clean. A new stock solution should be made at least every two weeks.

IN SALTING BUTTER USE WEIGH SCALES

Much of the butter made on the farm is not salted properly. The chief cause of uneven salting, that is sometimes high and sometimes low, is not weighing the salt and butter but guessing at the weights. While it may be pardonable to estimate the weight of butter in a churning which some are able to do with surprising accuracy, it is never advisable to "guess" at the weight of salt required for a certain amount of butter. On each and every farm where butter is made there should be a scale that will weigh to ounces or finer. Suppose there are 12 pounds of butter in the churn or on the worker weighed or estimated, then salt should be added at the rate of one-half to one ounce per pound of butter, according to taste or market requirement. If mild salting is desired, 6 ounces of salt will be enough to add to 12 pounds of butter. If, however, a quite pronounced salt flavor is liked, then add 12 ounces or three-fourths of a pound of salt. If a uniform rate of salting were followed there would not be the variations in satl flavor so common in farm-made butter.

It is very important that the salt be evenly distributed throughout the butter. Salt tends to deepen the natural color of butter, therefore where salt is unevenly distributed throughout the mass of butter some parts are more yellow than others, causing a streakiness which is quite objectionable. Persons who do the salting in the churn in order to avoid bringing the butter in contact with warm air on a worker in the room are more likely to have mottled or streaked butter than those who salt on a worker although salting in the churn has several advantages.

DAIRY SUBSTITUTES.

Glass may be made to look like diamonds, but real diamonds are never made of glass. Oleomargarine may be be made to look like butter, but at best it is only an imitation. Oleomargarine has food value, yet it is not butter and should neither be made to look like butter nor sold as such. Butterine is only an imitation of real butter. Nut margarine or nut butter, is not butter. Filled cheese is false cheese. Pure dairy products have a food value particularly and peculiarly their own. For the growing child, the imitation cannot in any sense be made to take the place of the real article. In fact, for any class of human beings there is not and cannot be a satisfactory substitute for any dairy product. —John Bailie.

FACTORS AFFECTING COST OF MILK PRODUCTION

We are all alike interested in the question of cost of milk production, whether producers or consumers. A study of this subject in the State of Delaware led to the following conclusions:

1. "Up to an average of 168 hours of labor per cow, per year, a state of increasing returns was found to exist." How many Canadian farmers give 168 hours of labor to each cow in a year? Not many, we venture to say; yet it is probable that more labor would be profitably spent on good cows.

2. "The dairy farms using the most labor pay the highest price for it." It pays to hire good and efficient labor on a dairy farm. Much of the labor that is sent out from labor bureaus is not at all satisfactory on dairy farms. A farmer might far better be without this food-consuming, inefficient human machine.

3. There was "a general, but irregular tendency for the cost per quart of milk to rise somewhat, as the amount of concentrates used is increased." A man who buys and feeds much concentrates at the present high prices will need to have good cows and receive high prices for his milk, else he will find himself "coming out at the small end of the horn." The investigator observes further on this point: "The greater the incentive to saving and economy in expenditures, the smaller the proportion of concentrates purchased."

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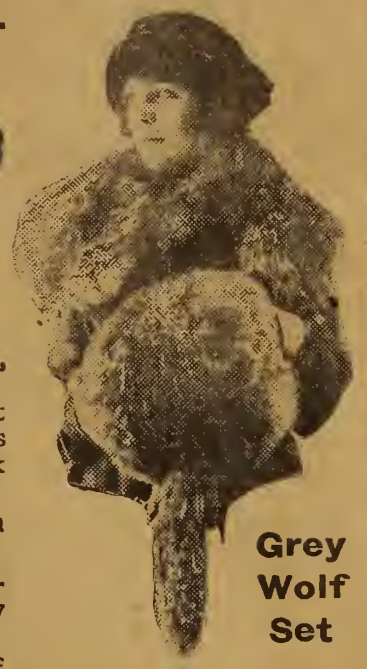

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THE HORSE

WHEN SHOULD HORSES BE WATERED?

Before or After Feeding?

Does it really matter whether a horse is watered before or after feeding? This is a question that is often asked, and, in answer to the queries, the following article will again discuss more fully the subject of watering horses.

There are horsemen who say that it does not make any difference to the health and fitness of a work horse whether he is watered before or after feeding. Also there are careful and successful men who hold somewhat diverse opinions. But all careful men generally make a study of the condition of the animal previous to allowing it to drink, and they also feed and water their horses regularly and pay particular attention to small details. For instance, how many teamsters today on the farm know that it is not so much the amount of water, nor its temperature, as the amount of vigor which the horse possesses when he is watered that governs the result. There are days that a teamster himself is not so inclined to work as others. On these days he has less resisting power, and is not at his best. He can give no very good reason for the cause, but he feels the weakness all the same. In a similar manner the horse has his days that he is not at his best, and the careless teamster fails to discover this. The horse unmistakably shows weariness, and it is accounted to him as laziness. When he arrives at the stable after a heavy day's work, in which he has been feeling "blue," he is just in the right condition to be injured by even a single pail of water.

Watering Determined by Circumstances

There is no hard and fast rule for watering horses that are under the severe strain of heavy work. Either watering before or after feeding may be equally good for them, and the method employed will be determined by circumstances. When a horse suffers a severe loss of water, such as occurs in consequence of long continued exertion at heavy work, the animal may be allowed to drink before he is fed, otherwise he will not feed well. At other times if he is allowed to drink to excess before feeding, the horse will not consume so much as he otherwise would. A horse that is trained to the habit of drinking too much, eats less in the day time than is sufficient to keep up his energy, and if given a full manger of hay at night he will eat too much, as by that time his appetite has returned. This method of watering and feeding results in giving horses large and unsightly abdomens, difficult breathiny and general sluggishness. No amount of good breeding will avail to make horses efficient when through ignorance or carelessness they are fed in the manner described.

Watering Before and After Feed.

On the other hand, if a horse is fed his grain first and then watered, much of the food is carried by the water into the intestines. When fed his grain first and then given a drink of cold water, the heat of the stomach is lowered, and the gastric juice, which is thrown out from the walls of the stomach to digest this food, is washed down into the bowels, along with all the finely masticated food that was ready for absorption. There is ferments, forms gas and often causes colic. No digestion can take place in a cold stomach. Nature has to throw out another quantity of gastric juice to digest this food, which is a great and uncalled for drain on the animal.

When a horse is watered before feeding the water passes out of the stomach and back into the cecum, the first of the large intestines, where it is heated and taken up into the circulation as required. The food is moistened by the saliva, and passes into the stomach, where each mouthful is wet with the gastric juice, and must stay there until part of the diegstion done in the stomach is finished. The food then passes into the bowels slowly, and receives the discharge from the liver and pancreas, which completes the process of digestion.

Three Points to Consider When Watering.

Whatever careless teamsters may say on the question of watering horses there are certain recognized facts connected with it that are of great importance in keeping the horse up to full vigor. A careless feeder never takes any note of the vigor of his team and works his farm just as much as his horses are able and therefore his opinion does not count. To the inexperienced in watching and studying the effect of watering horses at particular times, attention to the following three points will serve as a guide. They are especially important at this season, and in very warm weather when horses are hard at work. In the first place greater comfort and satisfaction can be given a horse by watering him at frequent intervals, even though the amount given at each time be small. Give horses a drink as often as possible in warm weather. If a teamster requires to carry a drink of water for himself to the field, it is equally more necessary to provide a mid-forenoon or afternoon drink for the team. In the second place remember that just as a person cannot work comfortably on a very full stomach, so it is with a horse. If a horse is given water in such periods that a very heavy drink is taken just before going to the field, that horse is uncomfortable at work. This is another good reason why his thirst should be well satisfied before meals rather than afterwards. Thirdly, if a horse is taught to eat a few mouthfuls of hay before oats, there is less danger of the oats being washed through the stomach without being digested. The hay serves as a net work in the stomach, holding the oats but allowing the water to pass through.

The order of watering first, then hay before oats are given, has its drawbacks, unless the horses are trained to this regulation. The accustomed method is to give them their oats first as soon as they enter the stall. The

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horse is generally unsatisfied, anxious and gets into a very nervous state till fed his grain. He generally will not eat at all till he gets it. To overcome this acquired habit of the horse the grain should be mixed with a few handfuls of chopped or cut hay. This will satisfy the desires of the horse by supplying the most palatable part of his food early, and yet insure the retention of the rgain in the stomach for a considerable time.

Preparing the Horse for his Drink.

It is the noon hour meal time that requires more special attention than at other periods of the day. It provides a short time for the horse to feed, and though it is not necessary for him to eat so much at this meal he must have full time to slake his thirst. Most teamsters give horses all the water they wish for when coming from the field at noon, and unless horses are very warm their thirst should be fully quenched at this watering. They will relish the noon meal and drink less when leaving for the field after dinner. There is no necessity for ever having horses too warm for a full drink when coming from the field. The teamster should temper the animals for the coming cool draught of water, by allowing them to cool down before they are unhitched. The speed of the animals should be slackened a few rounds before that time and a good breathing spell given them, thus preparing them for the full drink they stand so much in need of preparatory to the meal. A teamster who knows anything at all about his business, should treat the horse as if human. In the hitching up go slow at the start when the stomach is full, speed up as the hours of labor advance, and slow down before unhitching. Then, and only then, can a teamster truly earn the distinctive quality of being termed a good horseman.

DIAGNOSING COLIC

Every horse-owner knows that his horse is suffering from colic or "belly ache" when the animal rolls, kicks and shows every symptom of pain; but experience and good judgment are necessary to determine just what form of colic is present. Unless a correct diagnosis is made treatment may fail or do more harm than good. It should be the invariable rule not to give medicine to a colic-attacked horse without first studying the symtoms carefully and deliberately, in order that a correct diagnosis may be made. Wrong treatment given on the spur of the moment cannot be recalled or undone. An aloes physic ball, for example, is quickly administered, requires 24 hours or longer to take effect, and tends to irritate the digestive organs. It may help in some cases, but in others will be almost certain to cause death. This is equally true of some other drugs commonly used by untrained persons. The following hints on symptoms will enable readers correctly to diagnose some of the forms of colic. Spasmodic or 'cramp' colic causes severe pains which come and go. During spasms of pain the horse fearlessly rolls and kicks; then the pain subsides, the horse gets up, goes to eating perhaps but suddenly another attack comes on and the same symptoms occur. The pulse is full and fast, but fever is absent. Enteritis or inflammation of the bowels, on the contrary, causes severe constant pain. The horse will start to lie down, but is afraid to do so, and soon begins walking in a circle, a symptom sometimes called the 'dead march,' for it surely indicates approaching death. The pulse is quick and weak, almost imperceptible in some cases, the membranes of the eyelids and nostrils are reddened and fever is present. Urine and feces usually are suppressed, as may be the case in spasmodic colic. Flatulent or 'wind' colic causes drum-like distention with gas high up in the right flank. (Cows bloat in the left flank). The pulse is fairly well, but soon becomes weak and soft. Breathing is impaired. The pain is less severe than in spasmodic colic, but the horse sweats, paws, goes down carefully and lies on its side for some time. Some feces may be passed, or scouring may occur when flatulent colic occurs as a complication of heat exhaustion. Bloat of the stomach, or gastritis (acute indigestion) causes pains like those of flatulent colic and fluid surges back and forth between stomach and throat. This may be accompanied by squealing and spasms of the neck. Rupture of the stomach often fatally ends the attacks. Impaction of the bowels is indicated by pains like those of enteritis, but the horse rolls and lies upon its back. Pawing and straining are persistent when the horse is up. An occasional ball of feces may be passed. When stoppage is due to gut-tie, telescoping of an intestine, strangulation or hernia, or blocking by a large calculus, the horse shows all the symptoms of impaction in acute form and may also sit upon its haunches. Colic drenches may be bought from a veterinarian and kept on hand for spasmodic colic. Flatulence colic often necessitates tapping, by a veterinarian. The expert also should treat all cases of enteritis and impaction.

STAGGERS

J. E. R.—"What can I do for a two-year old horse which walks as if he has the staggers? He ran in stubble and alfalfa until last Christmas. When taken off pasture he was thin but seemed all right. He was given feed of alfalfa that night. The next morning he was down, and we had to lift him up for some time. He had distemper last summer and did not fatten but is in good condition now. He swings his hind legs and his head as he walks. When he tries to back he cannot get his hindlegs back so goes down on his haunches and falls over on his side. Some other colts afflicted the same way got all right when grass came. He has been on good grass since it began to grow and has always had a good appetite."

Reply—An injury to the spinal cord causing pressure, might cause such symptoms. Occasionally they follow lightning shock, or may be symptoms of swamp fever or of forage poisoning The latter disease, or cerebrospinal meningitis, however, commonly is acute and proves fatal. If the correspondent cannot have a veterinarian make the necessary examination to determine the exact cause in order that appropriate treatment may be prescribed, we should advise him on general principles to give the colt a half-dram of iodide of potash in water night and morning for five consecutive days a week for two weeks. If a deep-seated abscess can be found it should be opened for liberation of pus.

For Perfect-Conditioned Work Horses Use EMPIRE Horse Feed!

A good work horse is worth every care. Proper feeding will keep your horses fit-looking, slick, well and ready for the day's work.

EMPIRE Horse Feed is a carefully planned, economical balanced ration that will give you the finest results with work horses.

It is the perfected result of years of experiment and investigation.

Contains only good grains and other first-class ingredients. EMPIRE Horse Feed costs a little more—so does any article of quality. But it is cheaper in the long run and yields the best return for the money.

"Costs More, but—It's Worth More."

EMPIRE HORSE FEED

HORSE FEED	*Analysis Guaranteed*
Protein, not less than	11%
Fat, not less than	3½%
Fibre, not more than	8%

DAIRY FEED and HOG FEED	*Analysis Guaranteed*
Protein, not less than	16%
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Fibre, not more than	8%

31

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Arts, Science, Engineering, Music, Law, Pharmacy, Medicine, Dentistry

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Three of $200, five of $100, each. Awarded on results of matriculation examinations, Sept. 22-25, 1920. One reserved for Halifax County, one for Cape Breton, one for New Brunswick and one for Prince Edward Island.

FIRST YEAR SCHOLARSHIPS:
Three of $200, three of $100, each. Awarded on results of first year, and tenable during second year.

THE BIRCHDALE HOTEL
has been purchased as a residence for men students and the Marlborough House for women students.

REGISTRATION DAYS
in all Faculties are September 27th and 28th. Halifax students must register on the 27th.

LECTURES BEGIN
Wednesday, September 29th.

FOR FULL INFORMATION
apply in person or by letter to the office of the President.

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AT
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WEDNESDAY, SEPT. 1st

Write for full particulars at once, and ask to have a place reserved for you.

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The First Week In September

Is the beginning of our busy season

No need of waiting till then. Students may enter at any time, and the inflowing tide has already set in.

Send For new Rate Card.

Advertise in the Farmer

POULTRY.

REGISTRATION OF POULTRY.

Provision is now made for the registration of poultry based on egg production along much the same lines as the registration of dairy cows based on milk production. The productive ability of the hen is thus given due recognition and poultry breeders and farmers should endeavor to have as many birds registered as possible. From now on the most successful poultry raisers will be those who can produce the best strains of layers.

The Canadian National Poultry Association has recently adopted a set of rules governing the entry and registration of birds in the Record of Performance. Certain extracts from the Constitution of the Association and Rules of Entry are given to bring to the attention of the public the manner in which birds may be entered for registration.

2. OBJECT

The objects of the Association are as follows:

1. To consider all matters tending towards the improvement and advancement of the poultry industry.

2. To keep a record of registered poultry, and to collect, preserve and publish data, information and documents relating to registration.

3. MEMBERS

1. There shall be three classes of members:

(a) Honorary Members

The Association at the annual meeting may appoint honorary members, but such honorary members shall take no part in the management of the Association's affairs, and their positions shall be purely honorary.

(b) Life Members

Life members shall be those resident in Canada, who have paid a fee of $50.00.

(c) Annual Members

Annual members shall be those persons, associations, partnerships or incorporatied companies, resident in Canada who pay an annual membership fee of $2.00 on or before the first day of January of each year.

6. OFFICERS

1. Directors: The affairs of the Association shall be conducted by a Board of Directors. The provisional Directors shall hold office until the annual meeting of 1923, and thereafter the Directors shall be elected at the annual meeting of this Association by ballot of the members present and shall hold office until their successors are elected.

The representation shall be two Directors from each province and the Dominion Poultry Husbandman and the Chief of the Poultry Division of the Dominion Live Stock Branch. The Directors of this Association shall be known as the "National Paultry Council."

The Board of Directors shall have power to fill vacancies which occur among the officers through death or resignation.

The Directors may delegate any of their powers to executive committee.

2. Executive Committee: The Directors shall elect from among themselves at their first meeting the President, two Vice-Presidents and eight other members. The president, the two Pice-Presidents with two directors shall constitute the Executive Committee. Each Vive-President with four members of the Directorate located respectively in the western and eastern provinces shall form a local executive committee acting in an advisory capacity to the executive. Other Committees may be appointed by the Directors, either from among themselves or the other members of the Association Members of any committee, except the Executive Committee, shal lhave power to add to their members.

14. REGISTRATION OF PEDIGREES

1. A register shall be kept at the office of the Canadian National Live Stock Records known as the Canadian National Poultry Record.

2. There shall be delivered to every person recording a bird a certificate of registration in such form as may be decided upon by the Directors.

4. The Books of Record to be known as the Canadian National Live Stock Records at such time and in such form as decided by the Directors, and shall contain a copy of the Constitution and By-laws.

5. Any person expelled from membership shall not be allowed the privilege of recording pedigrees on the books of the Association.

6. Any member in arrears of membership fees shall not be allowed the privilege of recording pedigrees on the books of the Association at non-members' rates.

7. Any member prohibited from recording pedigrees by any other Association incorporated under the "Live Stock Pedgree Act" shall not be allowed to record pedigrees on the books of the Association.

15. RULES OF ENTRY.

1. The Standard for poultry as adopted from time to time by this Association by resolution shall be the standard used in determining the purity of breeding.

The breeds and varieties comprising the standard at the date of this incorporation shall be as stated in the schedule attached to the original of this Constitution.

2. The following may be admitted to registry:

1. Pure bred females.

Pure bred females of standard varieties and free from standard qualifications which have qualified in the Canadian Record of Performance for Poultry "A" and "AA" as approved by the Minister of Agriculture for the Dominion.

(a) Record of Performance "A"—To consist of the inspectio nof trapnested flocks on individual poultry plants, under the supervision and inspecial of officers of the Live Stock Branch of the Dominion Department of Agriculture.

(b) Record of Performance "AA"—To consist of the trap-nesting of birds by laying contests or laying under Domniion Experimental Farm, Provincial Government or College management and subject to Dominion Experiental Farm inspection.

(c) Qualification Requirements—The minimum record to permit a bird to qualify in the Record of Performance is one hundred and fifty eggs (150) in fifty-two (52) consecutive weeks, the eggs to be of the quality of Specials and averaging in weight twenty-four (24) ounces to the dozen.

2. Pure bred males.

(a) During 1922, 1923, 1924 and 1925 pure bred males of standard varieties and free from standard disqualifications, the dam and dam's dam of which have qualified in the Canadian Record of Performance for Poultry and have been registered in the aCnadian National Poultry Record.

(b) After 1925 pure bred males of standard varieties and free from standard disqualifications, the sires of which are recorded in the Canadian National Poultry Record and the dam and dam's dam of which are qualified in the Canadian Record of Performance for Poultry and have been registered in the Canadian National Poultry Record.

10. No applications for registration will be considered until fees are paid, nor will any number be assigned to a pedigree until every requirement has been complied with.

16. FEES.

Life Membership, $50.00.
Annual Membership, $2.00.
The fee for registration of pedigree is as follows:
To members, birds 50c each.
Transfers 50c each.
Duplicate certificates, 25c each.

PEDLAR'S GEORGE & OSHAWA SHINGLES

give your buildings the most effective protection against lightning. They lock together on all four sides and form a continuous sheet of steel. When properly grounded they deflect lightning harmlessly into the ground. A Pedlar steel roof will never catch fire from any cause. It is stormproof, windproof, rainproof, and will outlast the rafters on which it is placed. The lifetime of service it gives makes a Pedlar Steel Roof the cheapest roof you can buy.

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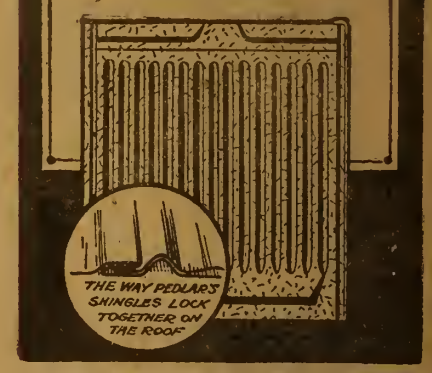

To non-members, double the above fees in all cases.

SOME DISEASES OF POULTRY AND HOW TO TREAT THEM.

The one factor of the greatest single importance in poultry management is cleanliness. In order to maintain a flock free from disease, it is essential to keep your eye on the individuals in the flock all the time and thus be able to determine immediately any abnormal condition or evidence of disease should it appear. A

Fancy and Utility White and Barred Plymouth Rocks

Orders booked now for Sept., Oct., Nov., and Dec. delivery.
We offer a limited number of Cockerels and Pullets at reasonable prices. Write us your wants and let us quote you.
All stock shipped on approval.
See our displays at the Fall Fairs.
Our Stock breu to lay, win and pay.

CENTREVILLE POULTRY YARDS
G. E. Wilson, Mgr.
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loss of appetite, digestive disorders, diarrhoea, eye or throat trouble, or any other suspicious condition should be immediately noted, the trouble determined, and prompt measures taken to check it. The removal of the cause in a normal flock will usually be sufficient. In instances of serious infections of a roupy nature, which may be exaggerated by bad weather, flock treatment may be necessary to effect a cure. If a diagnosis determines the presence of a serious contagious condition, all affected birds should be immediately removed and their quarters thoroughly disinfected. In such cases it is the safest plan to kill and burn all infected birds.

Clean birds are those which are free from body parasites. Lice and mites sap the vitality of the fowls, lower their normal resistance to disease and check their production due to the unnatural irritation. Loss of appetite and loss of weight follow severe attacks of these parasites. Here again prevention is easier and better than eradication. Clean dust boxes, where the birds can roll and dust themselves in dry fine soil will help to hold them in check; but it never effects entire control. Solium fluoride properly applied will completely control these pests.

Ridding Poultry of Lice.

Sodium fluoride costs about 30 cents a pound, one pound being sufficient to treat 125 birds by the dry powder method, which is to be preferred to dipping. Sodium fluoride is a stomach poison, killing all types of lice which are found on the plumage of poultry. The pinch method of applying the powder dry has been found to be very parid and efficient. This method consists of holding the bird with the left hand, by the wings, while with the right hand a small pinch of the fluoride is taken from a convenient dish and placed in the region of the vent, one beneath each thigh, one on the wattle at the base of the neck and one on each hip.

One treatment will eradicate all lice of all types, including those which hatch out after the application.

Sodium fluoride is absolutely non-injurious to the fowls, eggs or chicks. It does not stain the feathers.

It is a very cheap and efficacious method of lice eradication.

The Importance or Clean Food.

Unlike the lice, the red mites are blood-sucking insects. They are very tiny, and straw-colored when empty. In the daytime they live in the cracks and crevices in the roosts, rests and dropping boards. They appear as thick red dust, which, if watched for a moment, will be seen to move very rapidly. Because of this habit of leaving the birds during the daytime, it is particularly easy to control them. All infested places hould be painted with some material which will kill these parasites. Gas tar, a by-product in the manufacture of illuminating gas, or any one of the commercial wax perch paints are very satisfactory for this purpose. The material used should be painted on the perches, and all other places which are likely to become infested, in sufficient quantity to penetrate the cracks and the grain of the wood.

There is one other form of mite which often does considerable damage, and that is the scaly leg mite. This insect is very common in farm flocks and can be controlled by dipping the legs of birds affected in crude oil. One or ,at the most, two treatments will always effect a cure, if taken before permanent damage has been done to the bird's legs.

Too much cannot be said in favor of feeding our poultry nothing but clean, sweet, wholesome grains and by-products. The old-time practice of feeding the barn-yard flock anything and everything that was not fit to feed to any of the other live stock has passed. We know today that the hen has one of the most delicate digestive systems of any of our live stock.

The birds of the laying flock, of necessity, must be confined during the greater part of the winter. This means the necessity of keeping their quarters absolutely clean and sanitary, if they are to be kept healthy. There are four very necessary operations which go to maintain clean poultry houses:

First, do not fail to have a general house cleaning at least twice each year, spring and fall, just as mother used to do. If the weather is bad and disease appears, additional cleaning will be necessary. During this cleaning everything movable in the pen should be taken out, swept clean and exposed to the sun and air for a number of hours. Remove all the litter and sweep the interior of the house clean. H. R. L.

POULTRY SUFFER FROM ROUP.

Tell me what is wrong with my hens; their eyes swell up and run matter and they are blind for days. Their heads are swollen. J. B. M.

Ans.—Your poultry is suffering from roup, and as this is contagious it will therefore be necessary to remove all the well birds from the sick ones and from where the sick ones have been. All that are badly affected should be killed and the bodies burned, and the house and parts where they have been thoroughly disinfected. It will not be safe to put well chickens in the house for at least three months after the disease has been stopped.

In the early stages of the disease, mix one teaspoonful of common baking soda with four ounces of water. Shake up well and inject a little into each nostril, then inject a little peroxide of hydrogen. Repeat this treatment twice a day until the parts are well. If the eyelids are swollen, press them with the thumb and finger and wipe off any matter that may exude and use a little of the above lotion.

DON'T USE A SCRUB DAIRY BULL

The longer you use a scrub dairy bull the less money you will make. On the other hand, the longer you use a pure-bred dairy bull the more money you will make. This fact is brought to our attention by the results of a survey on 577 dairy farms in northern Illinois in 1912.

Effect of Bull on Labor Income of Owner.

	Labor income Bull used 1 to 5 yrs.	Bull used 5 to 10 yrs.
I. Pure bred bulls used	$799	$1102
II. Grade bulls used...	404	732
III. Scrub bulls used...	198	—243

Those farmers who used a scrub bull from 1 to 5 years ha da labor income of only $198; less than a hired man's wages. When they used scrub bulls from 5 to 10 years they were actually $243 in the hole. They paid $243 per year for the privilege of milking a bunch of scrub cows and doing their other farm work.

Now study the results of those farmers in Group I. who used pure-bred bulls. Notice that when pure-bred bulls were used 1 to 5 years the farm labor income was $799; more than double a hired man's wages. When pure-bred bulls were used 5 to 10 years the afrm labor income was $1,102, which was about three times a hired man's wages.—E. M. Clark, Illinois College of Agriculture.

The accredited herd system is away to a good start in Canada, and a large number of herds have been put under the test. In the United States the work has progressed rapidly. Approximately 30,000 herds are now under federal supervision. Minnesota leads with 413 accredited herds.

We have not yet heard of any county in the Maritime Provinces boasting of having gotten rid of the last scrub bull within its boundaries.

If you are not in a position to show your stock at the large fairs, patronize the local fairs, thus assisting in making the show of greater value.

Kill them all, and the germs too. 10c a packet at Druggists, Grocers and General Stores.

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Shbjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N. B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

THE SUN BREAKS THROUGH

In farming there's an adage true,
That never has been known to fail.
It's Nature's heritage to you,
An ever new, yet ancient tale.
For every cloud that's in the sky;
For every day that's dark and drear
A sunny one comes drifting by,
The brighter ones are always near.

A LOVE FILTER

Sally Brimmer did not know about the surprise party until mid-afternoon Fanny Carr ran in to ask her and to see if she would bring a fruit salad—"We've got plenty of everything but that."

"I don't feel very well," Sally replied. "I've taken cold somehow, hanging out the wash probably. But if I don't go I'll send Lex with the salad."

"Well, don't put yourself out," Fanny said. "We'd like awful well to have you come. It's their seventeenth anniversary."

"I know it," Sally sighed. "They were married about the same time we were."

She was certain Lex would want to go so she ironed his best shirt, the one with the fine blue stripe, and brushed and laid out his best clothes. Then she went out to the grocery and bought oranges and gelatin for the salad. She also bought a can of finan haddie for Lex's supper; he was so particular what he ate. Incidentally she thought about the Wilson surprise party. She wanted to go, but she did not feel able.

The salad was a translucent mould and the finan haddie was creamed to perfection when Lex came home from his work. Lex Brimmer was a nice-looking man of the red-brown type. He had curly hair and handsome eyes and a trim little moustache. Sally admired her husband very much and she was not ashamed to show it. When she told him about the surprise party he laughed.

"Well, well, that's one on Abe Wilson. He was telling me today that he didn't believe a soul outside of him and Lucy remembered that it was the seventeenth anniversary. He will be surprised for a fact. You going to take anything?"

"Im going to send a fruit salad by you and I gave Fanny a quarter toward buying them a present."

"But you've got to go, too. Say, you must. Why, I can't go without you. If you don't go I shan't and we owe it to the Wilsons to be there."

The disappointment and dismay in Lex's tone played upon Sally's sympathy. She decided to overlook her stuffy nose and aching head and go. After supper she washed the dishes while Lex read the evening paper. Then she went to get ready.

Sally was the old-fashioned daughter of an old-fashioned mother. She had been carefully trained—first in the duty of a child to its parents and then in the duty of a wife to her husband. For seventeen years she had given her whole time to making Lex comfortable and happy. The more she did the more he demanded. Sometimes it occurred to her that he was selfish, but then all men were selfish Her own father had been most exacting. She had learned from her mother how to efface self for the sake of being an exemplary helpmate. 'The heart of her husband doth safely trust in her,' was the goal toward which Sally strove with every sacrfiice she was capable of.

As a consequence, she had nothing suitable to wear to the surprise party She had wanted a dress for some time but the house had needed certain repairs and Lex had had to have a new overcoat, so she had waited. Her own black dress was all she had to wear, and she did not look well in black. If she had dreamed of going to a party she would have crimped her hair. She had no time now for anything more than a hasty toilet.

Lex did not give her a glance as she came forth in festive panoply. He simply assumed the burden of the salad and they set forth together.

It was a crisp, cold February night with a moon. The snow crunched under their feet as they stepped fast toward Whipple's grocery where the crowd were to meet, proceeding from thence in a body to Wilson's house. There was already quite an assembly when Lex and Sally arrived, muffled women and men with parcels, all laughing and talking together. Sally and Lex were joyfully greeted.

"So you got out after all!" Fanny Carr cried to Sally. "I'm glad. The more the merrier."

"So am I," said Mrs. Cobine. "It won't do no harm, Sally, be sure of that. I've been all but down sick for three days, but I said to myself I was going to Lucy Wilson's surprise or know the reason why."

Fanny nudged Sally.

"Who's that woman talking to Lex?

Sally turned with a start. Lex was no longer by her side, but at some distance talking to a fashionable woman in a fur coat.

"I don't know," she said wonderingly.

"Why, yes you do," Mrs. Wakeman spoke across her shoulder. "That is Eileen Lebar. You remember Eileen? You must. Lex went with her before he ever met you, Sally."

"Oh yes" Sally said faintly. "I remember now. How does she come to be here?"

"Why, she's visiting Kate Cole and Kate brought her to the surprise party. There. They're beginning to start. You better come with me, Sally. I see Lex's going with Eileen" said Mrs. Wakeman, tactless and downright, caught Sally by the arm.

So they came to the Wilson house and bursting in had made a great clamor only to find everything in read iness for them. Mrs. Wilson had on her best dress and Mr. Wilson had on a clean collar. There was warmth everywhere and the twist of a button produced lights.

"Somebody told 'em," whispered Mrs. Wakeman disgustedly into Sally's ear. "That's always the way. We might have known it."

In the bedroom upstairs Sally was accosted by Eileen.

"I don't suppose you know me, Mrs Brimmer? But your husband and I used to be good friends. It seems like old times to see him again and all of you. I've been away for so long, ever since my marriage. I just arrived today and at first I thought I was going to be too tired to come to the party, but I made up my mind that it would be a splendid chance to see everybody and it is!"

She spoke rapidly, snapping her dark eyes and curling her fresh lips. She was pretty in a way that made you think of artificial roses, and her dress was one sparkling mesh of jetted lace and satin. Nothiug so wonderfully stylish had ever been seen in the town unless indeed it were the wax lady as a decoy to the vain and moneyed feminity. Sally felt an increasing awe of her. She hardly knew what to say. They happened to be standing before the bureau and the large mirror repreated them with cruel accuracy. Nothing could have been more unlike than the black of the dresses or the color of their faces. Sally saw and shivered. Eileen saw and smiled wider. She put her arm through Sally's and drew her downstairs to where Lex was waiting.

"I've been telling your wife that you and I are old friends," she said, gayly.

"Sure," grinned Lex, looking delighted. "We are."

At that moment Fanny Carr came and drew Sally away leaving Lex and Eileen together.

They were together the whole evening and they had a very gay time. They seemed charmed with each other. Sally saw them and her heart grew heavier and heavier. She was too miserable for concealment. She tried to talk and smile but she made such poor work of it that she was sure the other women guessed what she was undergoing. She saw them glancing first at Eileen and Lex and then at each other and she knew what these looks meant.

But the party, like all things, came to an end. Mrs. Cole took her gay guest in one direction and Sally took her husband in another.

"My, how good looking Eileen's got." he exclaimed. "She's improved wonderfully. And wasn't her dress pretty? They say that fellow she married gets a big salary. He'd have to with her. I knew I could never earn enough to support her."

"Perhaps you could earn more if I obliged you to." Sally said grimly.

After that she retired behind her conscience while he whistled thoughtfully.

After reaching home Lex went unconcernedly to bed while Sally saw to the kitchen fire and set bread against tomorrow's baking. As she worked she thought about Eileen and after she had fallen asleep she dreamed about her.

She was patching a pair of Lex's every-day pants the next afternoon when upon glancing out of the window she saw Eileen coming up the walk. With a gasp Sally sprang from her chair and tucked the pants under the couch again, but one of the legs refused to be hid, and Eileen saw it as soon as she entered.

"I came because I knew I wouldn't see you again else," she said. "I'm going back tomorrow. I'd like to stay longer but I don't feel I can now. The truth is, I find everything so different it's sort of heartbreaking. Why, even Kate isn't the same. Or Lex, or anybody. I suppose I'm not the same either or I wouldn't feel that way. But after having lived in the city seventeen years you must know I find a place like this pretty dull."

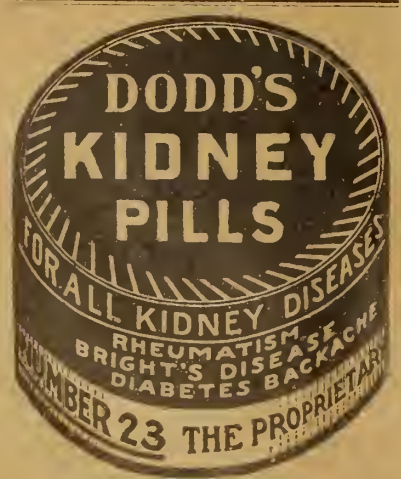
"Of course you do," Sally replied. She did not know what to say.

"Do you know I took a read fancy to you last night? " Eileen went on. "You may have heard I used to go with Lex before you came to town. We never got along some way, though we liked each other well enough. But you've got to have something besides liking to marry on. He seems like a nice man, but I'm going to tell you something." She leaned across her knees to get nearer to Sally. "You're too good to him. And it don't pay. You can work yourself to death for your man and the most you'll get out of it is wrinkles and gray hairs. The harder you work for him, the homelier you grow and that's all the thanks you get for it. You'd be real pretty and taking if you took more pains with yourself and it would make a lot of difference with Lex. You know how it is with yourself when you're looking at a flower bed; you don't gaze long at the faded blossoms; your eyes just naturally goes to the best bloomer and lingers there. You see what I'm trying to point to you Sally? I suppose you're madder than fury at me, but I can't help it. I couldn't go away without telling you some things that were for your own good."

"Wait! Don't go yet," she said, breathlessly. "I want to give you a cup of tea—and a cruller. I made some fresh this morning."

Eileen sat down again. Over the crullers and the tea they talked long and earnestly together.

The next day Miss Foster at Green & Daly's was astonished to sell a



Greatly Troubled With Weak Heart.

Through one cause or another a large majority of the people are troubled more or less, with some form of heart trouble.

Mrs. James Blair, Maynooth, Ont., writes, under date of January 2nd, 1920: "I feel it my duty to let you know how much benefit I have received through using your Milburn's Heart and Nerve Pills. I was greatly troubled with a weak heart, and I doctored with three different doctors, but as soon as I stopped their medicine I was as bad as ever. I purchased four boxes of your pills last spring, and I had not taken two of them before I began to feel better, and after using the four I have not been troubled since."

On the first sign of any weakness of the heart Milburn's Heart and Nerve Pills should be taken so as to regulate and stimulate it, and this being done the whole system will be restored to a normal, healthy condition.

Price 50c. a box at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

GENUINE DIAMONDS
CASH or CREDIT
Terms: 20% Down and $1--$2--$3 Weekly.
We trust any Honest Person
Write for Catalogue to-day
JACOB BROS., Diamond Imp., 15 Toronto Arcade, Toronto

piece of white serge to Sally Brimmer. But she was no more astonished than they were at the drug store to sell this same Sally a tube of cold cream and a package of pink rice powder.

"Why, you're a real good looking woman, Sally!" he cried. "I declare I'm proud of you. What did you pay for that hat?"

"Beauty comes high," replied Sally calmly. "I paid $7 for it."

He took it nobly.

"Well, I don't care if you did. A man likes his wife to look as well as other men's wives. It ain't to his credit if she don't. Come along. The bell's ringing."

It seemed to Sally that the bell did more than ring as she walked along beside her husband under her new hat; it capered and clanged and accomplished all sorts of tonal gymnastics. But Sally's heart kept time to it for she was wonderfully happy.

WHY MOTHER DIDN'T VOTE

There were to be some little pigs in June, so father said, but they did not materialize, and feed was so high he began to complain when there was no return in view, so mother said she 'sposed he'd better kill the sow. She did hate to lose it too, it was a great disappointment to mother, but seemed better than hearing father grumble. He was quite pleased at the prospect, "can't see ahead enough to realize the loss," thought mother.

A few days later, the bag of feed nearly gone, mother asked him when he was going to do it.

"I don't know how I can kill one as big as that," he said. "It will be an awful job; how would you do it?"

"The same way as you'd kill a small one, I suppose," said mother.

"It'll be an awful job," repeated father. "I don't know how I'll do it —how would it be to shoot her and then bleed her?" He looked at mother, beaming over his brilliant idea.

"That's how they kill them all, isn't it?" said she.

"Is it?" said father.

"Didn't you know that," said mother "No."

"Then I know more than you about that, anyway," mildly rebelled mother.

Father kept on about what a job it would be. Mother thought "that means hiring a couple of men, I can see, more loss!"

Well, father got two neighbors to help him, and they killed the sow on Thursday evening, father pottering round like a hen whose duck chicks have just found the pond.

On Friday morning he began to cut it up; mother watched awhile, then went to the rescue of the meat.

"Let me see, father," she said. "I've cut up all the pigs I've kept while you were away during the war, and got kind of used to it."

Father got the barrel, and put the pieces in, and was just going to pour a pail of salt on the top!

"The pickle wants boiling, you know," called mother.

"Does it," says father in surprise, "that'll be an awful job, won't it?"

Mother got it done, however.

Of course, she meant to go to vote, but this had been a hindrance, yet on Saturday by getting up an hour earlier, she could have managed it.

Father said he was going in the Ackroyd's car, he didn't ask mother if she wanted to go.

However, she got dinner early, and when father was gone and the dishes washed, she primped up and went to the barn for old Dobbin, to find his stall empty; she went to the pasture, he wasn't there! Much worried, mother went to Ackroyd's and said she feared old Dobbin had got out of the pasture and strayed, "tho' land knows why he should after being here all these years."

Little Bessie Ackroyd told her. "No your 'father' lent him to Wilson's this morning, as their driver has gone lame, didn't you know?"

"No," said mother, he never said a word about it."

"Well now, if that ain't too bad," said Bessie.

JOANNA M. HUDSON

Now He Is Able Resume His Work

WHY ALPHONSE BLAIS GIVES CREDIT TO DODD'S KIDNEY PILLS

Saskatchewan Man, With His Rheumatism and Backache Gone, is Telling His Neighbors of Dodd's Kidney Pills.

Lac Pelletier, Sask., Aug. 29—(Speciel)—Stating that he has been relieved of rheumatism and backache by Dodd's Kidney Pills, Mr. Alphonse Blais, a well known and highly respected resident here, is singing the praises of the old reliable Canadian kidney remedy.

"Yes, I suffered from backache and rheumatism," Mr. Blais said in an interview; "and I spent much money on medicines before trying Dodd's Kidney Pills. After taking several boxes of them I was able to resume my work. Now I am quite well again

"I owe my health to Dodd's Kidney Pills, and I want everybody to know that I am very thankful to Dodd's Kidney Pills."

Mr. Blais' troubles came from his kidneys. That is why Dodd's Kidney Pills gave him such prompt relief. Ask your neighbors if Dodd's Kidney Pills do not help any and all forms of kidney disease.

WHAT CAN BE DONE WITH CRAB-APPLES.

Crab apple trees produce almost every year, and grow in any out-of-the-way corner with little attention. A few trees will supply fruit for jelly and preserves much more cheaply than the high-priced apples on the market. Moreover, the quality is just as good, if not better.

To make crab apple jelly, wash the crabs thoroughly, remove the leaves and blossom ends, cut out the decayed spots and place the apples in a preserving kettle. It is unnecessary to peel the fruit or to remove the cores and stems. Cover the apples ples well with cold water and cook them slowly until they become very much broken. The longer and more slowly they cook, the better will be the flavor and color of the jelly. Pour the apples and juice into a jelly bag, and drain them overnight without pressure.

In the morning measure the juice and add an equal amount of granulated cane sugar. Stir the juice until the sugar is thoroughly dissolved. Pour the sweetened juice into large-sized rather shallow granite kettles, with so little in each that it will begin boiling very soon after it is placed over the fire. Crab apple jelly requires very little boiling. As soon as the juice becomes thick enough pour it into glasses.

A surprihing amount of juice, of course containing some pulp, may be secured by pressing the apples left in the jelly bag. Jelly can be made from this juice also. If this second grade juice is pressed out the remaining pulp should be disposed of, as it is too dry to be palatable. On the other hand, if the juice is not pressed out, the pulp may be made into fairly palatable crab apple butter. Some people consider the flavor of the jelly is delightfully improved if a stick of cinnamon is added to the crabs before they are boiled.

Butter and Pickles.

Crab apple butter is inferior to that made from other apples, but even at that it is very palatable indeed. Wash the crab apples thoroughly, remove the leaves and blossom ends, place the crabs in a large preserving kettle and cover them well with cold water. Allow them to cook slowly until they become thoroughly soft. Remove them from the fire and allow them to cool enough to handle. Empty both the apples and the juice into a granite colander and rub them through it. Place the pulp and juice together in a stone crock with enough sugar to make the butter as sweet as desired; usually about a cupful of sugar to a quart of pulp and juice is satisfactory. Add also cloves and cinnamon to suit the taste. Mix the sugar and seasoning with the pulp and juice, and then place the crock in a moderately hot oven. Stir the butter once ever ten or fifteen minutes. When it becomes thick like mush, seal it in jars.

Crab apple preserves are superior in flavor, shape and color to those made from other apples. Prepare a heavy sirup by b iling together for fifteen minutes sugar and water in the proportion of one quart of sugar to one quart of water. Select perfect, well colored crab apples, wash them thoroughly and remove the blossom ends; leave the stems and peelings. Place the crabs in the sirup and stew them gently until they are well done. lift them out and put them into glass Jars. Unless the sirup is very thick, boil it until it becomes like molasses; then fill the jars to overflowing and seal.

For pickled crab apples select only perfect ripe fruit. Wash the crabs thoroughly, remove the blossom ends, being careful not to break or remove the stems, and put the apples into a preserving kettle with enough vinegar to cover them. Boil them slowly until they become tender, but remove them before they fall to pieces and placethem in jars. Estimate the amount of vinegar necessary to cover the fruit in the jars; measure out this amount, and an extra pint to allow for boiling away, from the liquid in which the crabs were cooked. Add one and half pints of brown sugar for each pint of vinegar, and also a bag containing two sticks of cinnamon and three tablespoonfuls of cloves; boi lthe mixture for thirty minutes. Then pour the boiling vinegar over the crab apples and seal the jars.

TOMATO CATSUP.

Cut one peck of ripe tomatoes into small pieces. Boil until tender, and strain. Add six tablespoons of salt, one tablespoon of white pepper, one saltspoon of cayenne pepper, two tablespoons of cinnamon, one tablespoon of cloves, one teaspoon of allspice, one teaspoon mustard, one pint of vinegar, and one cup of sugar. Boil slowly for three hours. Seal in sterilized glass bottles.

PICKLES.

Wash and thoroughly clean small cucumbers. Fill sterilized jars. To each jar add one tablespoon of salt, one tablespoon of allspice, and fill with equal parts of vinegar and water. Seal air-tight.

PEPPER PICKLE.

Chop twenty-four red peppers and twenty-four green peppers. Pour boiling water on to the peppers and let stand fifteen minutes. Pour off water and repeat process. Add twelve onions chopped fine, two cups of sugar, three tablespoons of salt, and three pints of vinegar, to the peppers. Cook until peppers are soft.

DIARRHOEA TURNED TO DYSENTERY

Lost 29 Pounds.

Dysentery is one of the worst forms of bowel complaint. The pains in the bowels are intense, the discharges occur with great rapidity, and are very often accompanied by blood. It does not need to persist for any length of time until the whole system is weakened and debilitated, and hardly any other disease so quickly undermines the strength and brings about a condition of prostration and utter collapse that often terminates fatally.

To check the unnatural discharge, without bringing on constipation, there is only one remedy to use, and this is Dr. Fowler's Extract of Wild Strawberry.

Mr. G. W. McVagh, Mawer, Sask., writes:—"About eight years ago I had a severe attack of diarrhoea which turned to dysentery before I got better. I might say I was sick for three weeks. I weighed 154 lbs, when I took sick and weighed 125 lbs. when I got it stopped. I think I had tried every medicine that was on the market and did not find relief until I tried Dr. Fowler's Extract of Wild Strawberry, and one bottle relieved me. I think there is nothing like it for diarrhoea or dysentery. I always keep some on hand as a person does not know when he will need it."

'Dr. Fowler's" has been on the market for the past 75 years. Don't experiment with some no-name-no-reputation compounds. They may be dangerous to your health.

Price 50c. a bottle. Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

CHUTNEY SAUCE.

Remove seeds from two green peppers. Put peppers with one cup of raisins, two onions, and six green tomatoes through a chopper. Cook for one minute one quart of vinegar, two cups of brown sugar, one tablespoon of powdered sugar, two tablespoons of salt, and two tablespoons of mustard seeds. Combine two mixtures and simmer one hour. Add apples cut into quarters, and cook until they are soft but not broken. Seal in sterilized fruit-jars.

TOMATO AND APPLE PICKLE.

Use twelve tomatoes, twelve apples, and six onions of equal size. Cooke the tomatoes in one quart of vinegar until the tomatoes are soft. Chop the apples, onions, and one pound of raisins very fine. Add to the tomato mixture with which has been combined one pound of brown sugar and one teaspoon of salt. Boil for one-half hour. Add one-half teaspoon of ground cloves and one-half teaspoon of ground cinnamon. Cook five minutes. Seal while hot in sterilized glass jars.

SWEET PICKLED APPLES.

Use tart, well-flavored apples. Wipe and cut into halves. Stick each half with three cloves. Make a syrup using one part sugar to one part water. Use one pound of sugar to two pounds of apples. Put apples into syrup and simmer until they may be pricked with a toothpick. Keep in a stone crock.

'In the land of the free" women are still fighting for federal suffrage. Even Tennessee is getting excited as the time for State ratification grows near.

Fruit Packages

We Manufacture Strawberry Boxes and Crates for same, 6 qt. Baskets, Apple Boxes, Box Shooks, Apple Graders, Wheelbarrows. Now is the time to lay in a supply of Fruit Packages for the coming season. We have a good stock on hand, order early and ensure prompt shipment. Price on application to

Hantsport Fruit Basket Co,. Ltd.

HANTSPORT, N. S.

THE CITY MILK SUPPLY

(Continued from page 843)

3. Milk with dry hands; never allow the hands to come in contact with the milk. The practice of moistening the hands with milk, or to spit on them, is to be condemned.

4. The milker should wear a clean washable jacket, used only when milking, and kept in a clean place at other times.

5. Always brush off and wipe the udder and surrounding parts just before milking. If the cows are very dirty, wash with a cloth or sponge, and then dry the udders and teats with a clean piece of cloth or sacking

6. Milk quietly, quickly, cleanly and thoroughly.

7. The first few streams from ecah teat should be rejected, as this milk contains more bacteria than the rest of the mess.

8. All milk drawn from the cows 15 days before and 5 days after calving shall be rejected, and also all milk from diseased cows. If any accident occurs by which a pail full or partly full of milk becomes dirty, do not try to remedy this by straining, because the soluble filth and the bacteria cannot be removed by straining but reject all this milk and rinse the pail.

9. The pails in which the milk is drawn should have as small as openng at the top as can be used in milking. This renders the collection of manure and dust with the milk, less likely.

10. Dry fodder should not be fed to the cows during or just before milking, as dust therefrom will fall into the milk.

The Milk

1. Remove the milk of every cow at once from the stable to the milk house or to a clean room where the milk cans to remain in stables while milk cans to remain in stables whle they are being filled.

2. A good plan, if modern coolers are not available, is to strain the milk into cans which are standing in ice water which reached the neck of the can.

3. The more rapidly the milk is cooled and the colder it is kept the safer it is, and the longer it will remain sweet. Milk cannot be properly cooled at any season of the year if the air alone is expected to do the cooling.

4. Ice should be used in cooling both in summer and winter, as very few wells or springs are cold enough for the purpose.

5. If aerators or coolers are used, they should stand where the air is free from dust and odor, and so on no account should they be used in the cow stable.

6. Milk should always be cooled as soon as strained. If modern apparatus for airing and cooling at the same time is not at hand, the milk should be aired by tipping the covers slightly while cooling the milk to 50 degrees F. in clean ice water. Precautions should always be taken to see that the water is above the milk to be cooled in the cans, and that the water cannot overflow into the cans and water the milk.

7. Never ship a can containing warm milk which has not been cooled and aerated.

8. If the milk is held at the farm it should be stored in fresh, ice cold water, or kept in a running spring.

9. The milk should be kept under shelter, so that the rain cannot get into the cans.

10. Never mix fresh warm milk with that which has been cooled.

11. Durng the transportation of the milk and cans to the car or dairy covered wagons only should be used. If this is not possible the cans should be protected from heat, cold. dust and mud by a clean canvas or blanket.

12. All milk must be rapidly cooled and continuously maintained at a temperature below 50 degrees F.

(Continued next issue)

POLISHING HORNS FOR EXHIBITION.

How can I train horns and polish them on exhibition cattle? H.H.

Ans. The proper time to train horns is when the animal is young. Then they can be controlled, if patiently handled, by using horn trainers. When using horn trainers care should beg taken not to overdo it and spoil the horns. To polish a coarse, rough horn the procedure is as follows: Begin with a rasp that is rounded on one side and get the scaly parts off. Then scrape the horn with broken glass or a steel scraper. Follow this with emery cloth, and then use an oiled rag with powdered emery on it, finally polishing it with metal polish or powdered pumice stone on an oiled woolen rag. Some show men keep a woolen cover on the horns to protect them.

RIDGLINGS STERILE

L.B.T.—"Can a double ridgling inseminate?

Reply—Where both testicles are re tained in the abdomen the horse is termed a crytorchid and is sterile. He has all the attributes of a stallion however, and will serve a mare, but the fluid ejected will not contain the sperm cells. Where one testicle is retained the horse is termed a monor chid, and may be fertile.

THRUSH

I have a horse whose frog seems to rot away. The stables are kept in fine condition with plenty of clean straw. What is the best thing to do for him? Some call it thrush.—G.E.W

Thrush is characterized by a discharge of thin, foul smelling fluid, from the cleft of the frog and is caused, as a rule, by standing in wet and filth. Cleanse the frog and cut away all loose or rotten horn and then pack calomel into the cleft of the frog and on each side of it, if those parts also are diseased. Cover with pine tar and oakum or cotton. Renew the dressing daily; keep the stall floor clean and dry.

Poland China Swine

See my exhibit of Poland China Pigs at St. John and St. Stephen Exhibitions. I have three litters for sale at $12 each. Be sure and see me and get one or more.

RALPH H. LIBBY,
Stanstead, Que.

BARRED PLYMOUTH ROCK COCKERELS

From Bred-to-Lay Strain
Imported by New Brunswick Department of Agriculture, and from Breeders of Ontario Agricultural College stock. Three Dollars each for fall delivery.

HAYFIELD BROS., INVICTA FARM, OROMOCTO, N. B.

SUNNYSIDE STOCK FARM

Ayrshire Cattle and Chester White Swine

Present offering: one bull two years old, two aged seventeen months. Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

HIGHLAND LAKE HOLSTEINS

Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.

We have young bulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yon e St. Radial) JEFFERSON, ONT

NETHERLAND FARM, HAMMOND RIVER, N. B.

We are offering for salo calves of both sexes, sired by Dutchland Pieterje Count, a bull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Johona Lad, who was 101 A. R. O. daughters a over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice, come and see these calves or write for further particulars.

We will also book orders for young Yorkshire pigs for the next spring's delivery.

WM. S. HARDING, Prop.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - CANARD, N. S.

COBEQUID FARM HOLSTEINS

We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

S. DICKIE & SONS, R. R. No. 5, TRURO, N. S.

WISH-TON-WISH STOCK FARM

Have 4 good bulls fit for service, that are well grown and are extra choice individuals, and out of goid, big, heavy producing cows. Also 4 or 5 good bull calves from one to two months, as well as a few good heifers ready to breed, and some already bred to Sir Johanna Ormsby of Hickory, whose dam has a yearly official record of 22,159 lbs. milk asd 971.25 of butter in 365 days. For description and prices write, or come and see our herd.

HARDING BROS., Proprietors, WELSFORD, New Brunswick.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daugbters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows have in turn been bred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter each in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a heifer calf or two. Get your orders in quick, they won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

Shorthorn Cattle

High grade registered stock Ol for sale

J. E. HETHERINGTON
CODYS, :: :: :- N. B

A. T. McLEAN, B. V. Sc.

Veterinary Surgeon and Dentist,
late of Can. Army Veterinary Corps.

Graduate of University of Toronto and Ontario Veterinary College, 1910.

Treatment of diseases of all domestic animals.

WEST MARKET ST., MONCTON, N. B.
'Phones, Office 979, Residence 1079

FOR SALE

Two yearling Gurnsey bulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid beifer calf. All registered Guernseys.

SARAH E. M. SMITH,
Woodwards Cove, Grand Manan, N. B.

FOR SALE

We bave to offer a nice bunch of Sborthorn bulls and beifers ages 1 to 3 years.

Also span 4 year old borses, span 5 year old horses span of brood mares and a cboice drive

For furtber particulars apply to

FRANK C. FAWCETT
Upper Sackville - - N. B.

AYRSHIRES BULLS!

fit for service, bred from heavy producing stock.

FRED S. BLACK & SONS,
Springvale Farm,
AMHERST, - - - N. S.

Chester White Pigs for Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

GUERNSEYS!

For Sale—Registered stock. Male or female.

T. D. BLAIKIE,
Great Village, N. S.

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Lawndale Stock Farm

Jerseys and Shorthorns (Pure Bred)

WE OFFER IN JERSEYS:—

A few mature cows, several heifers and a couple young bulls of serviceable age.

In Shorthorns:—2 cows, 2 heifers and 2 young bulls of special promise.

To reduce our herd—Extra bargains. Write soon to

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Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on. as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue, which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex N. B.

REGISTERED YORKSHIRES. Offering a litter of 12, farrowed August 17. F. SCHAFHEITLIN, Canning, N. S.

FOR SALE—Reg. Jerseys, one 3-year-old cow, one bull calf dropped June, 1920. SUMNER PURDY, Westchester, Nova Scotia.

THOROUGHBRED White Wyandotte Cockerels, May hatched, $2.00; immediate sale. MOUNT PLEASANT POULTRY YARDS, 62 Parks street, St. John, N. B.

WANTED—A bright young man as city traveller, one who has had some experience in country store preferred. Apply in person or by letter to C. H. PETERS' SONS, LTD., St. John, N. B.

BIG MONEY for live man selling trees, shrubs, etc. Part time or steadily. Trees Government Inspected and guaranteed. BROWN BROTHERS COMPANY, Nurserymen, Ltd., Browns Nurseries, Welland Co., Ontario.

BARRED PLYMOUTH ROCK COCKERELS bred to lay and of the same strain as the leaders at Nappan; free range; $2.00 to $5.00 for fall delivery. C. M. PEART, Havelock, Kings Co., N.B.

WANT TO HEAR from party having farm for sale, give particulars and lowest price. JOHN J. BLACK, Maritime, St. Chippewa Falls, Wisconsin.

THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and other premises. Price $4.08 per 100 lbs. Apply by mail to "NAILS," care of Office Maritime Farmer, Sussex, N. B.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

"Carleton County Holstein Breeders' Club, R. W. Maxwell, Woodstock, Secretary."
F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B

Ayrshire Cattle

McIntyre Bros., Springbrook Farm, Sussex, N. B.
E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co,. N. S.
C. A. Archibald, Truro, N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

YORKSHIRE PIGS

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co.. N. S.

Tamworths

E. W. Heurtley, P. O. Sutherland's River, N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
C. A. Archibald, Truro, N. S.
J. James Ross, Pictou, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

Brown Swiss Cattle

Come to the Exhibition at St. John, St. Stephen and Woodstock to see the fine exhibit of this hardy breed of Dairy and Dual Purpose Cattle. Bull calves and heifers for sale at reasonable prices. Do not fail to look us up.

W. A. JOLLEY, Waterloo, Que.
RALPH H. LIBBY, Stanstead, Que.
Exhibitors

SHORTHORN CATTLE FOR SALE

HIGH GRADE REGISTERED STOCK

1 Bull, 3 years old.
1 Bull Calf 6 months old.
3 Milking Cows.
1 Heifer, 1 year old.
1 Heifer, 2 years old.
2 Heifers, 6 months old.

JOHN W. McMANUS CO., Ltd.
MEMRAMCOOK, - New Brunswick

Elmwood Stock Farm

We have a few young bulls to offer, sired by Dutchland Colantha Sir Rag Apple, a son of Colantha Johanna Lad. His dam is a granddaughter of Pontiac Korndyke. Thus combining the blood of two of the greatest bulls the world has ever seen.

The dams are daughters of Dutchland Pieterje Count. These calves are a nice straight growthy lot.

W. L. ETTER, Shubenacadie, Hants Co., N. S.

Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages. Have some good cows to freshen soon. Am booking orders for ram lambs for fall delivery. Write or phone for prices and description.

J. ROBIE MacDONALD,
Shubenacadie, - - Nova Scotia
Successor to J. MacDonald & Son

ELMHURST STOCK FARM

Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S.

Firshade Farm Dual Purpose Shorthorns

P. R. L. FAIRWEATHER

Rothesay, N. B.

Special Offering

Maple Green Farm Holsteins

On account of the great shortage in the supply of milk in our home town, we have decided (with regret) to dispose of our entire crop of Bull and heifer calves.

If taken inside of the next 30 days will price them away below their value.

The Dams of these calves are now running in the R. O. P., and the last official test conducted by the R. O. P. inspector showed an average test of 4.62% fat for the lot.

All are sired by our 32.32 lb. herd sire "King Korndyke Johanna", whose Dam is a full sister to Canada's Champion R. O. P. cow, "Jemima Johanna of Riverside". Milk in 365 days 30373; butter in 365 days, 1280 lbs.

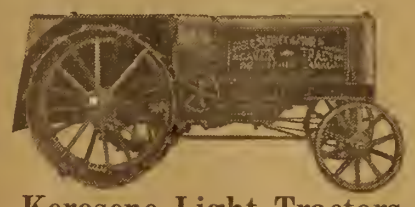
Phone or write.

R. L. HICKS
DALHOUSIE JCT., - - - N. B.

Brantford "Ideal" Kerosene Engines

An engine for every need. Also operated on Gas and Gasoline.

Maple Leaf Grain Grinders. 6 to 15 in.



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The "Ideal" styles of Engines for Lath, Shingle & Sawmills.

Agents wanted in unrepresented territory.

GOOLD, SHAPLEY & MUIR CO., Limited
BRANTFORD, CANADA

COSSAR STOCK FARM
Lower Gagetown, N.B.

Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

We are presently offering, one imported Clydesdale Stallion "Dunure Crag" sired by the famous breeding horse "Baron of Buchlyvie."

Also

One Canadian bred Clydesdale Stallion "Baron Cossar", rising 5 years old.

Further particulars on application.

G. C. Cossar, Proprietor. J. Melklejohn, Agent.

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DORCHESTER, N. B.
Breeder of
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Eggs for Hatching from winners of P. E. I. Egg Laying Contest 1919, mated to Pedigreed Cockerels imported from Oregon Agricultural College. Price $4.00 per 15.

Eggs for Hatching from high producing Pens, $2.50 per 15.

Springbrook Farm Ayrshires !

We have to offer one bull, 24 months, 1st prize at Woodstock, Fredericton and Chatham, 1919. Six choice bulls from 8 to 20 months, sired by the prize winning bulls "Morton Mains", Amanth Imp. and Cherrybank Cicero. Also females, all ages.

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We are offering two Ayrshire Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

For particulars and prices write

THE EASTERN KARAKULE-ARABI SHEEP CO., LTD. WINDSOR, N. S.

500 CHEVIOT SHEEP FOR SALE

Consisting of 300 Breeding Ewes and 200 Lambs.

This flock located on the south shore N. S. has been bred up from native shore ewes and pure bred Cheviot rams until most of them now have only a sixteenth of blood not Cheviot. They pasture in the open, unhoused, upon the abundant feed of the headland ranges and barrens, summer and winter, requiring help in the way of rough hay only and that only on rare occasions when deep snow remains on the ground for any length of time. Among them are many exceptionally fine hardy breeding ewes and from the lambs of this year excellent service rams can be selected. The purchaser by arrangement can have nutil January 1st, 1922, to remove them with free use meanwhile of the ranges, houses and necessary equipment. If purchased for slaughter, beginning with yearlings now ready for market, the whole flock will be in condition upon pasturage alone to market before next January, except a few backward lambs which either will do for feeders to be disposed of during the winter or may be left over to market next year.

For further particulars and inspection inquire of

W. A. KINNEY
Port Monton, Queens Co., Nova Scotia.
July 20th, 1920.

Willow Glen Shorthorns !

Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

A. N. GRIFFIN,
New Mines - - - N. S.

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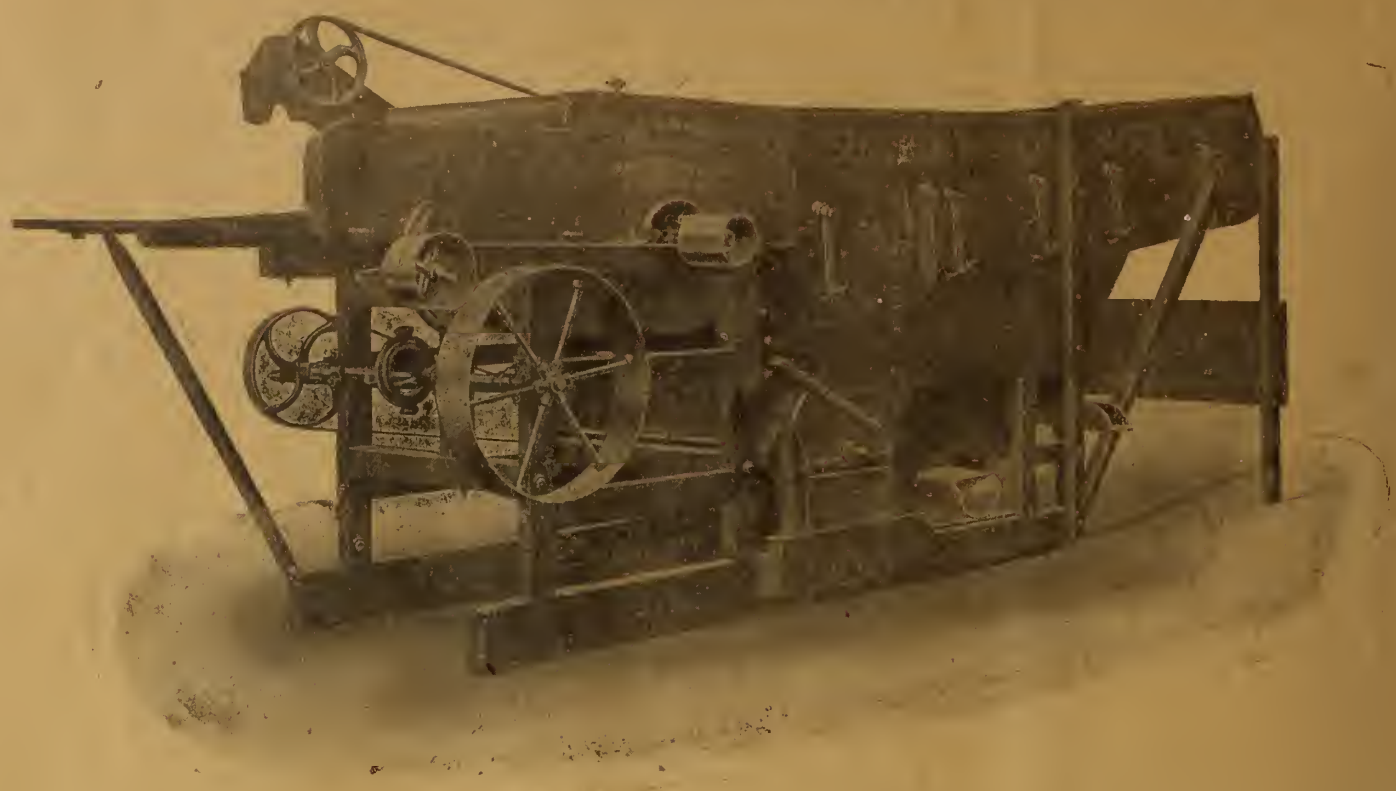
The Superior Machine, Sold With a Guarantee



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Made in four sizes, Tailings Elevator, Bagger, Straw Carrier, or Steel Trucks supplied if required

ASK FOR SPECIAL CATALOG

THE FRAME—Made of heavy well seasoned birch, mortised and bolted together.

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THE BEARINGS of heavy babbited boxings, supplied with compression grease cups.

NO COMPLICATED PARTS, a substantial, fast and thorough cleaning separator.

FOR CUSTOM WORK the Sussex Little Giant is unsurpassed.

H. W. WALLACE
President and Manager
The Man Behind the Guarantee.

WHAT A FEW OF OUR CUSTOMERS WROTE US LAST YEAR:

Wallace Machine Works Limited,
Sussex, N. B.

Jeffries Corner, Kings Co., N. B.
Jan. 30th, '20.

Gentlemen:—

As you know, last fall I purchased one of your No. 2 Little Giant Threshers and it gives me much pleasure to tell you we have had excellent satisfaction. We found the machine all and morethan you claim it to be. Most of our barns being small, we had considerable moving to do over a rough country, we had no trouble whatever to thresh and clean sixty bushels and more of oats per hour. I had such good luck with your machine that my brother decided to buy one and I know that he has had the same satisfaction that I have had. I have nothing but the highest praise for the Sussex Little Giant and would recommend them strongly to anybody thinking of purchasing a machine.

Wishing you every success, I remain,

Yours truly,
MURRAY VIRTUE.

Apohaqui, N. B., Oct. 1st, '19.

Wallace Machine Works Limited,
Sussex, N. B.

Gentlemen:—I purchased one of your No. 2 Threshers this year and I must say it is giving me excellent satisfaction. Only last Saturday I threshed at Wm. McLaughlin's, Parlee Sett., 431 bushels of grain of which was 212 bushel of buckwheat, 26 bushel of barley, and 193 bushel of oats, from 7.30 in the morning until 5 in the afternoon allowing one hour for dinner, and as we only had bags enough to hold 80 bushels we had to stop after threshing this amount each time and empty.

I did this without hurting my machine in the least and cleaning the grain in good shape.

Wishing you every success, I remain,

Very truly yours,
JOHN ARMSTRONG.

Hebron, N. B., Dec. 26th, '19.

Wallace Machine Works Limited,
Sussex, N. B.

Gentlemen:—

The two horse power thresher I bought from you this fall is a dandy, the best we have ever used. Have threshed one hundred bushels in one hundred minutes. Every one we threshed for said they never had such good satisfaction. There are several machines around here but I guess they will all have to take a back seat next fall.

Wishing you Success and a Happy New Year, I remain,

Yours truly,
KINNEAR HOAR.

The Wallace Machine Works, Ltd., Dept. M. F. SUSSEX, N. B.

1A

The
MARITIME FARMER
AND CO-OPERATIVE DAIRYMAN

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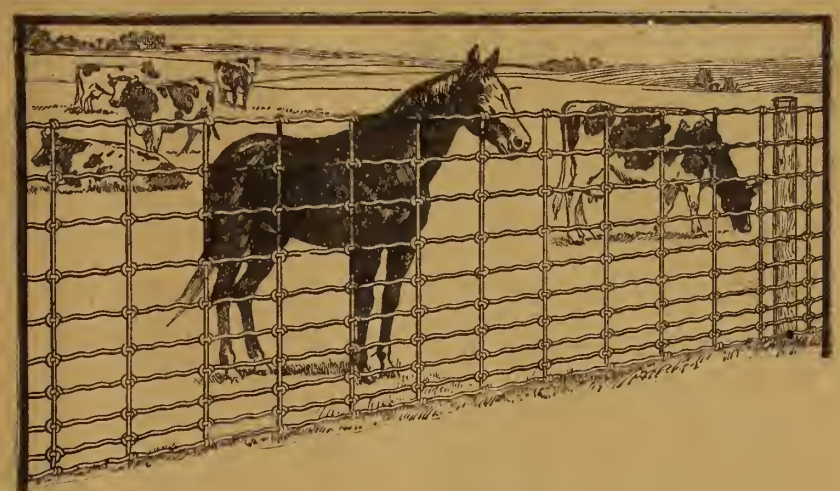
REGISTERED TRADEMARK

Published Fortnightly in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., SEPTEMBER 14, 1920 No 25.

Maritime Fences

Stand the Strain of Man, Beast and Weather



The Maritime Fence is made of extra heavy, hard drawn steel wire of 9 gauge. Each Fence is rigidly tested in our factory, so we know that they have more strength than they are ever likely to need.

Yet the price of Maritime Wire Fence is no higher than you must pay for ordinary fence. But the life of the Maritime fence is far longer---and it's wear value much greater.

On the extra quality wire we put a smooth, even, heavy coat of galvanizing.

We put on more than enough, so that the greatest strains of time and weather will not impair it. We lock laterals and upright wire rigidly, yet springily with a cross leverage lock that simply cannot let go under the hardest strain. The superior stretching power of No. 9 wire keeps the strands from snapping in the severest frosts.

A Maritime fence is of lasting strength, sightly appearance, and is a necessary improvement on all Canadian farms.

For sale by agents and dealers in nearly every section.

If you don't know the dealer write today to

The New Brunswick Wire Fence Co., Limited

MONCTON, NEW BRUNSWICK

MARITIME WIRE FENCE

They All Use

En-ar-co Motor Oil

The Supreme Test

During the war En-ar-co Motor Oil fulfilled the exacting demands of powerful airplane motors, where absolute smooth-running *must* be ensured. Thousands of gallons were used in army airplanes.

To-day, thousands of farmers are finding it indispensable for their tractors, automobiles, trucks, stationary and other engines.

Scientific Refining

Scientific processes carried on by trained workmen produce En-ar-co Motor Oil from selected crude petroleum. That is the secret of its perfection.

It coats all moving parts of the engine with a velvety film that withstands pressure and removes friction. That means greatest power and longest life for the engine.

En-ar-co Products Are All Power Getters

White Rose Gasoline
Gives greater power and puts "pep" into your engine.

National Light Oil
Gives a clearer light in lamps and lanterns; steadier warmth in heaters, brooders, incubators. Best fuel for tractors.

En-ar-co Motor Grease
For differentials—gears—transmissions, on motor cars and tractors.

Black Beauty Axle Grease
Takes the grind and squeak out of axles and ensures smoother running and longer wear.

Order En-ar-co Products from your local dealer. If he hasn't got them, write us and we'll see you are supplied promptly.

FREE AUTO GAME

A fascinating game in which autos compete in a cross-country race will be sent FREE to any auto, tractor, truck, motor boat or engine owner who will fill out the attached coupon and mail it to us.

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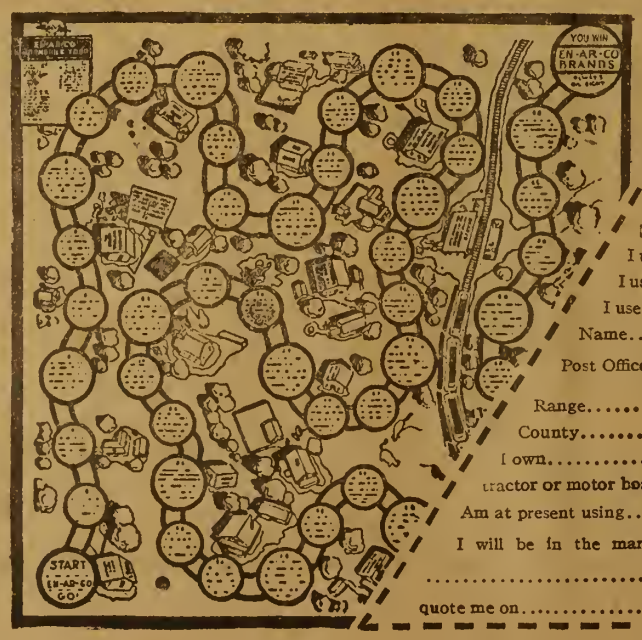

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1548 Excelsior Life Building,
Toronto, Ontario

Send me En-ar-co Auto Game free. Enclosed find three cent stamp for postage. Also give nearest shipping point and quote prices on items marked.

I use.....gals. Gasoline per yr.
I use.....gals. Motor Oil per yr.
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I own.....(make of auto, tractor or motor boat)
Am at present using.....Motor Oil.
I will be in the market again for more oil about.....
.....and you may quote me on.....gals. En-ar-co Motor Oil.

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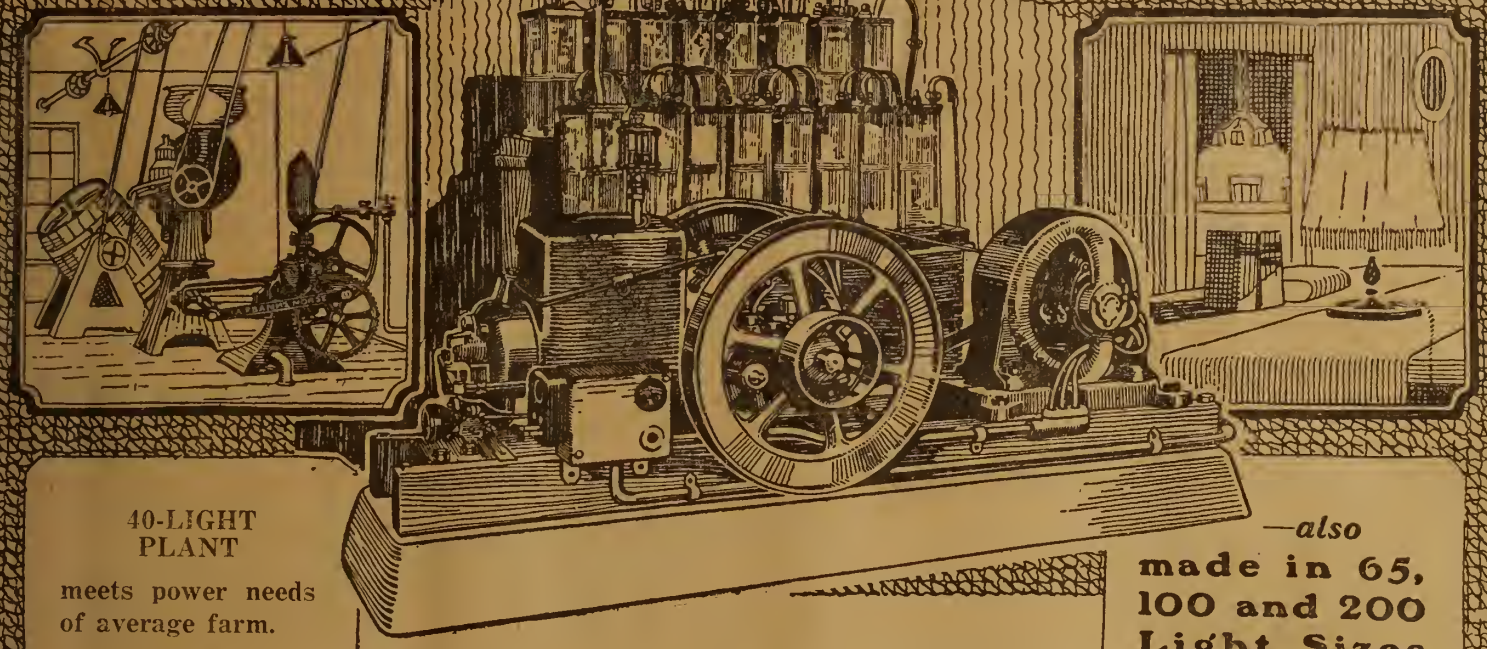

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meets power needs of average farm.

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TOUCH A BUTTON!—Instantly a flood of brilliant light in house, stables, cellar, garage, or barnyard. Better light—less cost. No lamps and lanterns to fill and clean. No groping in dark corners or unlighted stairs. Bright clear light, wherever you want it. Dependable, convenient, economical.

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Mail the coupon to our nearest office, to-day, and the "F" Plant catalogue will reach you in a few days, giving complete information.

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AGENTS WANTED. in every district to handle this biggest and easiest selling proposition and give owners the kind of service which has built the reputation of this Company.

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Tell me, without obligation, the advantages of Fairbanks-Morse "F" Power and Light Plant.

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Rate	Maturity.	Price	Yield.
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5½ p.c.	Dec. 1922	98 & Int.	6.35 p.c
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At the above prices there should be an exceptionally good demand for these bonds, and we recommend investors to order without delay as the prices may be advanced at any time.

Telegraph or telephone your orders and we will make delivery free of all charges through purchasers' Bank.

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James MacMurray, Managing Director.
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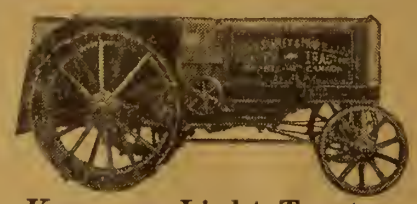
An engine for every need., Also operated on Gas and Gasoline.

Maple Leaf Grain Grinders. 6 to 15 in.



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Pumps.
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The "Ideal" styles of Engines for Lath, Shingle & Sawmills.

Agents wanted in unrepresented territory.

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Next Session Opens Nov. 2, 1920

FREE TUITION TO STUDENTS FROM THE MARITIME PROVINCES.

Instruction given in all branches of Agriculture and the Sciences related to Agriculture; also English, Mathematics, Bookkeeping, Economics, etc.

The Course is of two terms duration, November to April each year, leaving all summer for work on farm.

Graduates of two year Course may enter the third year at Guelph, MacDonald and other Canadian Agriccltural Colleges and obtain the B.S.A. degree in two more terms. Previous graduates have regularly stood at the top of their class at these Institutions.

Write to undersigned for Calendar giving full information.

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Principal Agricultural College,
TRURO, N. S.

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Sept. 28 to Oct. 2, 1920

Largest Exhibition Prize List ever issued by this Exhibition:

5 Days' Horse Racing 5
$6,000 in Purses $6,000
12 Classes of Races 12

For PRIZE LISTS and RACE PROGRAMMES write

C. R. SMALLWOOD, Sec-Treas.
Charlottetown, P. E. I.

SAMSON

Model M Tractor

The Tractor for All Year Use

If you will judge the Samson Tractor by the value of its utility you will quickly appreciate why so many farmers in the locality have purchased them. The Samson Model M is more than just a power plant for plowing or silo filling. It can be utilized nearly every month of the year. It will save you money in nearly every operation of your farm work.

In the Spring, the Samson is the ideal machine for seed-bed preparation. It pulls a two- or three-bottom plow—a tandem disc harrow—two twenty-foot spike-tooth harrows—two four-horse grain drills. In the Summer, the Samson makes easy work of threshing. In the Fall. it will furnish all the power for silo filling, harvesting and be ready to do an early job of Fall plowing.

In the cold weather. the Samson is right on the job for wood sawing and all other heavy duty winter belt jobs.

SAMSON TRACTOR COMPANY
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SUBSIDIARY OF GENERAL MOTORS OF CANADA LIMITED
OSHAWA, ONTARIO

FEEDING MILK IN HEN-HOUSE.

Sour milk is often wasted by feeding it to poultry in small shallow pans. The birds step on the sides and tip them over and much litter is scratched into the milk. Unclean milk is a cause of digestive troubles in poultry. Earthen crocks are the best receptacles we have found for feeding four milk. They can easily be scalded and they are heavy enough so that the birds cannot tip them over by standing on the edge.

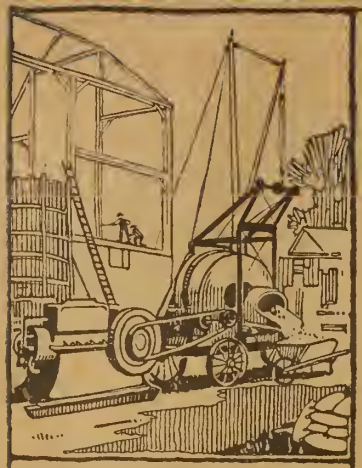
In the winter the crocks can be placed on low wooden benches in the laying house to keep them free from the straw litter. About three gallons of sour milk per day seems about right for a farm flock of one hundred hens. Sometimes a few of the birds will show little interest in the milk. By mixing it with dry mash for a few days they will learn to like it. We often mix the sour milk fed to young stock with the growing mash and this gives all of the pullets a chance to receive a share. There is no feed that is better to stimulate growth and keep the young pullets healthy and vigorous.

The birds use milk to the best advantage when it is always fed sweet or sour. A frequent change from one to the other seems unhealthful. As milk is apt to sour in the dishes before it is used it pays to always use sour milk. We keep a large crock containing sour milk at all times and the sweet milk emptied into this crock soon sours. At least once each week the large supply crock should be scalded so there will be on chance for a mouldy scum to form around the edges. By keeping at least a small jar of sour milk for a culture it is possible to sour pails of sweet skimmilk in a short time. H. A.

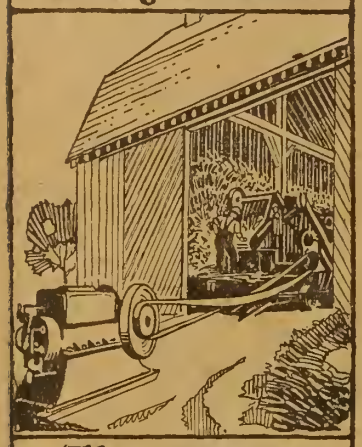
COW FAILS TO BECOME PREGNANT.

I have a cow that had a calf 19 months ago that comes regularly in heat. She was pastured last season with other cows where a bull is allowed freedom. She is still giving milk. What is the trouble and what would you advise? W. F. M.

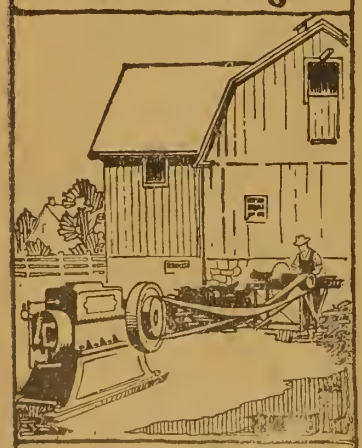
Mix an ordinary cake of yeast to a paste with a little warm water and allow it to stand twelve hours in a moderately warm place, then stir in one pint of freshly boiled water, and allow to stand for another 8 to 10 hours. The mixture will then be ready for use, and the entire quantity should be injected into the vagina. Use the mixture when period of heat is first noticed and breed when period is about ended.



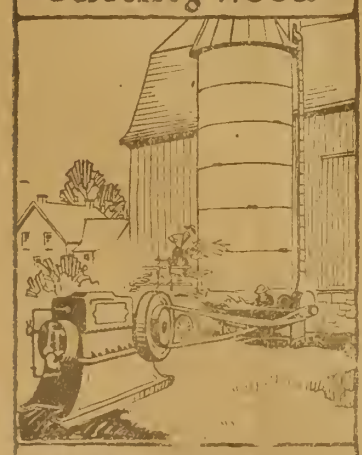
Mixing Cement



Threshing



Cutting Wood



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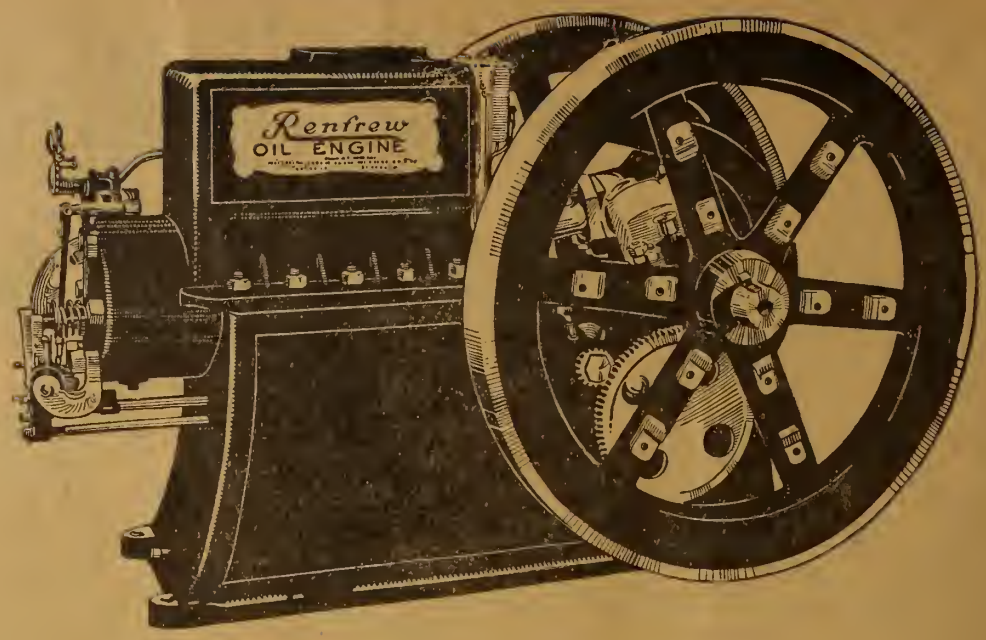
The above are only a few of the uses to which this marvellous engine can be put on the farm. As a money, time and labor saver it has no equal. It will perform any task that an engine can.



A Steady Worker and a Money Saver

With no electrical ignition system, no carburetor, no magneto, no batteries, no coils and no wires to worry and give trouble, burning the cheapest fuel oil obtainable and *absolutely* dependable in all weathers, the Renfrew Oil Engine for the farm is far superior in every way to all other engines.

The fire hazard is greatly minimized because it will not burn gasoline. It effects a remarkable saving in fuel cost. Indeed, we estimate that on an average a Renfrew Engine pays for itself in a year, through this saving in fuel. It burns any cheap fuel, from coal oil (kerosene) down to fuel oil. It does not require expert attention, and all working parts are easy to reach. The

Renfrew Oil Engine

is built to suit the needs of the Canadian farm. It is sturdily built, lives long, and gives consistently good service. It is just the engine that is needed on thousands of Canadian farms. Write for our catalogue and instruction book, in which you will find the whole simple truth about the Renfrew Oil Engine.

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THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTESED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 25. SUSSEX, NEW BRUNSWICK, SEPTEMBER 14, 1920. Number 25.

The St. John Exhibition

The first exhibition in the Miritime circuit of fall fairs for 1920, was held at St. John, N. B., under the auspices of the Exhibition Association of the City and County of St. John, from September 4th to 11th.

This was the first exhibition held by the Association since the signing of the armistice. Their last fair was held in 1914 and during the six years that have intervened the grounds and buildings have been utilized by the military authorities.

The merchants of St. John and many of the manufacturing concerns of Canada who have representatives in the Maritime provinces, made good use of the excellent opportunities offered by the exhibition to display their wares. Every availqable foot of space in the spacious buildings was taken. The tastily arranged booths that ranged along the walls and in the centre of the main building presented an attractive appearance. Lack of space does not permit a description of the various displays.

The official opening was presided over by His Worship Mayor Schofield, who in the course of his remarks presaged the possibility of the fair being made an annual event.

Hon. W. E. Foster, Premier of the Province, as a director of the exhibition in pre-war days, congratulated the management on the splendid showing the present board had made in putting the buildings and grounds into such excellent shape. He eulogized the benefits that accrue from the fine community spirit that exhibitions generate and the splendid channel they offer for the instilling into the minds of our own young people the magnificent and numerous resources of our province. The first official announcement of the government's plans re the development of the water powers of the province was made by the Premier at the opening exercises of the exhibition and was heartily cheered by the audience, who were quick to see the important developments that are sure to follow in the wake of such an agressive, progressive policy. Premier Foster said his ambition was to build up New Brunswick agriculturally and industrially, for the benefit of those living now and to offset all the inducements that might be offered the younger people in other provinces.

Hon. J. F. Tweeddale, Minister for Agriculture, congratulated the management on the good showing that was staged at the fair and pledged his support for any progressive undertakings they might in future participate in for the benefit of the province and its people, a people who when the call to arms and to produce had come marched forth as armies to the front trenches as well as to the second line of defence on their farms where food in abundance was produced that our armies and Allies might be fed. He enumerated several feature in connection with the department over which he presides which went to show that his is a dpartment that plans and works with and for the best interests o fthe farmers of the province.

In a brief and pithy speech, Hon. Dr. W. T. Roberts, Minister of Public Health, congratulated the women committee members for the splendid showing that was made in their department. The work of the province during the dark war days had been explained by the preceding speakers, he said, but he asked the public to remember that without good health all the war activities of the provincial people would have been impossible. The fact that 250 out of every 1000 babies born, die before the end of the first year, and the thousands of people in the province who die each year from diseases that are preventable, should be an incentive for all good thinking people to put forth every effort to stay the hand of the grim destroyer. Dr. Roberts said his efforts at present were particularly along the line of chil welfare, for the children of today would be the young womanhood and young manhood of tomorrow. The present health exhibt had been thought a necessity by the department of public health and he heartily thanked the women who had helped in its arrangement.

Mrs. G. A. Kuhring, who had charge of the women's work and public welfare exhibit, asked the visitors to study well the various educational features they would find displayed in the department over which she had charge, as well as other features equally commendable.

The Lieutenant Governor, Hon. Wm. Pugsley, in an address brimming over with optimism for the future of Eastern Canada, declared the exhibition formally opened.

The Maritime Farmer representative has attended every show of any consequence that has been held in the Maritime Province for the past fifteen year, and he reports that outside the magnificent agricultural and live stock displays that have been made at some of the fairs which he has vtsiied, no feature has ever appealed more to him than the display put on by the Public Health Department of the New Brunswick Government and its coworkers at this year's St. John Exhibition. Would that every man, woman and child in the province could have visited the various booths of this educational display and profit from the splendid, instructive demonstrations there given and carry with them through life for the saving of young life, that splendid asset of our country, the tenets so tastily depicted on the "Silent Teachers" placards that were conspicuously displayed in the various booths.

Some of the features dealt with in the Public Welfare exhibit included: "Home Care of Baby," with baby clinic, Parental Care and Better Obstetrics, Little Mothers, Baby Diet, 1 to 12 months; Baby Diet, 12 to 24 months; Pre-School Diet, 2 to 6 years; Nutritional, Tuberculosis, Oral Prophylaxis, teeth, tonsils and adenoids, Recreation, Social Hygiene, Extermination of Common House Fly, Alcohol, Patent Medicine and the Baby, Kindergarten, Housing and Sanitation, Mental Hygiene, Blind. Physicians, Specialists and Dentists, recognized leaders in their profession, were in attendance. The Daughters of the Empire, the Red Cross, the St. John Ambulance Brigade, the Anti-Tuberculosis Association and other well known organization members heartily co-operated to make the child welfare exhibit the best ever staged in Maritime Canada.

Another feature that appealed to the representative of the Maritime Farmer was the display of the Natural Resources of the province of New Brunswick, staged under the able direction of Dr. Wm. McIntosh, Curator of the Natiural History Society's Museum, St. John, under the joint auspices of his association and the Department of Lands and Mines of the province.

Many and varied are the province's resources, many of which were for the first time brought to the attention of the average visitor to the fair. Products and by-products of the forest, farm, sea, mine and manufacturing industries of the province were tastily displayed, suitably labelled so that the visitor might glean a fund of information without asking very many questions.

The showing made in the Women's Institute Department where samples of the Domestic Arts and Crafts were shown reflected a great deal of credit on the splendid work that is being done by and for the women of the province through the agency of Women's Institutes.

The Horticultural, Poultry and Agricultural Division of the New Brunswick Department of Agriculture helped make the Agricultural Hall, which was not too well filled with products of field, orchard and garden, a centre of attraction.

The showing of agricultural products was fair but not at all representative of what could be shown under more favorable conditions so far as freight and labor are concerned. We have seen heavier displays at some of the county shows; yes, at the St. John county show. The market gardeners within a radius of six miles of the city of St. John could have made a display if they felt so inclined that would have been an exhibition worth while. A perusal of the list of prize winners shows that the majority of them in this department were from Kings County and up-river points and from Nova Scotia.

A. C. McCullough, the popular progressive poultry superintendent for the province, was kept busy at his dispaly answering questions re how "the hen is the only one that can lift a mortgage by just laying around." Hens and chicks, model poultry houses, incubators, and other poultry appliances constituted the display.

The display of honey, wax, bees and beekeeping appliances staged by Mr. L. T. Floyd, the enthusiastic bee man for the province, was thronged with visitors and the message of the bee and hive was thoroughly explained to all who sought to know something about the mysteries of beekeeping.

The Dominion Poultry Division had a very comprehensive exhibit, displaying the proper methods of caring for eggs and how best to get them to market and to the ultimate consumer in the best condition. The work of the co-operative egg circle, that organization that has done so much for Prince Edward Island poultry and egg producers, was very cleverly depicted.

The Dominion Entomological Branch had an instructive display under the direction of Mr. Geo. E. Sanders, in charge of the aLboratory at Annapolis Royal, N. S. Any questions re insects and fungous pests on fruits and other crops and methods of control received ready answers. One of the features displayed in this booth, and one that should have been carefully noted by every potato grower who visited the booth, was the produce of 100 hills of potatoes that had been thoroughly sprayed, yield 121 lbs., and the product of 100 hills of potatoes that had not been sprayed, yield 60 lbs. Enough said.

Goold's Nurseries, Sussex, had booths wherein were shown some features of landscape gardening for the beautifying of the home grounds. When one reflect on the numerous homes with all too bare surroundings he cannot help wishing that every home owner would put forth every possible effort to improve the grounds surrounding their homes. Many valuable ideas could have been gleaned from the Goold Nurseries display and we trust not a few of the visitors profited thereby.

The exhibit of butter and cheese was quite small, but of good quality.

Horses were also a small entry. The best showing was made in the aged Percheron stallion class, and in the Standard Bred Stalloin class. In the former, Clayton's Indican led the way, with Wallace's Montgomery Ward in the second place and Jewett's Arion in the third money. In the Standard Bred Aged Stallion class, as well as in the Roadster class for aged stallions, the same stallions, viz., The Exposer, Native Worthy, Colorado L. and Border Prince were placed in the order named.

The only Clydesdale shown was Jewett's Dr. McCoy, by Day Dream.

There was a small showing of carriage and roadster horses. Wm. John-

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The Potato and its Cultivation in Canada

By W. T. Macoun, Dominion Horticulturist

The potato is used almost as freely as bread in Canada, and, like that food, is thought as much of by the rich as by the poor. It can be obtained at all seasons of the year, and if properly kept, is about as good at one time as at another. Being one of the most useful food products, its cultivation and improvement deserve the greatest attention.

The potato succeeds well everywhere in this country, where the season is long enough for the tubers to develop before the tops are killed by frost, hence potatoes are cultivated in practically every settlement in Canada, even up to, and within, the Arctic circle.

Although the potato is one of the most important food products of Canada, the methods of culture employed in growing this crop can be very much improved. This article is written for the purpose of giving information to Canadian farmers, which should help them to obtain much better crops than they have hitherto had. The recommendations made are for the most part based on the results of experiments conducted at the Central Experimental Farm during the past thirty years, although the results of the work of other experimenters have not been overlooked, and have also been used when deemed advisable.

In the province of Ontario, where records in regard to the potato crop have been kept for thirty-six years, 1882-1917, the average yield for that period has been only 114.7 bushels per acre. Some of the best farmers in Canada grow from 400 to 500 bushels per acre, and even larger yields are obtained, while 300 bushels per acre is not unusual. At the Central Experimental Farm the highest yield on a small plot was at the rate of 772 bushels per acre, but careful experiments have demonstrated that potatoes can be produced at the rate of over 1,000 bushels per acre. While in field culture such high yields may not be possible, they are something to strive for, and there is no doubt but that the average yield for Canada could be doubled if the best methods were employed by every grower.

Climate and Soil.

The potato appears to thrive best in a moist, somewhat cloudy and temperate climate, but providing there is sufficient moisture in the soil and the growing season is long enough it is not at all fastidious in this respect. It is a little more particular in the matter of soil, but large crops are grown in a great variety of soils. The ideal soil for potatoes appears to be a rich, deep, friable, warm sandy loam wtih good natural drainage, and well supplied with decayed or decaying vegetablt matter. The potato requires a large amount of moisture to develop a large crop of potatoes, and for this reason the soil should be retentive of moisure. Potatoes will not, however, succeed well in cold soil where the water is stagnant near the surface, and thorough drainage is very essential to a good crop.

Potatoes succeed admirably on new land providing it is well drained and not too stiff, as the soil is filled with decayed vegetable matter and humus which help to make it loose. Such soil retains moisture well, and furnishes nitrogen in a very available form. They succeed well after sod also, as the decaying sod gives somewhat the same conditions as new land. Clay and clay loams are not so suitable to the potato crop as the warmer sandy loams and gravelly soils as they are usually colder and being, as a rule, stiffer, the tubers are not as even in shape nor as smooth. The quality of the potatoes grown in sandy or gravelly soils is better than that of those grown in clay or clay loams.

Plant Food Requirements and Fertilizers.

Potatoes usually succeed well when grown after clover sod. In an experiment at the Central Experimental Farm, covering three years, there was an aevrage increase of thirty-seven bushels per acre of potatoes where clover had been sown with grain and ploughed under, over the plot where no clover was grown. Experiments have shown that the crop of grain is not lessened by sowing clover.

It will be readily seen that clover and barnyard manure are two very important and cheap fertilizers for the potato. The former obtains nitrogren from the air and brings up phosphoric acid and potash from great depths of the soil to be available for succeeding crops and in adding humus to the soil by its decay it makes the soil hold moisture better and renders it looser. Barnyard manure adds nitrogen, phosphoric acid and potash to the soil and increases the supply of humus in it, making the soil more retentive of moisture and looser.

From the information obtained from experiments at the Central Experimental Farm and elsewhere, the writer would recommend growing potatoes after clover which had been top dressed with from ten to twelve tons of barnyard manure per acre. If the clover is ploughed under in the autumn, green manure would be the best; if ploughed under in the spring, which is the better time, rotted manure is preferable, as it will become incorporated wtih the soil better than green manure and is not so likely to favor development of scab. The clover may be top dressed with green manure in late summer or autumn, even though the clover is not ploughed unled until spring, in which case the manure increases the crop of clover for turning under and is sufficiently broken up and worked into the surface of the soil to be in good condition for mixing with it when ploughed. Potatoes succeed well after corn which has been given a heavy application of barnyard manure. It is better to manure heavily for the preceding crop than for the potato crop itself.

Prepartaion of the Land.

The soil for potatoes should be well prepared before planting. Unlike some crops which succeed best when the soil is moderately firm when ready for seeding the potato succeeds best in soil which is loose. In loose soil the tubers will be smooth and shapely; in soil which is firm or stiff the potatoes are usually misshapen and not nearly so attractive. The ploughing under of barnyard manure and clover makes the soil looser and this, added to their value in furnishing plant food, makes them particularly desirable. Soils which are very light and loose may be made too loose by the turning under of manure, especially when it is green and strawy, and while it is not the best practice to plough under green manure immediately before planting, especially on light soils, if it is done the soil should be given extra tillage so as to incorporate the manure with it thoroughly and keep the first few inches of soil from drying out and preventing the satisfactory sprouting of the potato sets.

Spring ploughing for the potato crop is usually best. Where rather stiff soil has to be used, fall ploughing may be preferable as the action of the frost upon it will heup to loosen it. Good potato land should be ploughed in the spring, turning under the clover wtih its top dressing of manure. The soil should be ploughed deep enough so that the clover will be well covered. Different methods of preparation will be necesssary for different kinds of soil, but the nearer the land can be got into a thoroughly pulverized condition to a depth of about six inches or more before planting time the better the crop will be. When a planter is used the soil should be ploughed, thoroughly harrowed, and then rolled just before planting.

When rotted barnyard manure is used on land without clover it should be applied in the pring and thoroughly mixed with the soil. If it is well rotted it may be harrowed in. Neither rotted nor fresh manure should be put in the drill with the sets, as manure when it comes in contat with the tubers favors the deevlopment of scab. This was well proven in experiments at the Central Experimental Farm.

Planting Potatoes on Green Sod.

If the land has been ploughed the potatoes could be planted by opening holes for the sets about four or five inches deep and fourteen inches apart, making the rows 2½ feet apart, the manure having been spread over and harrowed in with the disc harrow. If the sod has not been ploughed one of the best methods of planting in green sod is to have some one planting when the ploughing is being done, the sets being dropped every third furrow and covered by the plough, when the next furrow is made. After the potatoes have been planted the ground is disc harrowed and if it is light soil it may be rolled after that to help close up any openings where grass could grow through and to compact the soil somewhat and hasten the rotting of the sod. This would not be desirable where the ground was heavy, as it would make it too firm. As soon as weeks start, harrow with the smoothing harrow and as soon as the potatoes are showing above the ground harrow again, then if thorough cultivation is followed afterwards and the tops protected from insects and disease, there should be a good crop.

Time of Planting.

The best time for planting potatoes will vary in different parts of Canada, much depending on the condition of the ground and spring frosts, but when these have not to be considered the earlier the potatoes are planted the larger the crop is likely to be. The sets should not lie long in the ground before sprouting, as there is danger of rotting, hence they should not be planted when the soil is cold and wet. If they are planted too early also the young vines are liable to get nipped by spring frosts. As early potatoes usually command good prices it is often worth taking the risk of frost and planting early if the soil is in good condition. If the vines should be above ground and there is danger of frost they may be covered slightly with the soil by tarning a shallow furrow over them. Potato growers have saved their vines by doing this.

Importance of Source and Vitality of Seed

In an experiment carried on at the Central Experimental Farm in 1917 with seed from Fredericton, N. B., Port Arthur, Ont., and Ottawa, the following yields were obtained: Total yield per acre, Fredericton seed, 341 bushels; Port Arthur seed, 400 bushels 24 pounds; Ottawa seed, 85 bushels 48 pounds.

The importance of seed from different sources has been confirmed by experiments conducted at the Agricultural College, Guelph, Ontario.

Just as marked differences were obtained in other years.

When to Change Seed

When a grower has found that it pays him to obtain seed of a certain variety from a certain source, he should endeavor by experiment and calculation to learn whether it will pay him to change his seed every year, every two years, or every three years.

The cause or causes of the very low yields at the Experimental Farm, Ottawa, during recent years from seed grown at Ottawa the previous year, are not yet clearly understood. The low yields began in the very dry seasons of 1906, 1907, and 1908, and there have been few good years for potatoes since, and, since that time, the diseases such as Leaf Roll, Mosaic and Rhizoctonia all have been found affectin gthe potato plants at Ottawa. How far these are the primary cause of the low yields and how much should be attributed to climate, is not yet certain, but the fact remains that by getting new seed every year from certain places, good yields can be obtained. While such marked results might not be obtained elsewhere, as at Ottawa, a change of seed is recommended where satisfactory yields are not being obtained. It has been the writer's observation that wherever potatoes grow vigorously, as a rule, until the tops are cut down by frost in the autumn, there will good seed potatoes be obtained, provided they are free from disease. Such sources of seed potaoes can be found in all the provinces of Canada and particularly in those parts of the provinces where the days and nights, during the growing season, are relatively cool, and where there is usually a good supply of moisture in the soil.

It has been shown by the experiments at Ottawa that the best results were obtained from the most immature seed, and while, doubtless, there is some other factor or factors than lmmaturity which ensure such good results from seed from the cooler parts of Canada, and which for the present may be called "vitality," it would seem, with out present knowledge, that the best seed will come from those parts of Canada where, as a rule, the main part of the crop is most immature, though of good marketable size, when the tops are cut down by autumn frosts, and where there is little or no disease in the crop.

Improvement by Hill Selection.

After a variety has been originated, and after its general characteristics have been sufficiently fixed to introduce it, ia variety may be changed, to some extent, by careful selection. This may be undertaken for the purpose of increasing the yield or to obtain a variety which is earlier or later, shallower in the eye, or of better shape. Selection may also be made to obtain a potato which is more resistant to disease and drought, better in quality, or with a higher percentage of starch, but while selection is desirable there needs to be more experimental evidence to show that marked, permanent changes in a variety can be made in this way.

The most accurate way to carry on hill selection is by the individual tuber or tuber-unit method by which the yield from each individual tuber is kept separate.

A simple method of selection, and one which will be found to give good results, is to dig enough of the general crop by hand each year so that enough seed can be selected from good hills to give a sufficient quantity of seed for the general crop. By this method the poor hills including potatoes of low vitality and those affected with disease are eliminated and the standard raised. This is perhaps the best method of selection for the average farmer.

While the methods of selection described are mainly for the purpose of increasing the yield, it is desirable to

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Use of Insecticides and Fungicides

By A. J. Gunderson, Horticulturist

Every potato grower appreciates the importance of protecting his crops against the attacks of insects and fungous diseases. Every insecticide used on potatoes in the United States today is manufactured in a form ready for immediate use. The arsenic compounds are the principal insecticides used whereas nicotine compounds are used in lesser quantities. The only fungicide used on potatoes is bordeaux mixture. A great percentage of this material is home-made, altho there is a growing demand for prepared bordeaux mixtures.

The value of an insecticide depends upon its ability to kill or repel insects. In addition it must not injure the plants, should have good suspension qualities in the spray tank and should spread and adhere well on the foliage or fruit.

Potato crops are attacked by two classes of insects, chewing and sucking. The two most important chewing insects on potatoes are the Colorado potato beetle and the flea beetle. The sucking insects which cause the greater amount of damage are aphis and leaf-hoppers. Chewing insects actually eat the potato leaves and in consequence must be destroyed by means of an arsenical applied to the foliage. Sucking insects subsist upon the plant juices which are taken up thru their beaks. The destruction of these insects is accomplished by applying nicotine compounds directly to their bodies.

Arsenic Oxide Alone Produces Burns

Arsenic oxide constitutes the base of every arsenical spray used on potatoes to control chewing insetch. The use of this material alone would cause serious burning of the foliage and in addition it would be uneconomical because of its poor adhesive properties. In order that injury to plants may be avoided and that proper adhesiveness may be secured, arsenic oxide is combined with other materials to form such products as Paris Green, arsenate of lead, arsenate of calcium, arsenite of zinc and arsenate of soda.

Paris Green, a compound of arsenic and copper, is the leading insecticide used on potatoes. A good grade of Paris Green will kill potato "bugs" quickly due to its high arsenic content and should not injure the foliage because it contains a small percent of arsenic acid. Another important quality of a good Paris Green is fineness. Extreme fineness means good suspension in the spray tank and good atomization in dusting. Successful control of insects is dependent upon these conditions. As a general proposition it is safer and more economical to add slaked lime to Paris Green in spraying and to mix hydrated lime with it in dusting. In quick killing powers Paris Green is superior to any other arsenical spray. It is not, however, as adhesive as for example, arsenate of lead.

Spray at Hatching Season

The amount of Paris Green used to 50 gallons of water in potato spraying varies in different sections of the country. In some sections as little as one-half pounds to 50 gallons of water is used, while in others as much as three pounds are used. If spraying is done when potato "bugs" are newly hatched, less Paris Green will be required than if spraying is delayed until the "bugs" become half or full grown.

Arsenate of lead is a compound of arsenic and lead which is used most extensively on fruits, excepting citrus, and on vegetable crops in general. In a few potato sections arsenate of lead is the standard insecticide used against potato "bugs." For many years paste arsenate of lead was the only form manufactured. In recent years dry powdered arsenate of lead has practically displaced the paste form.

Paste arsenate of lead is also known as basic, neutral, or triplumbic arsenate of lead. It is a combination of one part of arsenic oxide and three parts of lead, containing about 15 per cent of arsenic oxide. Dry powdered arsenate of lead, also known as hydrogen, acid or diplumbic arsenate of lead is a combination of two parts of lead and one of arsenic oxide, containing about 33 per cent of arsenic oxide.

Paste or basic arsenate of lead forms a more stable compound between the arsenic and the lead than does dry powdered or hydrogen arsenate of lead. Basic arsenate of lead does not break down as rapidly after it has been applied as hydrogen arsenate of lead and therefore it does not kill potato "bugs" as quickly. Hydrogen arsenate of lead breaks down rapidly on the potato plant and therefore kills more quickly. For this reason dry powdered or hydrogen arsenate of lead is more desirable as a spray on potatoes than paste or basic arsenate of lead.

Both Powdered and Paste Arsenates Effective

Both powdered and paste arsenates of lead adhere well to the foliage and are effective over a long period. On potatoes dry powdered arsenate of lead should be used at the rate of from 2 to 2½ pounds to 50 gallons of water and paste arsenate of lead at just twice these amounts.

Arsenate of calcium is a comparatively new insecticide so far as its use on potatoes is concerned. It is a combination of arsenic and lime consisting of about 40 per cent of arsenic oxide. Arsenate of calcium has attracted considerable attention on account of its relative cheapness in comparison with other arsenical sprays and is well worthy of trial by potato growers. It should be used at the rate of from 2 to 2½ pounds to 50 gallons of water. In spraying it would be well to add slaked lime to the arsenate of calcium and in dusting mix with hydrated lime.

Arsenate of calcium will stay well in suspension in the spray tank and is so fine that even distribution is secured when it is applied as a dust.

Arsenite of zinc, a compound of arsenic and zinc is used to some extent in the northwest potato growing regions. It ranks next to Paris Green in killing efficiency and will not injure the foliage of potatoes. The bulk of arsenite of zinc used today is manufactured in dry powdered form, altho some paste is made. tI should be used at the rate of 2 pounds to 50 gallons of water with slaked lime or mixed with hydrated lime in dusting. Arsenite of zinc has good physical properties which insure good suspension in the spray tank and even and economical distribution in dusting.

Arsenate of soda is a compound of sodium and arsenic. This product is manufactured in dry powdered form and is used in considerable quantities in the state of Maine. Arsenate of soda contains a high percentage of total arsenic and arsenic acid. These qualities result in quick killing and necessitate the use of arsenate of soda in combination with lime or bordeaux mixture. Arsenate of soda is manufactured in dry powdered and "crystal meal" forms. The latter dissolves more easily in water than the former and offers greater possibilities. Arsenate of soda is applied only as a wet spray at the rate of about 2 pounds to 50 gallons of lime solution or bordeaux mixture. The quick killing properties of arsenate of soda is its only strong feature.

Nicotine Sulfate for Sucking Insects

In some seasons and sections aphis or plant lice and hoppers cause considerable injury to potato plants. The standard material to use against these sucking insects is nicotine sulfate. This should be used at the rate of ¾ of a pint and 2 pounds of soap to 50 gallons of water. It is essential that the spray be applied to the undersides of the plants in order to insure thorough application on the insects which must be killed by contact.

Practically every potato field must be sprayed with an insecticide of some kind during each season. In many regions early and late blight and tip burn cause considerable damage. In order to prevent blight and to check tip burn bordeaux mixture should be used. This material is made by the grower out of blue vitriol and slaked lime, and is also manufactured in paste and powdered form.

Of the two types of bordeaux mixture manufactured the powdered forms are the more desirable for the reason that they can be used in both spraying and dusting, do not deteriorate by drying out or freezing. The physical properties of dry bordeaux mixtures are good and they contain proper quantities of copper sulfate and the best grade of lime obtainable.

A great many potato growers do not use prepared bordeaux mixtures because they feel that the cost is too great. This is not true if consideration is made of the time and equipment required to make home-made bordeaux mixture and if the poor quality of the average lime available to the potato grower is considered. A good manufactured bordeaux mixture is made from the best grade of lime which is essential to good mixing, suspension, adhesiveness and control of diseases. The time element is one to be considered in spraying and in many seasons it will pay the potato grower to use a good prepared bordeaux mixture which will enable him to spray more promptly.

In purchasing insecticides and fungicides for use on potatoes every grower should discriminate between products of superior quality and those of poor quality. The good qualities are effective control, minimum amount of injury to the plants, good adhesiveness and spreading qualities. Any product that will insure these results is the most economical one to use on potatoes.

Delayed Application of Fertilizer

By Dr. H. J. Wheeler, Boston, Mass.

All of the fertilizer for potatoes in Aroostook County, Maine, is usually applied at the time of planting by means of the fertilizer attachment of the potato planter, provided the application does not exceed 1,500 pounds to the acre. Frequently, however, even as much as 2,000 pounds to the acre is applied in this way.

In Florida, on the contrary, the fertilizer is usually applied along the line of the row and covered by back furrows, or it is thoroughly worked into the soil where the rows are to be located, before planting is begun.

In many sections, a part of the fertilizer is set aside for application either just before or soon after the potatoes come up. In the latter case the plants should be dry when the application is made. If the potatoes are planted in drills, the second application is made on top of or beside the rows and it is then worked in with a light smoothing harrow, weeder, or other suitable implement which kills the yonng weeds over the whole surface and makes later cultivation and weeding easier. If the planting has been in check rows, late applications of fertilizer may be made around the hills just before the first or second cultivation. If necessary, all of the fertilizer may be applied in the same manner as the second application, although it is not the best plan.

This year in particular, on account of the delayed delivery of fertilizer caused by car shortage, dearth of labor, and freight embargoes, probably more fertilizer than ever will be used as a side or top-dressing for potatoes. In view of these conditions, it may be of special interest to see what resulted in Portage County, Wisconsin, from an application of fertilizer which was made around the hills just as the potatoes were coming up. n this particular case, no fertilizer was used at the time of planting. The fertilized area yielded 181 bushels to the acre and the unfertilized section yielded 112 bushels. Thus, the late application of fertilizer gave an increase of 69 bushels to the acre. Doubtless, a greater increase might have been secured had all or a part of the fertilizer been applied in a proper manner at the time of planting. The results show, nevertheless, how growers may recover profitably from an unfavorable situation when they have failed to fertilize at the time of planting or when they have not received their fertilizer until after the planting was finished.

We would like to receive for publication, some of the results of delayed application of fertilizer as experienced by New Brunswick Potato Growers this year.—Editor.

FEEDS WILL BE LOWER

The Maritime Farmer has received many enquiries from farm organizations as to the prices of feeds. Our advice has been to hold off buying as prices are dropping and will probably go lower. The wholesale prices quoted last week were flour, in wood, $15.00; in bags, $13.95; middlings, $59.90; bran, $54.90. We will be glad to buy mixed cars at these prices, subject to market quotations, for Maritime Farmer subscribers. They are rock bottom prices. In a short time we will have prices on Cotton Seed Meal, 36 per cent protein, and will be glad to quote you on car lots. There will be a higher freight rate than last year on all United States goods, and all prices will be quoted American funds, that is to say, buyers will have to pay the exchange on the face value of the draft. United States exchange dropped considerably a few days ago, but it is subject to market changes. We will also be glad to quote on oil cake in car lots. We will also be pleased to quote on Standard Stock feed, following the formula of the Live Stock Branch of the department of agriculturc, Ottawa. All feeds sold this fall must show their analysis on the bag. When you buy feed, be sure and see that you are getting full value for your money.

To ensure a good litter, the first requisite is to select a well-formed sow from a prolific family. This applies, whether she be a grade or a pure-bred. See that her teats are well placed and not less than twelve in number. Breed when about eight months old; thus, a sow from a spring litter will be ready to breed in the fall and nurse her first litter the following spring.

THE ST. JOHN EHIXBITION.

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ston, of Newcastle, showed a couple of Hackeneys.

Beef Cattle.

The only represeutatives of the beef breed at the fair were a well fitted herd of Aberdeen Angus, shown by Horne Bros., of Winsloe Station, P.E.I.

Dairy Cattle.

Ayrshires, Holsteins, Jerseys and Brown Swiss were the only breeds of dairy cattle at the exhibition. The Ayrshire classes were well represented by the herds owned by McIntyre Bros., Sussex, N. B., A. McRae & Sous, Charlottetown, P. E. I., and Jas. K. Paisley, Beaver Brook, N. B. The McIntyre Bros.' Spring Brook Farm herd were out in good fettle aud carried off over twenty first prizes and a fair share of second and third prizes. To this herd went the Male Sweepstakes, on their imported Lou Milton McDonald, a junior yearling of exceptionally good quality and milk producing ancestry. This youngster was the junior champion. The senior champion was McRae's eight year old Capt. Kidd, by Howies Crusader, who snatched the coveted honor from Morton Main's Amanth, McIntyre Bros. aged herd header, now showing in his eleventh year, but who led the lists with three of his get. The female grand champion was McIutyre Bros.' Lass O'Gowrie, of Riverside, shown in the aged cow in milk class. The junior female championship went to their senior yearling imported Killoch White Rose.

Jas. K. Paisley with Baby of Landon, captured the red ribbon for best cow and two of her offspring. He also led the way with a senior yearling heifer. The Paisley herd is on a pretty good foundation and showed to much better advantage than they did a year ago at Fredericton. The McRae herd topped the list in a number of sections. Both the senior herd and junior herd first prizes went to McIntyre Bros.

The Holstein classes were ably represented by Harding Bros., Dickie Bros., and Frank Edwards. The battle royal waged between the first two mentioned herds, both of which were out in good shape. The Harding herd had just returned from the Province of Quebec, where they campaigned very successfully at Valleyfield, Sherbrooke and Three Rivers. The Dickie herd were fresh from their home pastures on Cobequid farm. Edwards is a new beginner with some good foundation stock.

The male sweepstakes went to Dickie Bros. on Prince Colanthus Canary B., shown in the aged bull class. This bull's three nearest female relatives have records of over 30 pounds butter each in seven days.

The female championship went to Harding Bros.' Faforit Poem, shown in the two year old class. This heifer was first in her class and female champion at all the Quebec fairs at which she was exhibited. The senior herd prize was captured by Dickie Bros., while the junior herd prize went to Harding Bros. Dickie Bros.' bull was first with three of hs get, and their Cobequid Mercer Fayne, a daughter of Mercena Artalissa, a former Amherst Winter Fair dairy test champion, led the way with two of her offspring. The first prize for best herd of 4 cows went to Dickie Bros., while the first prize for best herd of 4 calves went to Harding Bros. The graded herd class 1st prize also went to Harding Bros.

Jerseys were shown by J. R. Semple & Son, Truro, E. J. Young, Silver Falls, A. C. Josselyn, Silver Falls, and E de F. Holden & Son, Frelighsburg, Quebec. The lion's share went to the Quebec breeder in a well fitted herd of splendid individuals. The male champon iwas Holden's Brampton Oxford Rosebay, shown in the senior yearling class. Holden's aged cow Miss Parl H, was first in her class, female champion and first with two of her offspring.

Brown Swiss were shown by W. A. Jolley, Waterloo, Que., and Ralph H. Libby, Stanstead, Que. Both herds were well fitted aud creditably shown. They made a good impression at the Maritime fairs last fall and again this year they are maintaining their good records.

Sheep.

The sheep classes made a splendid showing, but Walter E. Allison was the only New Brunswick sheep breeder who exhibited. The balance of the showiug was made by Prince Edward Island, Ontario and Nova Scotia breeders. The sheep were for the most part in good fit. The silver cup for grand champion ram was won by a Shropshire ram shown by Geo. L. Boswell. Frenchfort, P. E. I.

Swine.

The swine display was small. A full list of awards will be found elsewhere in this issue.

The Judges.

The judges were:

Light Hroses—Dr. Ed. Watson, Toronto.

Heavy Horses—J. M. McCallum, Shakespeare, Ont.

Beef Cattle and Sheep—Duff Brien, Ridgeton. Ont.

Jerseys and Brown Swiss—G. D. Duncan, Todmorden, Ont.

Ayrshires—R. R. Ness, Howich, Quebec.

Holsteins—Neil Sangster, Ormston, Quebec.

Poultry—John Clark, Cainesville, Ontario.

Agricultural Products—S. J. Moore, Truro, N. S.

Horticulture—Geo. H. Vroom, Middleton, N. S.

On Thursday evening the directors of the Exhibition Assocaition entertained the live stock exhibitors at a banquet at which a sumptuous repast was served and at which the president of the Association, His Worship Mayor Schofield, announced the decision of the board to make the exhibition an annual event.

This announcement was received with hearty applause. A vote was taken to give the breeders a chance to show their approval of the new plan, the result of which was unanimously in favor of an annual exhibition at St. John.

Mr. Libby, one of the Quebec exhibitors, expressed the opinion that few if any exhibitions in Canada could boast this year as could St. John, of having live stock exhibits from five provinces, Ontario, Quebec, Nova Scotia, Prince Edward Island and New Brunswick being represented.

Several prominent breeders expressed their appreciation of the courtesy extended to them by the genial secretary, Mr. Horace A. Porter, and his staff, who were always ready to attend to their wants.

Next year's St. John fair will open September 3rd, the Saturday preceding Labor Day, and continue to September 10th. The prize list will be revised so that, as was so well said by the president, "tbe monies offered in prizes will be more commensurate with the present value of the dollar."

Excessive freight rates, scarcity of labor on the farm and an early season mitigated against the best showing of agricultural and other products as well as of live stock.

THE PRIZE WINNERS

DAIRY CATTLE

Ayrshires.

Bull, 3 years old and upwards—1, A. McRae & Sons, Charlottetown, P.E.I.; 2, McIntyre Bros., Sussex, N.B.

Bull, 2 years old—1, McIntyre Bros.

Bull, senior yearling—1, A. McRae & Sons; 2, J.K. Paisley, Beaver Brook, N. B.

Bull, junior yearling—1, McIntyre Bros.

Bull, senior calf—1 and 3, McIntyre Bros.; 2, A. McRae & Sons; 4, J. K. Paisley.

Bull, junior calf—1, McIntyre Bros.

Male Sweepstakes—1, McIntyre Bros.

Cow, 4 years old and upwards—1, 2 and 3, McIntyre Bros.

Dry Cow, 4 years old—1, 3 and 4, McIntyre Bros.; 2, A. McRae & Sons.

Cow, 3 years old—1 and 3, A. McRae & Sons; 2, McIntyre Bros.

Dry Cow, 3 years old—1 and 2, McIntyre Bros.; 3, A. McRae & Sons.

Canadian Cow, 3 years old—1, 3 and 4, McIntyre Bros.; 2, A. McRae & Sons.

Heifer, 2 years old—1 and 3, McIntyre Bros.; 2 and 4, A. McRae & Sons.

Heifer, senior yearling—1 and 2, McIntyre Bros.; 3, A. McRae & Sons; 4, J. K. Paisley.

Heifer, junior yearling—1, J. K. Paisley; 2 and 4, Mclutyre Bros.; 3, A. McRae & Sons.

Heifer, junior calf—1 and 2, McIntyre Bros; 3, A. McRae & Sons; 4, J. K. Paisley.

Female Sweepstakes—1, McIntyre Bros.

Senior Herd—1 and 3, McIntyre Bros.; 2, A. McRae & Sons.

Breeders Young Herd—1, McIntyre Bros.; 2, A. McRae & Sons; 3, J. K. Paisley.

Bull and 3 of his get—1, McIntyre Bros.; 2, A. McRae & Sons.

Cow and 2 of her offspring—1, J. K. Paisley; 2 and 4, McIntyre Bros.; 3, A. McRae & Sons.

Special.

Senior Champion Male—1, A. McRae & Sons.

Senior Champion Female—1, McIntyre Bros.

Junior Champion Male—1, McIntyre Bros.

Junior Champion Female—1, McIntyre Bros.

Four Animals, get of one sire, either sex, any age, bred and owned by exhibitor—1, 2 and 4—McIntyre Bros.; 3, J. K. Paisley.

Two Animals, progeny of one cow, either sex, any age, bred and owned by exhibitor—1 and 4, McIntyre Bros.; 2, J. K. Paisley; 3, A. McRae & Sons.

Silver Cup donated by Canadian Drug Co., Ltd., St. John, N. B., for best herd of Ayrshires, consisting of one bull, 2 years and upwards, 4 females, 2 years and upwards, and4 females under 2 years—1, McIntyre Bros.

Silver Cup donated by the Brayley Drug Co., Ltd., St. John, for six best pure bred dairy animals, any breed, 24 months or under, 5 females and 1 male, fitetd on Dr. Wilson's Dairy Condition Powder—1, McIntyre Bros.

Aberdeen Angus.

The first prize in every section of the Aberdeen Angus class went to Horne Bros., Winsloe Station, P.E.I., without competition, as wel las second and third prizes in the sections where they had entries.

Brown Swiss.

Bull, 3 years old and upwards—1 and 2, W. A. Jolley, Waterloo, Que.; 3, Ralph H. Libby, Stanstead, Que.

Bull, 2 years old—1, W. A. Jolley; 2, Ralph H. Libby.

Bull, junior yearling—1, Ralph H. Libby; 2, W. A. Jolley.

Bull, senior calf—1, W. A. Jolley; 2, Ralph H. Libbey.

Bull, junior calf—1 and 3, W. A. Jolley; 2 and 4, Ralph H. Libbey.

Male Sweepstakes—1, W. A. Jolley.

Cow, 4 years old and upwards—1 and 4, W. A. Jolley; 2 and 3, Ralph H. Libbey.

Dry Cow, 4 years old—1, W. A. Jolley.

Cow, 3 years old—1, W. A. Jolley; 2, Ralph H. Libbey.

Dry Cow, 3 years old—1, W. A. Jolley.

Canadian Cow, 3 years old—1, W. A. Jolley; 2, Ralph H. Libbey.

Heifer, 2 years old—1 and 3, W. A. Jolley; 2 and 4, Ralph H. Libbey.

Heifer, junior yearling—1 and 4, Ralph H. Libbey; 2 and 4, W. A. Jolley.

Heifer, senior calf—1 and 3, W. A. Jolley; 2, Ralph H. Libbey.

Heifer, junior calf—1, Ralph H. Libbey; 2, W. A. Jolley.

Female Sweepstakes—1, W. A. Jolley.

Senior Herd—1, W. A. Jolley; 2, Ralph H. Libbey.

Breeders Young Herd—1, W. A. Jolley; 2, Ralph H. Libbey.

Bull and three of his get—1, W. A. Jolley; 2, Ralph H. Libbey.

Cow and 2 of her offspring—1, W. A. Jolley; 2, Ralph H. Libbey.

Jerseys.

Bull, 3 years old and upwards—1, E. de F. Holden & Son, Frelighsburg, Que.; 2, J. R. Semple & Son, Truro.

Bull, 2 years old—1, E. J. Young, Silver Falls, N. B.

Bull, senior yearling—1, E. de F. Holden & Son.

Bull, junior yearling—1, E. de F. Holden & Son; 2, J. R. Semple & Son.

Bull, senior calf—1 and 4, E. de F. Holden & Son; 2, J. R. Semple & Son. 3, A. C. Josselyn, Silver Falls, N. B.

Bull, junior calf—1 and 3, E. de F. Holden; 2, E. J. Young.

Male Sweepstakes—1, E. de F. Holden & Son.

Cow, 4 years old—1 and 2, E. de F. Holden & Son; 3, A. C. Josselyn; 4, E. J. Young.

Dry Cow, 4 years old—1, A. C. Josselyn; 2, E de F. Holden & Son; 3, J. R. Semple & Son.

Cow, 3 years old—1, E. de F. Holden & Son; 2, E. J. Young; 3, J. R. Semple & Son.

Dry Cow, 3 years old—1, E. de F. Hodlen & Son; 2, J. R. Semple & Son.

Canadian Cow, 3 years old—1 and 2, E de F. Holden & Son; 3, A. C. Josselyn; 4, J. R. Semple & Son.

Cow, 2 years old—1 and 2, E. de F. Holden & Son; 3, E. J. Young; 4, J. R. Semple & Son.

Heifer, 2 years old—1, E. de. F. Holden; 2, A. C. Josselyn.

Heifer, senior yearling—1, J. R. Semple & Son; 2, E. J. Young; 3, E. de F. Holden & Son; 4, A. C. Josselyn.

Heifer, junior yearling—1, E. de F. Holden & Son; 2 and 3, A. C. Josselyn.

Heifer, senior calf—1, J. R. Semple & Son; 2 and 4, E. de F. Holden & Son; 3, A. C. Joselyn.

Heifer, junior calf—1 and 4, E. de F. Holden & Son; 2, J. R. Semple & Son; 3, E. J. Young.

Female Swepstakes—1, E. de F. Holden & Son.

Senior Herd—1, E. de F. Holden & Son; 2, E. J. oYung; 3, J. R. Semple & Son.

Breeders Young Herd—1, E. de F. Holden & Son; 2, J. R. Semple & Son; 3, A. C. Josselyn.

Bull and 3 of his get—1, E. de F. Holden & Sons; 2, E. J. Young.

Cow and 2 of her offspring—1, E. de F. Holden & Sons; 2 and 4, J. R. Semple & Son; 3, A. C. Josslyn.

Holsteins.

Bull, 3 years old—1, Dickie Bros., Truro, N. S.; 2, Harding Bros, Welsford, N. B.

Bull, 2 years old—1, Harding Bros.

Bull, senior yearling—1, F. Edwards, Lower Millstream, N. B.

Bull, junior yearling—1, Dickie Bros.; 2, Harding Bros.

Bull, senior calf—1, Harding Bros.; 2, F. Edwards; 3, Dickie Bros.

Bull, junior calf—1 and 3, Harding Bros.; 2, F. Edwards.

Male Sweepstakes—1, Dickie Bros.;

Cow, 4 years old—1, Dickie Bros.; 2 and 3, Harding Bros.

Dry Cow, 4 years old—1 and 2, Dickie Bros.; 3, F. Edwards.

Cow, 3 years old—1, Dickie Bros.; 2, Harding Bros.

Dry Cow, 3 years old—1, Harding Bros.; 2, Dickie Bros.; 3, F. Edwards.

Canadian Cow, 3 years old—1, Dickie Bros.

Cow, 2 years old—1, Harding Bros.; 2, Frank Edwards.

Heifer, 2 years old—1, Harding Bros.; 2, Dickie Bros.

Heifer, senior yearling—1 and 2, Harding Bros.; 3, Dickie Bros.

Heifer, junior yearling—1 and 4, Harding Bros; 2 and 3, Dickie Bros.

Heifer, senior calf—1 and 4, Harding Bros.; 2, F. Edwards; 3, Dickie Bros.

Heifer, junior calf—1 and 3, Harding Bros.; 2, Dickie Bros.

Female Sweepstakes—1, Harding Bros.

Senior Herd—1, Dickie Bros; 2, Harding Bros.; 3, Frank Edwards.

Breeders Young Herd—1 and 3, Harding Bros.; 2, Dickie Bros.

Bull and 3 of his get—1, Dickie Bros.; 2, Harding Bros.

Cow and 2 of her offspring—1, Dickie Bros.; 2, Harding Bros.

Herd consisting of four cows, any age—1, Dickie Bros.; 2, Harding Bros.

Herd consisting of four calves under 1 year, bred by exhibitor—1, Harding Bros.; 2, Dickie Bros.

Herd consisting of one cow, 3 years old, one 2 year old heifer, 1 yearling heifer, 1 heifer calf, and 1 bull calf, all bred and owned by exhibitor—1, Harding Bros.; 2, Dickie Bros.

SHEEP.

Grand Champion Ram. any breed, 2 shears and over—Silver cup donated by the Canadian Bank of Commerce, St. John, N. B.—Geo. L. Boswall, French Fort, P. E. I.

Cotswolds.

All first and several second and third prizes in the Cotswold class won by Almon Boswall, Dunstaffrage, P. E. I. ,without competition.

Leicesters.

Ram, 2 shears and over—1, S. C. Stewart & Son, Dunstaffrage, P.E.I.; 2, S. L. Boswall, Pownal, P. E. I.

Shearing Ram—1 and 2, S. L. Boswall; 3, S. C. Stewart & Son.

Ram Lamb—1 and 2, S. C. Stewart & Son; 3, S. L. Boswall.

Ewe, 2 shears and over—1, 2 and 3, S. L. Boswall.

Shearing Ewe—1 and 3, S. C. Stewart & Son; 2, S. L. Boswall.

Ewe Lamb—1 and 2, S. C. Stewart & Son; 3, S. L. Boswall.

Pen, Ram and 4 Ewes—1, S. L. Boswall; 2 and 3, S. C. Stewart & Son.

Pen Lambs—1, S. C. Stewart & Son; 2, S. L. Boswall.

Loncolns.

All first prizes and several second and third prizes in the Lincoln class were won by Albert Boswall, French Fort, P.E.I., without competition.

Shropshires.

Ram, 2 shears and over—1 and 3, Geo. L. Boswall; 2, Walter E. Allison, Rothesay, N. B.

Shearing Ram—1 and 2, Geo. L. Boswall.

Ram Lamp—1 and 3, Geo. L. Boswall; 2, J. R. Semple & Son, Truro.

Ewe, 2 shears and over—1, Geo. L. Boswall; 2 and 3, Walter E. Allison.

Shearing Ewe—1 and 2, Geo. L. Boswall.

Ewe Lamb—1 and 2, Geo. L. Boswall; 3, Walter E. Allison.

Aged Pen—1 and 3, Geo. L. Boswall; 2, W. E. Allison.

Young Pen—1, Geo. L. Boswall; 2, W. E. Allison; 3, J. R. Semple & Son.

Southdowns.

Ram, 2 shears and over—1 aud 2, A. Ayer, Hampton, Ont.; 3, J. R. Semple & Son.

Shearing Ram—1 and 2, A. Ayre; 3, J. R. Semple & Son.

Ram Lamb—1 and 3, A Ayer; 2, J. R. Semple & Son.

Ewe, 2 shears and over—1 and 3, A, Ayre; 2, Cephas Nunn, Winsloe Station, P.E.I.

Shearing Ewe—1 and 2, A. Ayre; 3, J. R. Semple & Son.

Ewe Lamb—1 and 3, A. Ayre; 2, J. R. Semple & Son.

Aged Pen—1, A. Ayre; 2, J. R. Semple; 3, Pephas Nunn.

Pen Lambs—1, A. Ayre; 2, J. R. Semple & Son; 3, Sephas Nunn.

Dorsets.

All first prizes and several second and third prizes in the Dorset class were won by Geo. L. Boswall, without competition.

Hampshires.

Ram, 2 shears and over—1, A. Ayre; 2, and 3, Cephas Nunn.

Shearing Ram—1 and 3, Cephas Nunn; 2, Lorne Nunn, Winsloe Station, P.E.I.

Ram Lamb—1, Cephas Nunn; 2, Lorne Nunn; 3, J. R. Semple & Son.

Ewe, 2 shears and over—1, A. Ayre; 2, Cephas Nhnn; 3, L. Nunn.

Shearing Ewe—1 and 2, Cephas Nunn; 3 A. Ayre.

Ewe Lamb—1, Cephas Nunn; 2 and 3, A. Ayre.

Aged Pen—1, Cephas Nunn; 1, A. Ayre; 3, Lorne Nunn.

Pen Lambs—1, Cejhas Nunn; 2, A. Ayre; 3, Lorne Nunn.

Cheviots.

Wih the exception of third prize on aged ram which went to Cephas Nunn and second prize on yearling ram which went to Albert Boswall, all the prizes in the Cheviot class went to Cephas Nunn.

Suffolks.

Ram, 2 shears and over—1, A. Ayre; 2, J. Reagh Horne, Winsloe Station, P. E. I.

Shearing Ram—1, A. Ayre; 2, A. Parker Horne, Winsloe Station, P.E.I.

Ram Lamb—1 and 2, A. Ayre; 3, A. Parker Horne.

Ewe, 2 shears and over—1, A. Ayre; 2, A. Parker Horne; 3, J. Reagh Horne.

Shearing Ewe—1 and 2, A. Ayre; 3, A. Parker Horne.

Ewe Lamb—1, 2 and 3, A. Ayre.

(Continued from page 890)

Notes From the Nova Scotia Agricultural College

PRIZE ESSAY ON THE COW.

A few years ago a series of lessons on dairying was prepared and placed in the hands of the Rural Science teachers in the province of Nova Scotia, for use in the schools. Under the direction of Mr. H. R. Brown, Promoter of the Dairy Industry, prizes were offered for essays on the basis of this instruction. The first series of prizes were for competition in each school section. The best essay from each section then went in to compete for a county or district prize. The best from each of these, in turn, were sent up for a grandl provincial prize, donated by the Dairymen's Association of Nova Scotia. It has been secured this year by Allison Fraser, age 12 years, in the Green Hill school, Pictou County. It is published below.

The Dairymen's Association also offered a prize to the teacher whose pupils made the highest average in dairy subjects. The latter prize has been awarded to Miss Alice Gray, teacher in the Green Hill school.

The Cow and Her Products.

There are two types of cows, the dairy type and the beef type. The principal dairy breeds are the Jersey and Guernsey, Ayrshire and Holstein. The principal beef breeds in Canada are the Shorthorn and the Hereford. The Jersey came from one of the Channel Isles called Jersey. The Jersey is noted for her beauty, gentleness and quality of milk. She varies in color from dark brown to silver grey and different shades of fawn. The Guernsey is a stronger and larger cow than the Jersey and her milk is very much more yellow than any other breed of cows. She is either brown or yellowish with white spots or reddish. The Jersey and the Guernsey are the best dairy breeds, their milk is 5 per cent. butterfat.

The Holstein is a type of cow that came from Holland, where there are rich meadows, and will not live on poor pastures as well as some breeds. She is a large cow, black and white in color. She gives the most milk of any breed but not so rich. The Ayrshire came from Ayr in Scotland and is a very good cow on poor pastures. She came to Montreal years ago on Scottish ships to supply milk to the passengers. The milk of the Ayrshire and Holstein contains only 3.6 per cent. butterfat.

The food cows need to keep their body in repair is called maintenance ration and the portion that is over goes into making milk. A cow has to gave good food before they can provide milk and must get it in a form which they like. The natural food for cows is green grass and after the pasture gets dry you should give them something to take the place of green grass. Ensilage is good. It is a green feed that is cut up and put in an air tight box or bin and it will sour and is good for the cows in winter. You can feed white or yellow turnips, tops and all, in the fall. The cows should get plenty good pure water. They also need 600 to 800 square feet of air space in the stable. There should be ventilators in the stable to let the fresh air in and the bad air out. The sunshine is the best thing to kill germs and cows should have lots of sunshine. There should be 5 to 7 square feet of glass to each cow. The stable should be kept clean. You should milk in a bucket all covered over but one little hole in the top to keep the dust of the cows body from falling in the milk. The milk should be strained through 2 or 3 ply of cheesecloth and all buckets and separators should be washed and scalded after using. The cow should be thoroughly brushed but not before milking because the dust will go in the milk. Their udder should be wiped with a damp cloth before milking.

Milk is a clear liquod with a great many tiny round balls in it called globules. The globules in the milk is what gives the color to it. In 100 pounds of milk there are 87 pounds of water, 4 pounds of butterfat, 4 1-3 pounds of milk sugar, 3 pounds of casien, 2-5 pounds albumen, 3-4 pouuds of ash. The little globules in the milk are fat and form butter when you churn the milk. The Jersey cow makes more butter than any other cow. Milk is the best food you can get because it contains all the food the body needs and in the right proportion. The water in the milk when distilled looks like pure water but there is a taste and a small to it, which belongs only to mlik. The globules in the milk average a size of about 1-6000 of an inch and the Jresey cow has the largest globules. The sugar in milk is what causes it to sour and when taken out it is a sort of a powder not very sweet and is used by doctors to mix with pure drugs. The casein and albumen are what makes the disagreeable smell when milk spoils. It is this that causes the milk to thicken when rennet is adde dnad so we are able to mke curds and different kinds of cheese. The ash in milk consists of potash, lime, soda, magnesia, and iron and is useful for making bone and muscle.

Allison Fraser,
Age 12, Grade 7,
Green Hill School,
Pictou Co., N. S.

ALERTNESS.

These are days of agitation, discussion and controversy. Farmer's parties organize on the plea that they are not properly represented and their rights sufficiently conserved. Whatever the truth or untruth of this claim, it is natural to ask why they have this impression. One answer is at least suggested by recent developments in the dairy industry.

Co-operative Creameries have been established within the past few years in most sections of the province of Nova Scotia. These are owned and controlled entirely by the farmers themselves. Their greatest difficulty has always been to get enough competent men to take sufficient interest to make the business a success. Where they have made a real success the responsibility has fallen upon a few men who were determined to see the matter through. The success attained by these is so obviously important and worth while in every way that one need not dwell upon it. Our contention just here is that we have here a splendid line of work, which, where successful, has built up the community and returned good dividends, and this industry, entirely owned and controlled by farmers, has had the greatest difficulty in securing and maintaining their interest.

Now for another point. While, up to the present, dairy development has been fairly satisfactory in the districts served by creameries, it is quite evident that a greater interest must be taken in their own business by farmers themselves or a number of these companies cannot be a permanent success. It is also quite evident that, where it has been made a success, unless the milk producer is alert to the situation, the ownership and control of the business will gradually slip away from him, as it has already done in other provinces where dairying was established earlier.

In the Province of Ontario, dairying was deevloped through the medium of the local creamery and cheese factory, co-operatively organized. As milk production increased and the business became larger, a certain amount of dissension arose between the producers and they began pulling apart. Business men saw their opportunity and got control, with the result that today the control of the dairy business is largely in the hands of private enterprise, such as Milk Condensers, Centralized Creameries, privately owned cheese factories, privately owned city milk dsitributing plants, etc. The same situation prevails to a greater or less extent in the district surrounding Truro, where the dairy business was at first developed through the cheese factory. Here also disagreements arose among milk producers, and the result was a milk condenser, privately owned and operated.

For a number of years past different large concerns have had their agents watching over the creamery territories in the hope of starting some privately owned concern. This article is not intended to provoke any discussion as to which would be the more profitable to the milk producers, but to point out that, while, as yet, control is in the hands of the producer, unless he is on the alert and really interests himself in keeping it, it will surely slip out of his hands. So, while he seeks his rights by other methods, here is a large farming interest wherein the farmer is supreme, and he is in danger of letting it out of his hands through apathy.

THE MARITIME FARMER

And Co-operative Dairyman
Registered Trade Mark

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DATES OF ISSUE.

September	14—28
October	12—26
November	9—23
December	7—21

SEPTEMBER 14

THE FARMER AS AN ADVENTURER

Very little literary talent has ever been spent on tales about the life of the man with a hoe or pitchfork, but irrespective of all this the life of the farmer is essentially the life of adventure. The dictionary meaning of the word adventure is "a bold undertaking in which hazards are to be met and the issue hangs upon unforeseen events." What could better describe the work of farming?

Boldly the farmer sows and plants the fields he has made mellow with plow and disk. But what shall the harvest be, or indeed shall any crop at all be gathered? He cannot tell. The outcome of all his labor depends upon incalculable events. The farmer not only faces the risks of business when he comes to marketing his crops, he confronts the elemental hazards of nature in their production. The planted corn may rot; cut worms may work havoc in his fields; a new blight or bug may visit the potatoes; a long drought may make the pastures look like a dessert; wind and hail may lay low the most promising field of grain, and the autumn rains may start the wheat in the shock to growing.

Like every man who lives an adventurous life, if the farmer is to succeed he must have three characteristics, and the first of these is faith. He must believe that an abundant harvest will follow a generous sowing. An old proverb has it that "He that observeth the wind shall not sow; he that regardeth the clouds shall not reap;" but the farmer, facing squarely the possibilities of failure and loss, must hold fast the conviction that on the whole Nature's forces are on the side of the wise and industrious tiller of the soil, and go ahead.

But to take great risks in faith requires courage. The farmer must have the soldier spirit. It is not enough to believe he can succeed; he must put faith to the test. Nature may have a most forbidding look, but pluckily he must go over the top.

The result of his courageous venture will not be apparent all at once. There is a long time between spring and fall. Months must go by before the farmer knows the real success or failure of many a daring leap in the dark. Meanwhile he must display the fine virtue, so much extolled in the recent war—he must "carry on."

THE CONSERVATION OF FERTILITY

Farmers should save every pound of manure, liquid and solid. In intrinsic and market value barnyard manure is considerably higher than it was a few years ago, and is invaluable on the farm where it is produced. Sources of the three great essential plant foods, nitrogen, potash and phosphoric acid, whether as feed or straight fertilizers, are expensive. The price of acid phosphate is almost prohibitive, owing to various causes. Farmers who breed and feed live stock using as much as possible home-grown feeds are relatively more favorably situated than heretofore for obtaining their sources of plant food, compared with the exclusive grain-farmers. Notwithstanding the present high prices obtained for grains, the growers are finding the apparent advantage offset if they mean to replace those essential elements of the soil which they ship from the farm with each crop. The most up-to-date farmers have an underground tank or cistern connected with their cattle barn and stable drains. Sixty percent of the fertilizing ingredients of the feed eaten is contained in the liquid portion of the manure, and those farmers who have no cistern to collect it should see to it more than ever before that sufficient straw or other absorbent is used for bedding. The fertility of farms where live stock enters largely into the operations can be distinguished at a glance in most districts from the apparent fertility of the land, and under present conditions this comparative advantage over the grain-grower is bound to be more marked. Clovers, alfalfa, peanuts, soy, velvet and other beans, according to the state of climate, along with good live stock, are the things to enrich and preserve the fertility of farms.

WASTE OF WOMAN POWER

The necessity of modernizing the farm home cannot be overestimated. It is the tendency and almost the universal practice for the farmer to purchase all modern machinery for operating his farm and equipping his barn with every device for saving labor before any attention is given to the purchase of home conveniences for his wife and family. There is a reason for this because improved machinery and better equipment for the barn makes it possible for the farmer to secure a larger return but we believe it is carried too far.

We have had opportunity of late to observe farms well equipped in every respect for field and farm work but the houses had no modern conveniences and yet the farmers were adequately able to purchase them.

The farmer often complains about his long hours in close confinement, but we believe on the average the woman's work on the farm is more confining and the hours longer than that of the farmer. We should not look upon the farm as merely a place to make money, but rather a place to build a home and a life. This cannot be accomplished until the woman's work is considered of as much importance, if not more, than the man's and when this point of view is taken, it will be observed that the conveniences of the household are quite as important as modern machinery and improved methods of doing work in the barns and fields.

DON'T TAKE A CHANCE WITH FIRE

"It never pays to take a chance with fire," says a circular issued by the Forest Service, United States Department of Agriculture, in its campaign against forest fires. "If you have got to gamble take a 'flyer' on the stock market or play the ponies, but don't take a chance on fire."

"Every thousand feet of green timber near your home is worth at least $10 in wages to you and your neighbors, besides its stumpage value to its owner. If it is on national forest land, you are part owner, and if it is destroyed by fire, you lose both values.

"Burned timber pays no wages," the circular says. "The prosperity and development of your locality is going to depend upon keeping that timber green.

"Don't take a chance with fire yourself, and don't let your neighbor do it. When you burn brush take every precaution to obey the law and see that your neighbor does. Remember that your home and his can go up in smoke from one piece of carelessness.

"The biggest fires in history were started by those who didn't think the woods would burn. Be as careful of fire as you are of powder; it's just as dangerous."

GIVE THE FARM A NAME

In the past farmers have been too busy or perhaps a bit too careless to give names to their homes. It is not that they are less busy now, but they possess a new dignity. Farmers to-day are conscious that they are free men and walk the earth with a little firmer tread because of what they have been able to do in the past few years.

Would it not be well to round this out by making the home and farm as near a real home as possible? There is no place in the world where men and women and children can live such sane normal lives as under ideal farm conditions. It is difficult to attain the ideal but it is worth striving for.

It is not a very difficult matter to give a suitable name for your farm. No matter how humble or isolated it may be it is your home and as such deserves a name. It is nicer to be able to say, The Oaks or The Maples, than Jones' or Smith's place. Such names as The Maples, Maple Hill, Elm Ridge, The Grove, Hickory Ridge, Valley Farm, The Knoll, etc., are but suggestions. Let the women and girls name the place and we may be sure that the selection will be most appropriate. What is home without a name?

* * *

It is well to advise the consumer regarding the food value of milk and its products, but it is also wise that a higher quality of dairy products be produced. Complaint comes from every source of the poor quality of butter, of its high moisture, of improperly made and cured cheese, and of the low standards of ice cream. There is not one of these products that could not be materially increased without any effort, so far as advertising is concerned, by simply producing a more uniform and higher quality of all dairy products.

Since milk has been pasteurized and bottled there has been a decided increase in consumption, for along with the pasteurization and bottling came the campaign for the production of a higher grade of milk. The man on the farm who produces the milk may feel that he has little to do with increasing the consumption of his product, but if he were fully advised regarding how much more dairy products the consumer will eat when they meet his personal taste, when they are of good quality, he would view his position with more concern. A butter that will score from 92 to 95 will be consumed in much larger quantities than butter scoring from 85 to 90. The same applies to cheese, milk, and ice cream.

BONUSING CLOVER HULLERS IN NEW BRUNSWICK.

E. P. BRADT, Secretary for Agriculture.

A few years ago the New Brunswick Department of Agriculture purchased a clover huller to be used for demonstration purposes in the province. This was the first huller introduced and has been the means of demonstrating that an excellent yield of high quality seed can be produced in the province. About 125,000 pounds of excellent clover seed was threshed by this outfit in the season just passed. Previous to this pratcically all the clover seed used was imported. The great bulk of the seed is still imported. Our own supplies should by all means be grown within the province. The Department of Agriculture is taking steps to bring about this result.

The lime policy recently adopted by the Department and which now makes it possible for farmers in any part of the province to get lime tested 94 per cent carbonate delivered to them freight prepaid at $5.00 per ton, is expected to make the growing of clover much more successful and also much more general throughout the province.

With the growing of the clover crop becoming more general and easy of attainment through the use of lime special attention will be given by the Department to the promotion of the growing of clover seed. The government owned huller can only do a limited amount of the necessary threshing in the province and it has been deemed advisable to encourage the purchase of hullers in the various counties of the province. The plan is to group the societies in the various counties and encourage the co-operative purchase of hullers through the Agricultural Societies by means of offering to bonus such outfits as may be approved.

Application from Societies in three counties have already been received and many more are expected to avail themselves of this opportunity. Threshing faiilities will thus be placed within reach of the farmers in every part of the province and clover seed growing will receive a decided impetus thereby.

The following regulations will govern the granting of the bonus by the Department of Agriculture:

1. Agricultural Societies desirous of securing a bonus on a clover huller should make application to the Department of Agriculture. Fredericton. The location of the outfit will be considered and if approved as being so located as to meet the neens of that particular county, approval will be given, and the Society notified that upon the purchase of a satisfactory outfit a bonus will be granted.

2. After the arrival of the huller. an inspector from the Department will insppect the outfit and if satisfactory will recommend a bonus.

3. Not more than two hullers will be bonused in any one county. These must be so situated as to providie threshing facilities for the county.

4. Societies must supply the original invoice from the firm from whom the purchase was made when making application for a bonus from the Department.

5. Societies may and are encouraged to use their regular government grants or any donations received, for the purpose of providing funds to purchase a clover huller.

6. The Department bonus will be 25 per cent. of the purchase price of the outfit as approved. The maximum bonus in any case not to exceed $500.

THE WOOL MARKET.

The wool market is still very properly termed "listless" with occasional bright spots howing on the surface. As reported in our last letter, our sales during recent weeks have totalled something better than 1½ million pounds. Of this amount 300,000 pounds was sold to one mill. It consisted of eastern domestic medium staple and low medium staple at 52 and 42 cents repectively f.o.b shipping points. This figures out to approximately 90 and 70 cents on a clean basis.

The majority of Canadian mills are now working on a large Roumanian contract that will keep them busy for some time to come and doubtless a large proportion of the 500,000 lbs. sold by us to Canadian mills so far this season has been placed on the strength of this Roumanian order. Many American mills including those operated by the American Woolen Company are still closed with the possibility of some of them re-opening after Labor Day.

There is still very little action on the part of dealers in the country and there is no doubt that a good deal of wool is being held locally by farmers. Up to date 150 carloads are reported as having been delivered at Weston or en route to that point from Western Canada. It would seem that there is an endless quantity of wool being held in storage on this continent. This is borne out by the following statement made recently by the Ohio Wool Growers' Association: "Our association has about one million pounds new wool stored in our Columbus warehouse. We have about the same amount at Wheeling and there is four times both stored in good places on the farms of Ohio, by growers, and we cannot sell a pound at any price. It is practically worthless, the only commodity on earth without a market."

Our stockmen's supply business so far this esason shows a marked increase over the previous year. Sales for the first seven months of 1920 total $18,856.99, as compared with $14,190.84 for 12 months ending December 31st last.

Canadian Co-operative Wool Growers, Limited.

EXHIBITING GRAINS AND GARDEN PRODUCTS.

It is not difficult to make a good sample of grain for show. All you need is grain that is good quality to start with and then a little dressing up will fit it nicely for the show. The rules of the show tell how much grain shall be in a show sample. Quality is the one thing to look out for. Plump kernels of good quality and color, clean and free from weed seed, other kinds of grain, chaff, and dirt are the things to look out for. The first thing to do in preparing a sample of grain then is to see that you have good plump grain. The second thing to do is to clean it up thoroughly so that there is nothing present but the grain itself. You cannot be too careful about this. The judge will not stand for weed seeds in a show sample, nor does he like to see chaff and dirt and pieces of sticks present. It might be a good plan after you have cleaned it up as thoroughly as possible to spread the peck of grain out on the table or on a clean floor and look it over carefully so that you can remove any weed seeds which have not been taken out withr a fannnig mill.

But this is only a part of dressing up the sample. The container in which you exhibit will either add to or detract from the appearance of the sample. Grain samples are best exhibited in nice, clean, white sacks, grain pans, or neat boxes. In exhibits of any kind neatness should always be one of our mottos.

Perhaps you have planned on exhibiting some grain in the sheaf. That is a mighty fine idea because sheaf samples of grain when properly put up are very pretty to look at. Most shows nowadays offer prizes on sheaf samples. There are just a few things to know in order to make a good looking sheaf sample ol grain. The straw should be left full size and should be stripped clean of the leaves and the heads should be arranged in an attrartive way. This does not mean that they should be arranged in any peculiar design. A sheaf sample which is about six inches in diameter just beneath the head is large enough. Some people make a mistake by making the samples look too clumsy. Then there is another important point and that is the way the sheaf sample is tied. Binder twine and white cord should not be used. It is best to use narrow ribbon, either red or yellow in color, or narrow tape of these colors will do. The sample should be tied just as many times as is necessary to make it firm. Usually three or four time .is enough—once beneath the heads, once or twice near the middle and again near the butt. The ties should be tight and there should be no ends left on the ribbon or tape. Consequently it is best to tie in a hard knot instead of a bow and cut off the ends of the ribbon.

When a judge awards the prizes and ribbons to sheaf samples he does so upon these points. Quality grain, attractiveness of the sheaf, and the color of the straw.

Many who have nothing else to exhibit can usually find something in the home garden that would be worth while preparing and, because so many of us are interested in gardens, this class in the show should be well filled. An attractive vegetable display is intersting to everybody and there are some things to know in order to make a garden product exhibit look its best.

First of all, no matter what the exhibit is, quality must never be sacrificed for quantity. Over-sized, coarse vegetables may be interesting to look at but it is seldom a judge awards the prize for size and coarseness, nor does he award prizes for freak-shaped vegetables. It ils a great temptation to exhibit the over-sized carrot or cabbage but as a usual thing these oversized individuals do not have the quality which will win the money. Nor should a few large individuals be exhibited with a number of smaller ones to make up the sample, but look out for quality first of all.

Then the samples should be sound and marketable. Disease spots will count against the sample and here is an important point. Vegetables such as roots like carrots, beets, turnips, and potatoes, should be clean. This doesn't mean that they should be scrubbed with water before they are shown. It is. rather bad practice to scrub these root vegetables with water in preparing them. It is much better to use a soft brush which will remove all the dirt. This will usually clean them up sufficiently. It is very seldom that water needs to be used. On the other hand, if the dirt is difficult to remove with a dry brush, then rather than exhibit a dirty sample, wash them very carefully so as not to injure the skins. This is especially true in speaking of potatoes. Root crops show soft and natural color much better when the dirt has been merely removed with a dry brush. Keep the sample just as uniform as possible.

LOSS FROM SMUT AVOIDABLE.

Attention is frequently drawn by the Department of Agriculture during the early spring season to the yearly loss ustained by this province in farmers neglecting to treat seed grain for smut, and although the number treating during this season for the first time has been very considerable, as the inquiries reaching this office for directions for using the different methods of treatment have been many, still in looking over the growing fields at the present time we notice heavy losses from smut or black heads in oats.

In some fields every fifth or sixth head is affected, and the crop reduced to that extent, while on close examination the loss in many others will be 10 per cent or greater. These black heads rot off and in high winds blow down and are often overlooked at harvesting, but at the present time them are easily recognized, and the percentage of infection can be noted. It will convince anyone who takes the trouble to look into this important matter of the necessity of treating all seed oats in future.

We have examined fields this season in which the loss is easily 20 per cent. This in a one thousand bushel field would mean a loss to the farmer of two hundred bushels of oats, worth that number of dollars, and a corresponding loss of straw which could have been prevented by the application of $3.00 worth of formalin and a very few hours' work.

Let every grain grower examine his fields, note the condition, and plan to have all his seed properly treated in future years.

Department of Agriculture.

TWENTY YEARS OF FERTILIZERS IN AN APPLE ORCHARD.

(U. P. Hendrick and R. D. Anthony, in New York State Agricultural Experiment Station Bulletin 460, pp. 71-96. Geneva, N. Y., 1919.)

Bulletin 339 of the Station gave the resolts for the first seven harvests in a fertilizer experiment which was begun in the Station grounds in 1896. The present bulletin discusses the results in eight additional harvests. The factors considered in interpreting results are yield and size of fruit and tree growth Detailed tabular records are given for each tree included in the experiment. The results secured on ach plot are summarized and discussed.

As measured by yields, acid phosphate at the rate of 340 pounds per acre per year has been of no benefit when used aolne. The addition of 196 pounds of muriate of potash to the 340 pounds of phosphoric acid apparently increased the yields, but the annual addition of 50 pounds of readily available nitrogen to these amounts of phosphoric acid and potash has caused no increase in yield. Plats receiving stable manure have yielded no more than the check plats. There has been a tendency for the checks and phosphoric acid plats to take a slightly lower rank in yield as the experiment has continued. In general the results are so contradictory that no conclusion of practical value can be drawn from the yields.

As measured by size of fduit, there is a greater difference between two nearby checks than between any fertilized plat and its nearest check. This, considered in connection with the variations among the duplicates of the fertilizer treatments, makes it impossible to draw any definite conclusion as to the effect of the treatments on size of fruit.

As measured by tree growth, the two phosphorous and potassium plats lead their adjoining plats. both in size of trunk and in tree volume, but it was impossible to conclude whether the increases were due to the potassium or the combination of the two elements, or to some tree or field variation which does not now show. Heavy applications of nitrogen in a complete fertilizer and in manure have not increased tree growth.

As measured by the costs of treatment, certain plats have given increases sufficient to equal the costs, or even to show a profit. Similar treatments in other plats have resulted in a loss.

Summing up the results of the experiment as a whole, the authors conclude that if the results continue in the present direction for another ten years. the increased yields may justify the recommendation of one or two of the treatments given; but at present this can not be done. Attention is called to the fact that these results are from a cultivated orchard on coil naturally well supplied with the plant feed elements. On thin, unfertilized, or in sod orchards the results might be quite different.

HORTICULTURE.

SPRAY-COVERED APPLES

Mr. Dwight Woodruff, Eastern representative of several of the large Northwestern apple growers' associations, is issuing a timely warning to growers to exercise more care in order to avoid having an excessive amount of spray on the fruit. A portion of Mr. Woodruff's letter in regard to this was recently published in the excellent little bulletin which is now being issued by the Yakima Fruit Growers' Association, and was occasioned by the action taken by Boston health authorities last winter who condemned several carloads of Northwest apples on account of the excessive amount of arsenate of lead spray on them. In discussing this subject Mr. Woodruff says:

"I think it is something that should have your early attention at the present moment, because I have talked with different factors in the East on this very subject and they all seem to think that the federal health authorities and the various boards of health throughout the country, especially in the big markets, are going to be on the lookout this season, and we might just as well plan to avoid trouble. All of this is to advise you so that you will not ignore the situation, and do not think for a moment that this is a Boston matter, because it is not."

To growers who do not wipe their apples before packing this is an important matter, notwithstanding the fact that experiments by experts have demonstrated that the number of apples that would have to be eaten to cause injury or sickness on account of the spray on them is beyond the consumption of any one human being. The point of the matter is in the fact that Eastern health authorities look on the substance left on the apples as highly poisonous and have evidently decided to discriminate against them if they are discolored by an excessive amount of spray material. With the keen competition that is now arising in the East from Eastern growers who admit that the markets for fancy apples are being taken away from them by the superior pack and finish of Western fruit, the Western grower should leave nothing undone to place his fruit on the market in the finest of conditions. It is easy to understand how a campaign against Western appleh could be inaugurated by having the health authorities or others whose purposes would not be so altruistic declare that they were poisonous or unhealthy.

The safest plan will of course be to have the fruit wiped, but if this is not to be done, then Mr. Woodruff's suggestion of avoiding the excessive use of spray should be adopted.

A PRACTICAL DEMONSTRATION OF FRUIT THINNING

By C. A. Noren

Now that the apples are packed and sold it is easy to obtain facts and figures relative to the value and advisability of thinning apples.

I have obtained four sets of comparisons of well thinned and poorly thinned orchards.

In three cases the orchards adjoin each other so that the conditions under which they were grown are very similar. Further, these figures were obtained from four different warehouses and therefore should be representative. The tables were figured on a basis of 1000 boxes to make the results more comparable.

The first comparison is that of two adjoining orchards, Jonathans, both of them well cultivated.

Well Thinned Orchard—990 boxes of 4½ tier and larger apples; 10 boxes of five tier apples.

Poorly Thinned Apples—675 boxes of 4½ tier and larger apples; 170 boxes of five tier apples; 155 boxes jumbles. The Jonathan being medium sized, there is no excuse for having so many small apples from this orchard. The owner did not think it paid to thin.

Table two is a comparison of two adjoining Winesap orchards on similar soils.

Eight hundred and twenty-six 5½ tier and larger; 77 boxes five tier, and 97 boxes jumbles.

This orchard had better than the average thinning.

Three hundred and eighty-seven 4½ tier and larger; 315 boxes of five tier and 298 boxes jumbles.

A poorly thinned orchard. From the above table it will be seen that the fruit runs 86.6 per cent 4½ tier and larger in the well thinned orchard as against 38.7 per cent.

The third table is that of two Winesap orchards not adjoining each other but on similar soil and both in alfalfa.

Well Thinned Orchard—963 boxes of 4½ tier and larger; 20 boxes of five tier and 17 boxes jumbles.

Poorly Thinned Orchard—200 boxes 4½ tier and larger; 447 boxes five tier and 353 boxes jumbles.

The first orchard runs 96.3 per cent 4½ tier and larger as against 20 per cent in the latter.

The fourth table shows the comparison of two adjoining Winesap orchards on similar soils and on clean cultivated ground.

Well Thinned—950 boxes 4½ tier and larger and 50 boxes five tier.

Poorly Thinned—500 boxes 4½ tier and larger and 500 boxes five tier and smaller.

Figured in actual money loss per 1000 boxes it varies from $152.50 in the case of the Jonathan orchards to $535.60 in third table. Add to this the additional cost of handling the smaller apples because of there being more of them, the loss is still greater.

Another fact which might be brought out is that the larger apples invariably run a higher percentage to extra fancy than do the smaller apples. Following are figures from two orchards in the comparison tables showing some interesting figures. In the well thinned orchard the packout was:

Seventy-three per cent extra fancy; 10 per cent fancy and 17 per cent C grade.

In the poorly thinned orchard we have: 47 per cent extra fancy; 27 per cent fancy and 26 per cent C grade.

Later it was found that all the "fancies" had to be marked C grade on account of lack of color, making a total of 53 per cent C grade apples. The loss in the second orchard amounts to $330.

The loss in money due to small fruit during the past year is the least item to be considered. The reason for the small fruit as shown in the tables is due to the fact that the trees bore too many apples, or, in other words the trees were not properly thinned. It is a known fact that it requires greater effort on the part of the tree to mature the core of the apple than the edible portion. It must then follow that a tree can mature with less effort ten boxes of apples averaging 150 to the box than ten boxes averaging 200 to the box. A tree can properly mature a certain amount of fruit and anything over that will cut down the size of all the fruit as well as the quality.

If a tree overbore this year, due to lack of proper thinning, more fruit spurs bore fruit than was actually necessary. This put too great a strain on a large number of fruit spurs and as a consequence they did not set the necessary fruit buds for next year, and further, the trees did not make the normal growth. Now then, it can readily be seen that the possibility of heavily loaded trees this year having a normal crop next year is small.

Alternate Bearing

Now we have arrived at one reason for the alternate bearing of fruit trees which applies especially to the apple. Taking a period of ten years the most profitable orchard is the one which bears an average crop every year. The alternate method of bearing fruit requires about the same amount of care and expense on the off year as it takes to bring through a full crop.

A tree has its limitations in the amount of fruit it can bear just as much as a man is limited in the amount of work he can do.

The real loss by allowing the tree to overbear one year comes the following year when a short crop is the result.

Overbearing retards normal growth of trees.

Overbearing one year does not give the tree a chance to set fruit buds the following year.

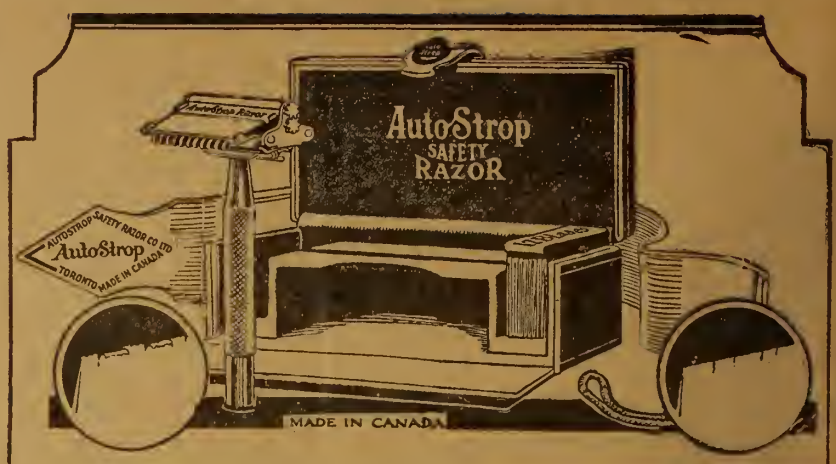
WIREWORMS

Wireworms have brown, shiny skins with segments showing plainly, from three-fourths to one and one-half inches in length, being slender and cylindrical in shape, and having a tough, wiry look. There are three pairs of legs protruding from the first three segments of the body.

Being slow to develop, they remain in the larvae state two years or more, hence many are found the first, and some the second year, after breaking the sod plot.

The wireworms live on the roots of the grass, but the roots being so numerous, the injury is not seen; but when corn is planted in infested fields, the roots being greatly reduced in number, the injury of the pest consequently becomes serious.

The wireworms usually change to pupae and transform to beetles from July to September. The beetles are known as snap-beetles and are from one-half to three-fourths of an inch



Edge Before Stropping (Magnified)

Edge After Stropping (Magnified)

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in length, dark brown in color, and often with dark markings.

Control

If the land is to be used to plant corn on, and known to be infested with wireworms, to counteract their ravages, the sod should be plowed soon after the hay is cut and deeply cultivated at intervals for the remainder of the season.

Clover could be used to follow the sod, as the pest does no injury to same.

Very late fall plowing is also recommended. If planted to corn and the worms are found to be present, deep cultivation should be used.

Rotation of crops combined with the above recommendations are the only means of handling the pest, as no application to the soil can be made strong enough to kill the pest without killing the crop.

NATURE AND CONTROL OF APPLE SCALD

A contribution from the Bureau of Plant Industry, U.S. Department of Agriculture, in which the authors summarize their earlier work on the nature and control of apple scald, and give the results of more recent investigations on this subject. A list of cited literature is included.

The experience as a whole show that the occurrence of apple scald is determined by orchard, packing house, transportation, and storage conditions. Mature fruit has, in general, scalded less than immature, but fruit in which the surfaces were just changing from green to yellow have scalded worse than those that were a leaf green and worse than those that had more completely changed to yellow. Well-coloured red fruit surfaces have been practically immune to scald.

Apples from trees receiving heavy irrigation have scalded worse than those from trees receiving light irrigation. This was found not to be due to the greater number of large apples in the former case, but to some forcing effect that increased the susceptibility to scald in both large and small apples. Delayed storage has increased or decreased apple scald, depending upon the amount of aeration the apples received during delay. Apples in ventilated barrels have developed less than one-third as much scald as those in commercial barrels when both were held in a storage room that received an occasional ventilation. but where the storage room received little or no ventilation the ventilated barrels caused but little decrease in scald.

The amount of scald developed in cold-storage plants has varied greatly with the location in the room. Apples near the aisle or near a door have scalded far less than those in the bottom of the stack. Boxed apples exposed to a continuous air current of 0.88 mile epr hour in a commercial storage plant have been practically free from scald, while similar apples that did not receive the constant fanning became badly scalded. Stirring of the storage air has been found more important than its renewal in the prevention of apple scald. The ordinary commercial apple wrappers have caused but little decrease in scald, and paraffin wrappers have been but slightly better, but wrappers impregnated with various fats and oils have either entirely prevented the disease or reduced it to a negligible quantity. In barrel experiments in which only part of the fruit was wrapped, scald has been greatly reduced on the apples adjacent to the wrapped ones as well as on the wrapped apples themselves.

Typical scald has been artificially produced in a few days' time by exposing apples to the vapors of ethyl acetate, amyl acetate, or methyl butyrate. The manner in which scald can be produced artificially and the different methods of control indicate that the disease is due to the accumulation of esters or similar products of the apple in the tissues of the fruit and in the surrounding air. The vapours of these substances can be carried away by air currents or absorbed by fats and oils.—C. Brooks, J. S. Cooley and D. F. Fisher in Journal of Agricultural Research, Vol. 18, No. 4, pp. 211-240. Washington, D. S., November 15, 1919.

HOW TO KILL YOUR FARMERS' CLUB

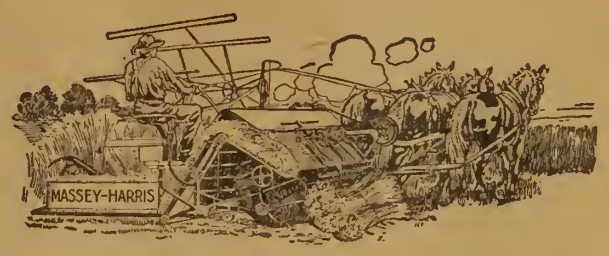
1. Don't come to the meetings.
2. But if you do come, come late.
3. If the weather doesn't suit you, don't think of coming.
4. If you do attend a meeting, find fault with the work of the officers and other members.
5. Never accept an office, as it is easier to criticize than to do things.
6. Nevertheless, get sore if you are not appointed on a committee; if you are, do not attend the committee meeting.
7. If asked by the chairman to give your opinion regarding some important matter, tell him you have nothing to say. After the meeting tell everyone how things ought to be done.
8. Do nothing more than is absolutely necessary, but when other members roll up their sleeves and willingly, unselfishly use their ability to help matters along, howl that the association is run by a clique.
9. Hold back your dues as long as possible, or don't pay at all.
10. Don't bother about getting new members. "Let George do it."

ROADSIDE WEEDS—OUT OF BUSINESS.

The cutting of roadside weeds is associated. ordinarily, with thought of the prevention of the distribution of seed from noxious plants. This is well and good, and to this end alone it would serve better purposes if weeds were cut earlier in the summer and more often than usually is the case. The influence of roadside weeds, however, in the maintenance of earth roads, is not fully appreciated. In the proper upkeep of dirt roads it is essential that surface drainage be as free and unobstructed as possible. Only by the removal of surface water soon after it falls and its conduction as rapidly as possible into such natural channels of elimination as brooks and streams can the earth road recover speedily from its greatest handicap—a surplus of moisture.

Roadside weeds operate oftentimes to hinder this process very materially. It is not unusual to see ditches so filled with a rank growth of vegetaation as to render them entirely invisible to sight. Such conditions, of course, constitute a menace to traffic and where the ditches are deep enough serious accidents are apt to occur. The heavy stand of weeds nullifies in considerable measure the very purpose for which the ditch exists. Leaves, twigs and rubbish catch upon the weeds and obstruct the ready flow of drainage. Roadsdie weeds should be cut at least three times a season: first, just after spring growth has reached its maximum, again in mid-summer, and finally after the growing season is over but while vegetation is still green. This last cutting will leave the ditches less obstructed through the fall and winter.

Massey-Harris



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Develop the music in your child through the masterly

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True to tone and produced from the best materials by expert workmen, it is rightly named "Canada's Biggest Piano Value."

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Windsor Dairy Salt

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The important time in feeding and caring for the sow is just before, during and just after farrowing. Success during this time often means the difference between profit and loss during the whole season.

The Key to Separator Efficiency

ON correct lubrication depends the efficiency of your cream separator. For, to do its work properly each bearing part of the separator's mechanism must work in perfect harmony with the rest. And friction in the working of any part affects the operation of the whole machine.

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Standard Hand Separator Oil

A lubricating oil made specially for cream separators. Protects every working part and bearing from the action of friction, keeps the separator's fine mechanism in perfect balance and thus assures the separation of all the butter fat.

For sale by dealers everywhere in sealed cans; sizes from 1 pint to 4 gallons.

"MADE IN CANADA"

IMPERIAL OIL LIMITED

POWER-HEAT-LIGHT LUBRICATION

BRANCHES IN ALL PROVINCES

DAIRYING.

THE CITY MILK SUPPLY.

(Continued from last issue)

In New Brunswick

Both Fredericton and St. John in the province of New Brunswick reported the requiremnts demanded in their city by-laws. The standards in both cases are almost identical. In each case butter fat requirements are 3.25 per ecnt, while the total solids are 11.75 per cent and 12 per cent respectively. Control over milk distribution is exercised by inspectors, who investigate the conditions of the dairy farms, dairies, etc., and collect samples from the farm milk cans, or from other vessels in which the milk is delivered. The bottling is done under sanitary conditions and frequent inspections of the premises are made. Tuberculin tests of cattle are made when necessary by qualified veterinarians. Milk producers supplying Fredericton require a license to sell or ship milk to the city. In St. John the milk vendors are licensed. In the first-named city the examinations are made in a private laboratory, while the latter city has a municipal laboratory.

In Quebec.

Quebec, Montreal, and Sherbrooke are the representative cities of the province of Quebec furnishing information on this subject. The standards in each case vary slightly, the butter fat content being 3 per cent for the two latter and 3.25 for the former city. The total solids required are 11.75 per cent, 12 per cent and per cent respectively. No standard with reference to the number of bacteria per cc. is specified. Through careful inspection of the premises of producers and dealers by men appointed to carry out this work, and assisted, where necessary, by the police to investigate complaints, ample protection is afforded the consumer.

Three classes of milk are recognized in Sherbrooke, namely, raw, pasteurized, and certified. In the other two cities the classification is not emphasized, but Montreal has provided for this in a new by-law at present before the ciy council. In most cases the pasteurization requirements are 145 to 150 degrees F. held for thirty minutes, and immediately cooled to 45 degrees F.

The federal requirements with reference to the tuberculin test are supplemented by municipal by-law in the case of patrons shipping milk to Quebec City. Montreal has no special by-law, while the demands of the Sherbrooks patrons only affect those supplying certified milk, which amounts to about 4 per cent. of the total milk supply for that city.

In Ontario

Eight Ontario cities provided information concerning their milk suplpy. The twin cities of Port Arthur and Fort William recognize the provincial standards with refernce to butetr fat, total solids, and bacteria. Periodical inspection of both dairy farms and milk depots is made by sanitary inspectors. No certified milk is supplied in either city, but Port Arthur recognizes two classes, raw and pasteurized, and requires that pasteurized milk be held at 70 degrees C. for 20 minutes. This city also demands that tuberculin test be made of all dairy cows by a veterinarian under the direction of the federal government. The Fort William authorities recently issued a circular containing suggestions, hints, and warnings, and sent these to all parties engaged in supplying milk to the city. The details of this circular are embraced in the poster issued by the city of Halifax and already reproduced in this article.

The cities of London and St. Thomas have regualtions that contain many points in common. Their standards are identical. Vendors before selling in these cities must secure licenses, for which a fee is charged. They must also apply to have their cattle, premises, and equipment inspected, and agree to observe the provisions of the corporation by-laws before receiving a permit enabling them to conduct business.

Hamilton, Toronto, Ottawa, and Guelph were the otber Ontario cities reporting. Their by-laws and regulations correspond very closely with those of the cities before mentioned. In every case it was difficult to report on the amount of milk consumed daily per capita, the reason for this being that a number of citizens, es-

In a nutshell

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Other Separators *lose* butterfat when turned "under speed," and tests prove that 95% of all hand separators are turned under speed much of the time.

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"There are no substitutes for dairy foods."

pecially on the outskirts of the cities, keep their own cows and in some cases supply their neighbors. Even an approximate estimate cannot well be made because of the use of powdered and condensed milk in many households.

The city of Toronto specifies that the bacteriological count shall not exceed 250,000 per cc. in winter, or 500,000 per cc. in summer, also that all milk must be sold in bottles.

The pasteurization requirements in Ontario, as defined in the provincial Milk Act, demand that the milk be held at 140 degrees to 150 degrees F. for twenty to thirty minutes and cooled at once to 45 degrees F.

In Manitoba.

Winnipeg and Brandon report rather fully, while Portage la Prairie makes the statement that the regulations of that city call for 3½ per cent butter fat, and that cows be subjected to the tuberculin test. In the latter city more than half of the people have to use condensed milk, owing to the scarcity of the raw product.

Winnipeg has a Sunday delivery, which is also true of practically all the cities reporting, with the exception of Brandon and Ottawa. In Ottawa there are two deliveries on Saturday but no Sunday delivery, while in Brandon the Sunday delivery is not general.

In Saskatchewan

The reports for Saskatchewan are From Regina, Saskatoon, and Moosejaw. The standards for the first named city are 3.25 per cent. butter fat and 12 per cent total solids. For the second, 3.5 per cent butter fat and 12 per cent solids, while for the last the requirements are 3.25 per cent butter fat and 11.75 solids.

Regina stipulates that milk must be properly treated and handled at the point of production. As soon as it is drawn it is removed to the milk house, strained, and cooled. Milk must not leave the farm or be sold at a temperature above 50 degrees F. It must be shipped in sanitary milk cans and retailed in bottles. All milk is retailed in covered waggons, which are clean, fly proof, dust proof, and frost proof. The dairy farms supplying milk to Regina are periodically inspected. Barns and milk houses must comply with the regulations laid down in the dairy by-law. The cleanliness of the milk is ascertained by frequent bacteriological counts and sediment tests. Three classes are recognized, first, certified, second, milk from tuberculin tested herds, and, third, pasteurized milk. About five per cent of the milk sold is certified. The laboratory work is carried out by arrangement with the laboratory at the Regina General Hospital. The tuberculin test of the dairy animals is carried out under regulations issued by the Veterinary Director General governing municipal dairy testing, and the test is conducted by officials of the Dominion Health of Animals Branch.

Milk Vendors in the city of Regina secure a license costing five dollars, while the dairies authorized to ship milk to a pasteurizing plant are supplied with a permit free.

The report from Saskatoon indicates that that city supervises the milk supply quite as carefully as does Regina. It demands that all dairy farms conform to the city regulations before licenses are granted. The tuberculin test is applied to the herds and regular inspections are made by the inspector in charge. A score card is used showing methods and equipment used by the dairymanu. At any time these do not prove satisfactory, his name is removed from the list and his license is cancelled. This practice is also observed in the care of a number of the cities in Eastern Canada. The pasteurizing depot, according to the Saskatoon regulations, must be of good construction, located on sewer and water mains, contain not less than three compartments, namely a handling room, a wash-room and a storeroom, all with concere floors. Before operating, the plant must secure a permit and the equipment must be satisfactory. No raw milk can be sold from the pasteurizing depot. The system of pasteurizing is practically the same as that adopted by other cities, namely the "Holding System."

It is stipulated in the Saskatoon regulations that the dairy barns must have not less than two square feet of window glass per animal. The floors must be of satisfactory material and substantail. Not less than four hundred cubic feet of air space per cow is permitted, and one square foot of air outlet through the roof for every ten head, and inlets to admit fresh air of equal amount, is demanded. These requirements all go under the head of tuberculin inspection, and the tests are carried out by veterinary inspectors of the federal Department of Agriculture.

In Alberta.

The standard required by the Alberta Public Health Act for the milk supply to cities is butter fat 3 per cent and total solids 12 per cent. Three cities in Alberta reported, namely, Edmonton, Calgary, and Lethbridge.

Edmonton has an efficient inspection service, and all milk utensils and premises are periodically inspected each year. During about ten months of the year practically all the milk is hauled into the city by the producers, who are licensed to sell or ship the milk if their premises upon examination are considered satisfactory.

The inspection service in Calgary is very similar. Three classes of milk are recognized, namely, raw, pasteurized, and nursery milk, which compares with certified milk. The milk for Calgary comes from a radius extending eighty miles; while for Lethbridge thirty miles is the most distant point from which milk is shipped, there being a depot in a small town that distance away at which milk is pasteurized and shipped in by train.

In British Columbia.

From British Columbia only one report was received, that from Vancouver. The standards there are butter fat, 3.25 per cent, total solids, 11.75 per cent, bacteria maximum, 750,000 per cc. and pasteurized 15,000 per cc.

The public control exercised over milk distribution is stated in detail. A qualified inspector daily visits and inspects the dairies in the city, maintaining cleanliness in utensils, machinery, and premises. Samples of milk are taken for bacterial and chemical examination. Waggoners are subject to daily inspection, and from them samples of milk are secured for chemical and bacterial tests. This work is also carried on at the farms by the provincial government inspect-

(Continued on page 898)

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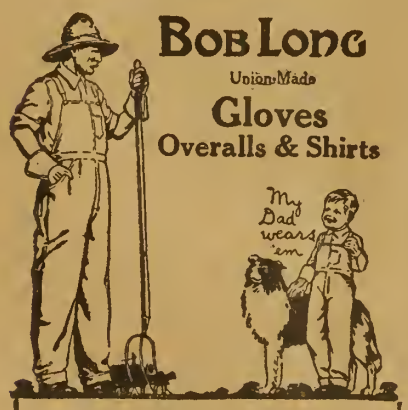

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LIVE STOCK.

ANIMAL HUSBANDRY

By Dr. Chas. D. Woods, Director of Maine Experiment Station

For more than 50 years, careful attention has been paid to breeding of dairy cows. And the improvement, while in some instances marked, is far from what the breeder desires. The practice of breeding from the best on the assumption that like begets like, does not by any means give uniform results. Animals that are expected to be large producers often prove the reverse; and the occasional prodigy fails to have daughters of her class.

As the breeding has been and still is without knowledge of how milk and butterfat production are inherited and reliance was and is placed upon mass breeding, that there are no great gains is not to be wondered at. The breeding is for the most part based upon a hypothesis then regarded as a law, and which we now know to be only partially true, that "like produces like."

In 1911, when the Maine Agricultural Experiment Station announced that it had found that for poultry, high egg production was transmitted through the sons rather than through the daughters, the idea that this might be true in dairy cattle as well as in poultry seemed to take hold upon the dairymen of the country, and in some breeds they began advanced registries for sires based not, of course, upon their own milk production or that even of their dams, but of the milk and butter-fat production of their get.

This thought appealed to the Maine Dairymen's Association very greatly, so much so that they appointed at their meeting in 1911 a committee consisting of Rutillus Alden, W. G. Hunton F. S. Adams and Raymond Pearl, "to provide ways and means whereby either by private endowment or state appropriations sufficient funds may be provided for a series of years to enable the Maine Agricultural Experiment Station to undertake an investigation of the problems of breeding for increased milk and milk fat production on as broad and as thorough a basis as has been so successfully carried out in the past 15 years with breeding poultry for increased egg production."

This committee decided that the most feasible way to obtain this money was to ask a continuous appropriation in favor of the Maine Agricultural Experiment Station from the Legislature, and it was planned to ask for $10,000 annually at the Legislature of 1913. At the two preceding Legislatures the College of Agriculture, through the trustees of the University of Maine, had been seeking an appropriation for the construction of much-needed new barns. It was rather feared that the Legislature would not be so likely to give two appropriations if the larger amount was asked for the animal husbandry investigation; and in order to strengthen the position of the College of Agriculture they proposed to furnish the animals needed for the experiment together with housing room, with the understanding that the committee would reduce its request to the Legislature to $5000 and assist in getting the appropriation of $5000 a year annually in favor of the Maine Agricultural Experiment Station for animal husbandry investigations and made a liberal appropriation for the construction of the new barns for the College of Agriculture.

The State Dairymes knew that a long time must elapse between the beginning of the definite breeding cross-bred experiment and obtaining results that would adequately answer the fundamental question of how milk and butterfat are inherited. But there were large amounts of available data that had not been analyzed and these studies together with co-operate experiments with breeders have been carried simultaneous with the major proposition. These inquiries have and are giving results of high importance, which are being published from time to time. Up to Jan. 1, 1920, 29 publications aggregating 762 pages have been issued. Important as these results are, they are dependent for their full interpretation upon a knowledge of the laws of inheritance. Such knowledge would remove the uncertainty from breeding and be worth millions of dollars to the world.

Money In Hogs. Yes, and all other live stock too—Canada is fast becoming a live stock producing country. Pasture and yards must be well fenced.
Peerless Perfection Fencing
THE FENCE THAT'S LOCKED TOGETHER
Made in Canada. Quality worthy of the name and nation. A fence of defense. The attacks and onslaughts of animals can't faze it. It's strong, yet springy. Manufactured from Open Hearth steel galvanized wire. When made by this process, impurities are burned out of the metal, removing one of the chief causes of rapid corrosion or rusting. If you are considering the fence question, let us estimate on your job—and advise with you as to the best way to build—we will put you in touch with our nearest agent. Send for our latest catalog. Ask about our poultry fencing, ornamental fencing and farm gates. Catalog mailed free on request.
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SELECTING BREEDING SWINE

One of the most important features of swine breeding is the selection and management of the herd boar. The influence of the sire in the herd is greater than the dam, therefore we have the necessity for careful selection and management. His power of transmission and desirable breeding qualities are largely indicated by the immediate ancestors.

Another important factor is individuality. The head of the herd should closely resemble the ideal of his type and be a true representative of his breed. He should have a pronounced masculine appearance, indicated by a strong development of the head, neck, shoulders, chest, bone and organ of reproduction; for these characteristics represent vigor, constitution and prepotency. The boar may be an extremely valuable individual, but if he is not properly cared for he will give very poor results. To give satisfaction the sire must have a properly-balanced ration, the amount depending upon the degree of maturity to which he has attained and the number of services which he performs.

His quarters should consist of a clean, dry, warm, well-lighted and ventilated house with yard adjoining for exercise and service. Exercise is very important and the boar should be penned up only during the breeding season. It is essential that he be kept in a good, healthy, vigorous condition at all times.

In the selection of the brood sow, it is essential that uniformity of size and quality be maintained. A sow of uniform size and quality will produce a uniform litter of pigs which will command a higher price on the market than would a litter of no particular type. Select a gilt from a sow that is a good performer, a sow that gives a good quality of milk and one that produces vigorous, growthy pigs, but the performance of sire and dam should not be overlooked.

It is essential that the young sow be fed a growing ration in order that she may as nearly as possible reach maturity before the breeding season arrives. As the breeding season approaches the sow should not be in hivh condition, but she should be on the increase a few weeks before breeding. An increase should be made in the feed so that she will be in the most vigorous condition when bred.

Yet, no definite amount of any ration can be recommended for sows under any condition. Success with any ration is the result of watching the condition and health of the animal and regulating the feed accordingly. Just before farrowing, feed the sow to avoid constipation. For eighteen to twenty-four hours after farrowing she needs no feed, leaving the feed proposition entirely to the sow's willingness to eat. She will be feverish and will drink a large quantity of water.

The grain ration should be gradually increased for at least ten days to two weeks when she should be on full rations. As the young pigs make their most economical gains while sucking the sow, she should be fed for a maximum milk production.

Small size, small bone and weak constitution are factors in hog development which have been appearing regularly in the past few years in the herds of farmers and breeders of pureberd swine. In the study of the cause it should be ascertained if such defects are confined to any one strain of blood or breed of hogs or if its presence is more marked in some strain of blood or breed than in others. It has been observed that breeders selecting their stock for quality exclusively sacrifice size, constitution and strength of bone. The use of immature sows for breeding purposes may also result in a reduction of size in the sows and in undersized pigs and weak litters. Immature sows haven't sufficient capacity for feed to properly develop their own bodies and produce a satisfactory litter at the same time. If breeding stock is selected from such weak litters of undersized pigs it is likely to result in the transmission of weakness and in time a herd lacking in size, strength and constitution.

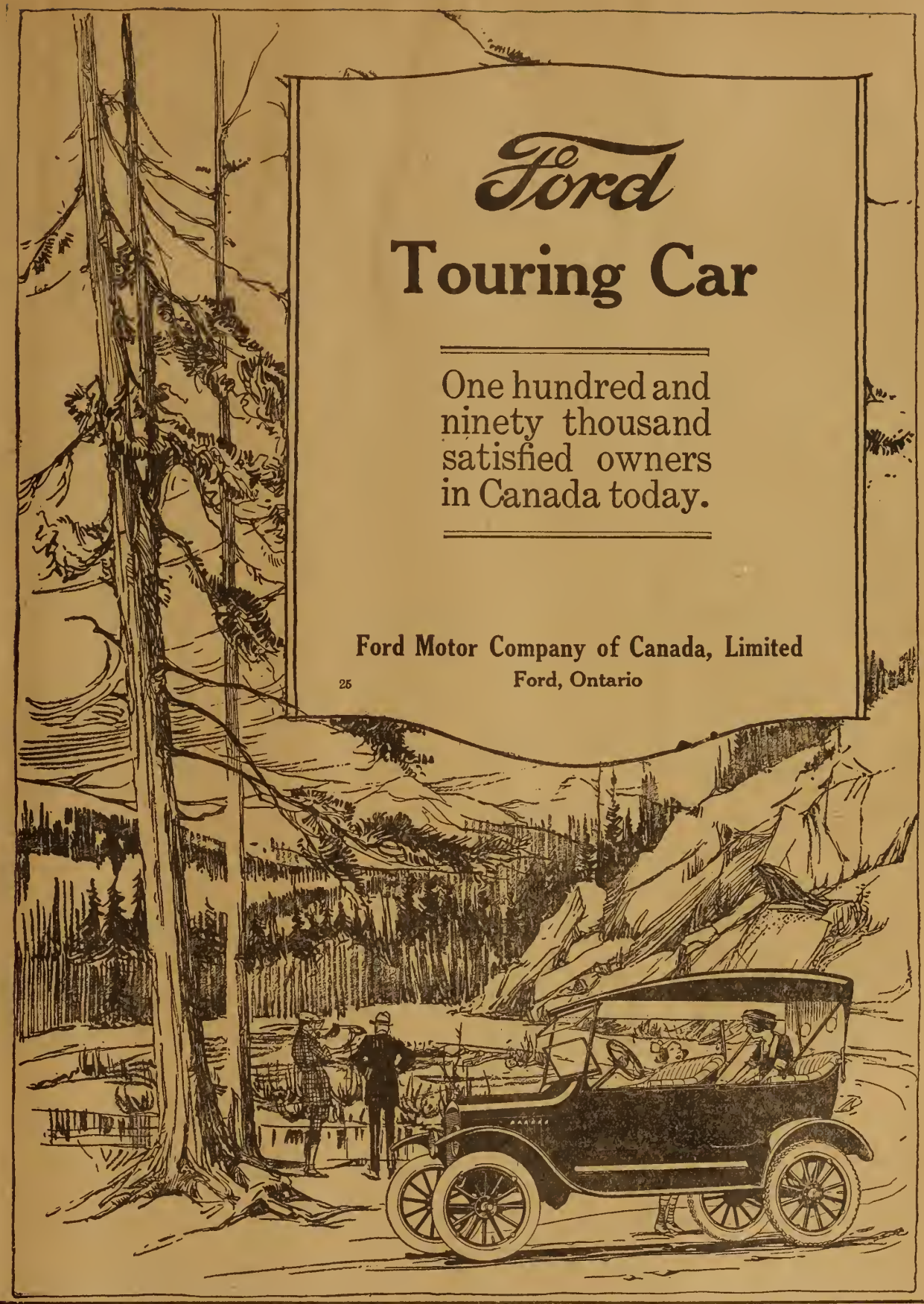
Select your breeding stock from large litters, vigorous pigs and from well-matured sows that are good sucklers. No individual possessing weak characteristics in any marked degree should be allowed to produce its kind if the law of breeding holds, which says: "Like tends to produce like."

Proper feeding is a method of remedying a part of these defects. The pigs should be fed regularly, and kept in sanitary quarters to retain good health. The feed should be of a nitrogenous and mineral nature, which is conducive to bone and muscle growth. The average farmer and breeder of today relies upon the corn ration.

The importance of mineral matter in the ration of the growing sow can not easily be over-emphasized. A large amount of protein is necessary to re-build the tissues of the sow and nourish the fetal litter. Various experimental tests show that size and breaking strength of bone was increased and that gains were produced much cheaper when a ration containing a large amount of mineral matter was fed.

Exercise for breeding stock and growing pigs is scarcely less important than breeding or feeding. It is a promoter of good health and thrift. By exercise the muscles are strengthened and, as a result, the bones become stronger, consequently we have developed a larger and stronger frame.

The large profit in swine leads men to a greater effort, giving them on the average greater success with this class of livestock. The individual investment is less. The per cent. of profit is greater and the increase larger than with cattle or horses. All this will result in the betterment of the breed, the realization of greater profits and a much greater satisfaction and enjoyment in livestock farming. The farmer must interest himself in regard to the essentials of selecting breeding stock. He must realize the importance of his selection and keep the desired end ever in view, always realizing that persistency will in the end bring results.—Joseph P. Rogers.



HEALTHY LITTERS

At breeding time make it a point to have the boar and the sows in good flesh and gaining rather than losing. Not too fattening a ration is desirable, however, since feeds that will make for bone and muscle as well as fat are needed. It has always been my practice to get the sows on to some form of pasture as early in the spring as possible so that they will be healthy, and the pigs will be much better if they come later in the season.

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THE HORSE

BREEDING FALL COLTS

The advisability of having mares produce foals in the fall rather than in the spring, depends greatly upon existing conditions. In cases where the breeder does not require his mares for work purposes during the spring and summer, and where he understands the desirable manner in which pregnant mares should be fed and handled during the winter months, and sees that the details of such are observed, the production of colts in the spring is doubtless the most advisable. At the same time there are many reasons why the practice of having mares produce in the fall, rather than in the spring, should be more common than it is. Of course, for show or racing purposes, when the animal is under four years of age, the production of fall colts is not advisable, as the ages of horses for these purposes is reckoned from the first of January of the year in which they were born; hence, a foal born in the fall would have to complete with those several months older, either in the show-ring or on the race track. But the breeder who does not show or race his horses until they reach maturity, would probably find it more profitable to have his foals born in the fall.

There is no doubt that a large percentage of the fatalities in spring colts is due to the manner in which the dams have been fed and taken care of during the last few months of gestation. Especially on farms where there are sufficient horses to perform the winter work and driving without using the pregnant mares. The latter are often allowed to pass the time in perfect idleness, often not even given box stalls to stand in, but are tied in single stalls and well fed on hay and oats, and when the weather is not fine, are not even allowed out in the yard or a paddock to take a little exercise during the day. It is an established fact that the produce of a mare that has been kept in only moderate condition and given daily exercise or light work during the whole period of gestation, especially the latter months, with few exceptions, produces a better and stronger foal than her sister which has been kept in the stable and pampered.

Then again, even where there is a disposition on the part of the owner, to exercise his pregnant mares, conditions often forbid it for a greater or less portion of the winter months. When the ground is slippery it is dangerous, even though they may be well shod, and when the snow is quite deep it is also dangerous, as the driver cannot always keep his horse or team, as the case may be, out of the deep snow, where more or less plunging often occurs, and all breeders know that undue nervous excitement or muscular exertion should be avoided in pregnant animals. All experienced breeders will admit that regular, but not excessive labor is beneficial, and all observers have noticed in the majority of cases, (as already stated) the mare that has had such during pregnancy, especially during the later months, produces a stronger foal than the one that has been pampered and kept in idleness.

When breeding mares are not required for work, the necessary exercise is obtained on pasture in the summer time, much better than by being turned out in a yard or paddock for a few hours daily during the winter. When the services of the mare are required, either during pregnancy of after parturition, we get more satisfactory service before than after the birth of the foal. All will admit that to get the best results the mare nursing a foal should be well fed, and live in comparative or complete idleness, hence we claim that, on this account, fall production is the better, as the mare can perform the ordinary work on the farm during the spring, summer and early fall, and then, after foaling, her labor is not usually required. She can then be given comfortable and roomy quarters for herself during the late fall and winter months, and in the spring after the foal has been weaned, it will be in good condition to be turned out on pasture, while the dam, if again pregnant, will be in a condition to have a season's work and reproduce again in the fall.

The feed that the mare consumes during the months in which she can be on pasture during the night tends to nourish the unborn foetus better than the feed usually given when horses are necessarily fed in the stable, and by breeding his mare as above a farmer loses practically none of her services, and at the same time increases his stock. It is seldom that the foal of a mare that has been on pasture during the later months of pregnancy is weak or delicate. Of course, the same danger of mal-presentation, causing difficult parturition, exists in one case as in the other, but the foals are usually stronger and smarter when born after the dam has been on grass for some time. There is also less danger of joint-ill when the mare foals on grass, from the fact that the germ that causes the disease is not so liable to be present in the

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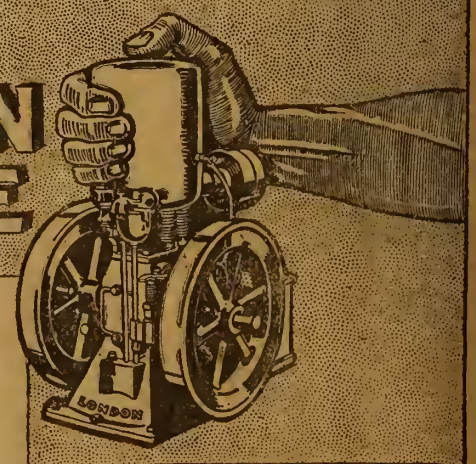

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pasture field as in the stable.

All breeders know that the production of late-fall or early-winter foals is not an easy matter, as mares do not usually show oestrum in cold weather, but we advocate breeding the mares while still on pasture. The fall colt, as stated, cannot, with equal chances, compete in the show-ring or on the race track, during colt hood, with the spring colt, but when mature should be as good or a better animal, especially if the dam of the spring-born foal has been worked during nursing, hence we think that the advisability of breeding mares in the fall is worthy of consideration.

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CARE OF STALLION

In standing a stallion for profit a man should regard it as a business, with so much capital invested, and the rate of profit may be accurately fixed as in any other business. Naturally when contemplating engaging in any new line of work, the first question one should ask himself, should be, "Am I competent for that branch of business?"

If one does not consider himself to be a good enough horseman to safely handle a stallion, he should either leave the animal alone or first make himself competent to handle him. To my mind, the caretaker of a stallion should be of a quiet temperament. Nothing is more trying to a nervous, high strung stallion than the loud spoken commands of a noisy person. The caretaker should also be a person who would only use the whip as a last resort. Too free use of the whip is one of the most prolific sources of vicious stallions.

It is very important that the stallion be trained to walk and stand well. Particularly is this true of the draft stallion. A prospective patron on looking over the horse for the first time forms his opinion of the desirability of the stallion as a breeder. If he is taught to stand with his feet squarely under him and to put some action into his walk, these things will aid greatly in obtaining favorable mention from the public, and the success of many a stallion is partly due to the good appearance he makes.

A stallion used only for service requires unusual care, so that his bodily vigor will be kept at a high standard. A horse used regularly for work requires only his feed and grooming to keep him in good condition, but a stallion, often unbroken to harness, may receive no regular exercise, and, consequently, means should be employed which will secure daily exercise for him. If the stallion is a driving animal, some daily drive can usually be given which affords him the exercise he requires, but in the case of the draft stallion in the winter time, long periods may pass in which no use can be found for him. Then, if the animal is unbrokes to harness, the problem is still more complicated, for very few stallion owners feel they can afford to give the time necessary for a three or four mile walk with the animal, let alone the fatigue of the walk.

This lack of regular exercise can be overcome by giving the horse a pen of sufficient size that he may secure his own exercise. A neighbor of mine built an outside pen about 80 by 40 feet in size for his stallion. The sides are built of heavy posts, with two by four pieces spiked securely in them. Planks one and a half inch thick are spiked to the height of eight feet. This makes a thoroughly tight and safe pen. While the horse, by rearing, can show his head above the top of the sides, yet he can secure no foothold on the smooth surface. In this pen he tramps and tramps all through the day. This exercise is secured each day, as the animal is left in this pen all the time except in very inclement winter weather. The bottom of the pen is made solid by the use of stone to the depth of one foot, which was cracked on top and then covered with clay. When the weather is wet the pen does not become sloppy as the horse tramps around. That the stallion must be given this exercise is imperative. All authorities agree that the cause of the failure of many stallions is simply lack of exercise. Their organs are clogged with poisonous waste matter.

After the question of proper exercise is satisfactorily answered, the next problem is one of feed. Authorities agree that the animal should have a balanced ration. An excess of either nitrogenous or carbonaceous matter will render the stallion practically useless. It is possible to make many combinations of feed which will give the desired result.

A good quality of mixed clover and timothy hay, about two-thirds of the former to one-third of the latter, cannot be much improved upon as the hay portion of the ration for the stallion. Alfalfa can be used instead of clover in the absence of clover, but alfalfa in too large a quantity is said to render a stallion impotent. Not infrequently are stallions fed hay more liberally than economy or healthfulness require. It is needless to say that the water supply must be good and pure.

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Hens lay when fat—not too fat—and stop when thin. Look for fat on the pelvic bone; if you find it the hen is fat, if you don't the hen is thin.

The hen wtih the long, loose feathers showing lack of quality is usually a poor layer and should be removed.

The good layers is a busy hen. She rises early and retires late.

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A MESSAGE TO WOMEN!!

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.

Mrs. M. Summers, Box 309 Windsor, Ont.

POULTRY.

CULLING THE FARM STOCK—CONTINUOUS CULLING IS NECESSARY FOR GREATEST SUCCESS.

W. A. MAW, Madonald College.

The farms of this province have always been by far the most important source of supply for table eggs and poultry, and the annual market value of their poultry products amounts to an enormous sum. In spite of this fact the farm poultry flock is too often neglected. The hens are allowed to shift for themselves and to pick up their food where they may.

The present high price of all poultry feeds forces the poultrymen to study economy in production and the result is that the easiest way to accomplish this aim is by rigorous culling of the flock to keep the remaining flock at a reduced cost of egg production.

The farm flock generally contains birds of varying ages, culling is therefore of special importance to discard the nonlayers where no individual record is kept of the flock. The results of culling work carried on so far in other provinces and in the United States show that from one-third to one-half of the afrm flock can be culled out with agreater percentage of egg production by the remaining flock at a reduced cost of egg production.

Method of Handling.

The birds should be handled as carefully as possible so as not to excite the layers any more than necessary. A catching coop should be used. This coop should be constructed with a sliding door at one end which can be set up against the poultry house. The birds may then be driven directly into the coop from the house, thus saving time and unnecessary handling. A spare crate or coop should be at hand in which to put the culls or poor birds. These can then be sent direct to market or put into separate pen where they can be studied for a few days to check the result of the culling test. A record should be kept of the work of both pens if the ccIls are kept for any length of time.

What to Look For

On looking over the birds our first consideration is type. We want a bird having a type that shows capacity in a body set well up on a pair of strong well spread legs. The legs should be set squarely under the body. Then we look at the head for vigor and constitution and the head points and bleaching in the beak, eyering and earlobes. Following we look over the general conditoins of the feathering and the legs. In the legs we look for quality of shank and bleaching of color. Lastly we note the condition of the vent and the capacity of the abdomen.

Any hens found during June, July and August with eavy pigmented or very yellow shanks and beak can be set aside as poor producers. Such birds generally show a coarse skinned face, comb and wattles, dry feathers, a thick skinned hard or fat abdomen, and a small dry and puckered vent. These hens are the boarders and should be discarded at once as they are keeping up the high cost of egg production. As a rule they are the birds that moulte early in the summer.

On the other hand any birds found at this time with shanks and beak well faded out can be set aside as good producers. These hns will be found to possess a soft pliable abdomen covered with a soft thin skin and having good capacity shown by the distance from the pubic bones to the end of the keel and also the distance or spread between the pubis bones. The best hens will show a body length of at least four fingers and a pubis gone spread of three fingers. The head will possess a soft, smooth comb and wattles, a bright full eye and a stout and well curved beak. The quality of bone throughout the body is fine although there is found some difference in the relative thickness of bone in the different breeds.

Continuous Culling Advisable.

Continuous culling should be carried on as the poor layers generally show their indications of poor production at any season, especially from April on during the summer. The general appearance of the poor producer is quite striking after one has the characteristics fixed in mind. She lacks abdominal capacity and is dull in appearance or fleshy about the head. Her yellow legs and beak are easily detected. A great many persons have thought that the yellow legged bird was the one to keep and have therefore discarded the birds wtih bleached legs. The result has been that the poorest layers haev been kept for breeders the following year.

There is a marked difference, however, in the degree of yellow normally present in shanks of different fowls.

Presumably such differences are inherited. The poultry breeder, therefore, must discriminate between fowls whose shanks are naturally pale in color and those in which the pigmentation normally present is temporarily bleached out as a result of heavy and long continued production. It is not difficult to avoid confusion on this point if the birds are examined at the proper time. They should be culled for laying qualities at the end of the laying season, and culled again for yellow shanks at the beginning of the next laying or breeding season. If this practice is followed there should be no difficulty in having the desired yellow legs on market

Why hens go on a strike!

The feed elements that make *whites* of eggs are entirely different from those that make *yolks*. When hens aren't fed both the *white* and *yolk* making elements, they *can't lay*.

Missouri Experiment Station tests prove that 100 lbs. of wheat, corn, oats, barley and kaffir corn make (above bodily maintenance) an average of 224 yolks to 154 whites. Based on data from the same experiments, Purina formulas produce, (above bodily maintenance), as follows:

Purina Scratch Feed	247.49 yolks	142.11 whites
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Combined Ration	429.54 yolks	424.66 whites

These Purina feeds not only make a practically *equal* number of whites and yolks but *more* of both than ordinary feeds.

Note that Purina Chicken Chowder contains the necessary white-forming elements to balance up the yolk-making grain ration. That's why it makes hens lay so heavily. Instead of the yolks being absorbed by the hen's system, Purina Chicken Chowder makes the whites to *complete* the eggs and they are laid. Thus we can absolutely guarantee

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on Purina Chicken Chowder if fed with Purina Scratch Feed as directed. You take no risk.

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stock along with constant improvement in egg prodution.

Where continuous culling is not practised there should be at least two regular cullings a year, one about midsummer and another in the fall.

COMMON CAUSES OF POULTRY DISEASES.

An outbreak of disease among poultry can usually be traced directly to one of four causes:

1. The first and most common is improper surroundings.
2. Improper methods of feeding.
3. Low vigor and vitality, which renders the individual more susceptible to disease.
4. Bringing diseased birds into a flock and spreading disease by contagion.

In the average farm flock the surrounding conditions have more to do with the outbreak of disease than anything else.

Cleanliness, sunshine and fresh air —Many of the farm poultry houses would stand much more cleaning than they receive. Probably the worst feature is the accumulation of droppings under the perches and in the corners on the floor. Dirty drinking pails and feed troughs also contribute their share. Lack of sunshine and fresh air does not improve matters any. Overcrowding is sure to bring on disease, especially if any one or all of the other onditions mentioned are present. Roup usually can be traecd directly to overcrowding or draughts and dampness, while tuberculosis is generally due to filthy conditions both as to surroundings and methods of feeding.

With care all these conditions can be corrected. The droppings should be leaned out once a week, which will be quite sufficient, providing cleanliness is followed in other respects.

Under all conditions the floor of the poultry house should be kept covered with straw or chaff. This helps to keep the house wseet and clean, besides furnishing excellent litter for the hans to scratch in. This straw absorbs the moisture, and also helps to dry up the droppings voided on the floor. If the house is dry and not overcrowded, the litter should be cleaned out once every two or three months. The sediment or dirt and filth collecting in the bottom of the drinking pail should be rinsed out every day and fresh water supplied. Feed troughs must be kept clean.

PUT BANDS ON CHICKENS' LEGS.

There is one thing in connetcion with the farm flock that we have found to be very important and yet it is seldom practiced, and that is putting bands on the chickens' legs showing the year in which they were hatched.

Years ago, when almost every hen had a different color or was peculiarly marked, this was not so important because you could then pick out any particular hen; but nowadays most flocks run so uniform (at least they should be so uniform) that it is hard to tell them apart.

Take a flock of Barred Plymouth Rocks, for instance. By the end of the year it is just about impossible to tell which chicks were hatched that year, and which the year before. Worst of all, it is still arder to tell which hens are three or four years old and past their period of greatest usefulness. As we all know, it is the pullets and young hens that lay best and for this reason the two-year-old hens ,and older, should be sent to the market.

A good many folks who make an honest effort to weed out their flocks each year find that when they go to do so they cannot be quite certain as to the age and other characteristics of some of the fowls. For this reason we find it vitally important that each year all the chicks kept over for breeding should be marked wtih a leg band having the year stamped on it. Then whenever one wants to send some old hens to market all that needs to be done is to look at the band on the leg.

These bands can be purchased from any poutlry supply house, mail order house or large department store. They are adjusted and will fit any sized leg.

R. S.

Disease does not start in any flock of poultry unless there is good cause for it and unles it comes into the flock with a purchased bird it is likely to develop from some carelessness or mistage of the owner. Poor feeding, feeding on only one or two kinds of feed and failure to provide grit, charcoal, shells, meat food, green food and fresh water is not only expensive, because ot does not produce results, but it is also likely to get the fowls into such condition that serious trobules will develop. Filthy, poorly ventilated, dark, sunless houses are also prolific sources of disease. The olny way to make a profit on fowls is to feed and care for them at least reaosnably well.

BUMBLE FOOT.

One of my last year's pullets has developed a lump or swelling about the size of a marble on both soles of her feet, wtih a hard, dark spot in teh ecntre. What can be done to cure it?

M. M.

Ans.—Your pullet is suffering from what is called bumble foot, and you have given the right cause, espeially where they fly down from a high perch. You had better poultice the lumps for two or three days and then lance them carefully when the hard lumps may be removed, then wash out the wound in warm water, in which a few draps of disinfetcant has been placed and bind them up again. It will be necessary to keep the bird bedded in straw or other soft litter. You can do this by keeping her in the coop by herself until the wound is healed.

The first laying year is the testing time when a hen shows her ability as a producer.

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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Shbjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N. B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

"Judge not; the working of his brain,
And of his heart thou canst not see;
What looks to thy dim eyes a stain,
In God's pure light may only be
A scar brought from some well-won field
Where thou wouldst only faint and yield."

THE DREAM COTTAGE

ANNE averted her eyes and knitted in silence.

"He told me last Sunday, mother," continued Elizabeth, kneading the bread violently, "if he only had not taken such a dislike to father——" She broke off and closed her lips resolutely.

She was too loyal to put into words what she and her mother knew. It was perfectly true that the cost of living had soared until John's salary was pitifully inadequate—that the extra bedroom used by the old couple was actually needed for the children, that—but why go over old arguments that Elizabeth had been unsuccessfully refuting for a month that had dragged its daily length punctuated with wranglings. John detested old Peter Brown and had decided that he would no longer spare a place for him in his overcrowded home. He must go to the poorhouse. There he could cough without disturbing the family and have the benefit of the country air away from the smoky city.

Anne Brown found herself knitting her thought into the gay rap she was fashioning for little Daisy. In the years of plenty behind her she had never guessed that she—proud, carefree Anne—would ever find herself in another's home eating the bread of dependence. In the early years of married life her brick house had been the centre of gayety in the small town, and she had had everything, from an electric range to a girl to do the housework. Then her husband had failed and after years of struggling he was too feeble to work. The bank account saved for a rainy day had been cut into many times. First for Elizabeth's education and later for doctors' bills.

Now, as the two women drearily discussed the situation with frequent pauses prompted by a kindness undeserved by the implacable John, there was absolutely no money left for the Browns.

"I'll tell you, Elizabeth. Would John be willing to let me go to Pontiac and leave father here. He can easily sleep on the dining room couch, and he can help you a good deal with the work—" the old voice quavered slightly, then stopped. It was a bitter thought, this separating at their age, "and he doesn't eat nearly as much as I do—"

"Mother," Elizabeth gave up and let the tears have their way; although there has been no trace of rancor in the sweet voice, she knew the poignant emotions that were racking the motherly heart. She knew, also, that John would not permit this arrangement. Her mother did a great deal of the work and took care of the children, leaving Elizabeth free to go out and give music lessons.

"I'm afraid," she began, and the silver head nodded understandingly.

"Never mind, daughter. Don't put it into words; John is a good man even if he is stern, and I know father's pipe upsets him. I'll think of something pretty soon. You see, I cannot let father go alone to the poor farm. No one else knows what to do for him when he gets those coughing fits."

The kitchen was silent for a time. A stray bit of sunshine filtered through the alley window of the rear flat and lent a silver mistiness to the white head bent over the bright wool. Elizabeth put the bread in the oven and then looked at her mother; "I hate to ask you, but I forgot completely about John's shoes. They are to be ready tonight and I have that pupil here in ten minutes."

"I'll be glad to go and get them," assented Anne pleasantly, although the snow was falling swiftly and melting as it settled in the March mud.

Peter was asleep and the old lady pulled the patchwork quilt up about his thin shoulders. A bit of scarlet silk outlined with feather stitching winked up at her through a mist of tears, recalling the happy time when she had worn that frock as hostess to a group of her daughter's school friends. She picked up the evening paper and folded it tidily, to be placed in the rack in the dining room. John was often annoyed by Peter's habit of taking the paper to his room and forgetting to replace it in the file. Her love for Peter was partly material; he was loving and hasty and often did indiscreet things; that had been one of the reasons for his failure in the hardware store. Any one needing a friend found one in Peter, and his name was too frequently found indorsing dubious notes that not infrequently returned to him for payment.

Slipping to her knees she folded her tiny hands and made a short, almost incoherent prayer. She could stand anything, but Peter—the rules and the unceasing thought of the dependent old age—that would kill him. Already, after one month of life in the crowded city, a pensioner upon the bounty of his children, he had failed pitifully, and the woman prayed almost fiercely for some light. "Surely there is something that I can do to keep him with me," she said determinedly, as she arose and put on her wraps. If the thought of the cottage she had planned with Peter crossed her mind, she did not waste time in brooding. She had spent her money ungrudgingly upon her family and the dreams had vanished with everything else; now it was her work to build afresh. Peter should never march in to meals with rows of other weary old men. She was not very clear in her ideas of the poor farm and doubtless imagined many discomforts that would have amused the pleasant up-to-date manager of the institution, but the desolate picture was very real to her as she listened to the cough that disturbed the uneasy slumber.

As she folded the paper her eyes sought the "help wanted" column and her dim blue eyes brightened. Possibly it was the new spectacles that guided her, but she always believed it to be the prayer.

"Wanted—A man and wife to act as caretakers and take charge of 400 chickens. Apply at 7200 Harper street."

"Chickens! That would be in the country," she thought.

The number was within walking distance and Anne walked as swiftly as the slush would permit. In a short time a white capped maid admitted her to a handsome living room, where a man sat busily at a great table.

He rose courteously, but in evident surprise. Anne looked very small and frail in her black frock and little old-fashioned bonnet, but as his gaze swept the fragile face with the pale rose that of excitement lending a fleeting resemblance of youth, he started:

"Anne, after all these years!"

And Anne settled cosily in a big softly cushioned chair beside the glowing fire, forgot, in the pleasure of friendship renewed, her errand.

"How did you know where we lived?" he queried presently, as he rang for tea.

The pretty pink color faded away. "I forgot, it was so like old times here. You see——" she stopped hesitant. She could not bring herself to mention a poor farm in this beautiful homelike place. Her shabby boot stirred uneasily upon the oriental rug and the man watching her sensed her disquiet.

"You know, Anne," said the big, hearty voice, "I owe Peter more than I can ever pay in mere money. That time he paid my note for me was the time that counted big in my business. Now I want to——"

Anne lifted her head. After all, there were worse things than poverty: "Phillip, you will perhaps be surprised, but I called to answer your advertisement about a caretaker's position. Do you suppose that we would be suitable?"

His big hand reached out and grasped hers: "Anne, that's the best news I could have. This cottage was a whim of Betty's." His gaze wandered to a great painting that half filled the end of the large room. "Before her death she built it and furnished it, hoping that she would live to try a plan of hers for young couples who hated the city. It is really a little dream of a place and the prettiest flock of white chickens with rose pink combs and holly hocks bordering the picket fence and——"

But Anne could listen no longer. "Do you mean that we can go there and Peter won't have to go alone to the poor farm?"

The dark face clouded at the pitiful little secret guilelessly revealed, but he gave no sign of understanding: "It will be a great relief to me to have it off my hands. I haven't been able to do anything with it, and the girl who had lived there taking care of Betty's chickens is getting married this week and going west, so I advertised. It is the other side of the Methodist church in Franklin——"

But again the excited tones interrupted: "In Franklin, Phillip?"

"Yes, I thought you knew of it. You will be right there with your old neighbors—handy for prayer meetings—and if you care about money you can have more than you can spend from the eggs, for they are high this winter. Could you go at once?"

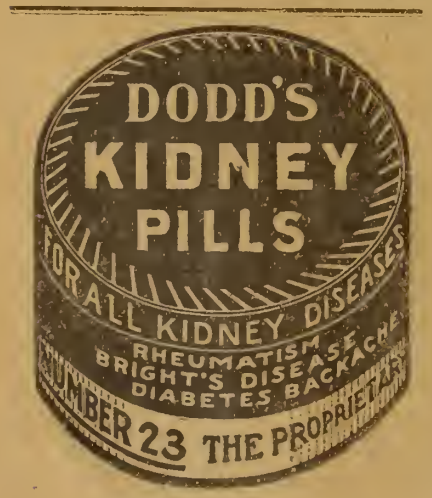
It was a radiant Peter who listened with an incredulous joyousness painting out the lines of pain: "It sounds," he said, slowly, "exactly like your dream cottage, Anne. There will be lots of fun for the children when they come out to stay with us."

And Anne agreed dreamily. Already she saw those beautiful white chickens with the rose colored combs, whose eggs would make living a thing of joy.

HOT-WEATHER COOKING

Careful Planning for Meals is the Best Labor-Saving Device

The terrors which accompany entertaining in hot weather, when much of our entertaining has to be done, can be nearly disposed of if we systematically introduce simplicity into our coking. This is not nearly as difficult as one would think, if all but the most necesary dishes and materials are put away at first. The sight of so few working tools at once in-



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duces the thought of simpler food and simpler methods. There are suggestions given here for three hot-weather meals, and they should suggest others.

A few rules for serving dinners in hot weather without a maid other than oneself, may be set down in the beginning of things.

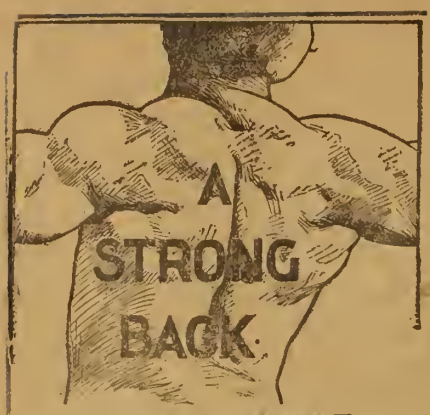
Too many courses are an abomination. A soup, a roast, a salad, a dessert, with cheese and coffee to follow, give five courses which may be managed easily. Fish should always be omitted, except in ramekins now and then, served possibly in lieu of soup, or with the roast, as scalloped oysters with broiled steak, a combination that is particularly nice.

It is entirely permissible to omit dessert, and run the salad and cheese and coffee together, thus, with a soup and roast, giving one but three courses to manage. Nice serving is always a point of honor, but formality at such necessarily informal dinners is, to quote a brilliant wit "as foreign to the spirit of things as a high silk hat on a naked Zulu."

Fried foods, meats particularly, should be cut from the menus. They must grow soggy in a tepid oven or dry and juiceless in a hot oven during the soup course, to say nothing of the inevitable smoke and odor attendant upon the frying process.

For ease in serving and economy of time and space, the oven should be utilized for the roast and for one or even two vegetables, thus letting the second course take care of itself while the soup is being served and eaten. It is here the baking-dishes come in so well for creamed vegetables, carameled sweet potatoes, and the like.

Keep the kitchen cleaned up to the last degree of order. Here is the whole secret of easy cooking and serving in a small space. For instance,



THAT IS WHAT DOAN'S KIDNEY PILLS WILL GIVE YOU.

Mrs. H. Ezarde, Cornwall, Ont., writes:—"Both my husband and myself were bothered with bad pains in our backs. A friend advised us to get Doan's Kidney Pills, which we did, and before we had finished the box we were both better, and have not had an attack since."

Doan's Kidney Pills are 50c. a box at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto. Ont.

be sure, before the soup is served, that nothing is left out of being washed. As the soup-plates are brought out, and before the roast is slipped from the oven on to its platter, try holding the soup-plates under the hot-water faucet; a few swift whirls will cleanse them, and then they are tucked away, sometimes dried, and sometimes not, into their usual place.

The service-plates under them are slipped into the ice-box beside the salad, to be used later for salad-plates, and with the four or half dozen soup-spoons quickly rinsed and dried and put away, the kitchen is once again in perfect order.

With jolly guests, who can entertain themselves, it is possible, if one is able to work quickly and effectively, to make almost as much headway with the debris of the main course. At least clean the plates and pile them neatly in the sink; have a small bowl or pan of water into which all the silver may be quickly dropped, put the remains of the roast and vegetables into the ice-box or on some cleared shelf, and bring on the salad with a mind clear and a kitchen undistressed.

When the salad bowl and plates are removed, scrape them quickly, drop a bit of washing-powder into the bowl, slip in the plates and forks and turn on the hot water. If there seems time for nothing else, the oil will have been disposed of, and the dishes all but washed. The cooled oven may be found a good abiding-place for the cooking vessels from which the food has been served—anything to keep the kitchen and sink cleared for immediate action.

A little experimental testing of oneself will show the easiest way, and the rule that guides another should not be followed unless it stands the individual test. It goes without saying that anything that makes the wait between the courses noticeably long is to be avoided at all hazards, and it takes quick hands to do more than pile the soiled dishes in order. If one can not manage even that, the ensuing confusion will probably swamp hostess and guests before the evening is over.

Another hint for the hostess who entertains well and wisely: it is possible to give a dinner one night and a luncheon the next day for almost the price of the dinner. Fresh lettuce for salad may be needed, but the materials for lamb ragout or creamed chicken are at hand without more than the trouble of chopping them up.

And there will be half a cupful of peas that may be deliciously creamed with a cupful or two of diced potato, or a half cupful of corn and tomato to form the basis of a delicate cream soup.

For a menu that is as elaborate as a simple taste could wish, and as easy to serve (for either four or six) from a kitchenette as from a "real" kitchen, let us try the first one given.

In this menu there is nothing to do after the arrival of the guests but to reheat the clam broth, which with the whipped cream and crisp crackers is all but ready for serving. The leg of lamb has gone into the oven an hour and a half before the dinner hour; the potatoes have followed in from half to three-quarters of an hour.

The celery has been creamed and, in its baking-dish, sprinkled with browned bread-crums, is ready to be slipped into the oven for reheating fifteen or twenty minutes before the roast is to be served.

The salad has been arranged in its bowl and placed on ice, and the plate of cheese-crackers stands ready. The iced pudding, either made at home in the little quart freezer or sent in from the caterer's, is ready in the ice-box.

The water-crackers have been browned and the Camembert made ready. The coffee, if one has not a percolator, stands measured and ready in its quota of cold water, ready to be started over a slow flame as the salad is served, and by the time the cheese is brought on it will be ready for its two minutes brisk boiling.

A luncheon for four could be easily planned for the next day. The second menu gives an example of what may be produced.

Here there is nothing for the last moment but the reheating of the cream soup. If the remains of the roast do not admit of nice slices, the minced lamb may be substituted, particularly if a hot dish is preferred. This dish may be all the more easily served if a baking-dish or casserole be lined with rice, and then be filled with the minced and creamed lamb. A sweet dessert may be added or substituted for the cheese and coffee if preferred.

City wanderers long for distinctively home cooking, and if any woman who has a kitchen be keen enough to take advantage of that longing and meet it, she may easily become the most popular hostess of the summer. The third menu suggests a "home" dinner.

This menu requires a little more supervision at serving time, and to eliminate some of it, fruit cocktails, ready to serve in the ice-box, might be substituted for the tomato bisque which would need the final touches after the arrival of the guests. The chicken, disjointed for serving, has been simmering for two hours or more. Half or three-quarters of an hour before the dinner hour potatoes are added, and with them plenty of water to more than cover—to avoid catastrophe, the kettle in which they cook must be ample in size, with a tightly fitting lid.

Twenty minutes before serving time—no more—the dumplings, which are better made of sour cream or buttermilk and must be perfect of their kind, are mixed quickly, cut into small biscuit, and dropped into the boiling broth, with the chicken and potatoes; then the lid goes on, not to be lifted again.

The corn-and-tomato mixture, already prepared, is baking in the oven. The romaine salad, with the cheese and toasted crackers, is standing ready, and with the coffee started, in this instance, as the second course is served, this "homey" dinner of three courses is served without trouble or confusion.

Another "piece de resistance" which will gladden the heart of a hungry man is a nice fat steak blanketed with

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LUMBAGO

IF you feel a touch of lumbago, you can ward off the evils of recurrent attacks, by taking Gin Pills without delay. Learn a lesson from the experience of Mr. H. A. Jukes. After suffering with lumbago for years, and being confined to the house at times, Mr. Jukes began to take Gin Pills. His letter to us reads, in part: "and much to my surprise, I at once felt a change for the better. I have been taking them at intervals, and, up to date, have had no recurrence of my old trouble; in fact, I have not felt better for years."

Don't delay. Buy a box on our money-back-guarantee, or write for a free sample. National Drug & Chemical Co. of Canada, Limited, Toronto, Ont. U.S. residents should address: Na-Dru-Co., Inc., 202 Main St., Buffalo, N.Y.

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oysters. The steak, when broiled, has a pint of oysters poured over it, and is set in the oven to finish while the soup is served.

Mashed potatoes are sometimes avoided by the hostess who is her own cook, because of the attention they need at serving time. With the use of white of egg, though, they can be managed very nicely. Cook, mash and beat them as usual, as long as you like before the time, then beat the white of an egg stiff and fold through the potato. Then heap it in a baking-dish, and with a fifteen or twenty minutes' reheating it comes from the oven as puffy and light as if every rule of the cook-books had not been ignored.

The secret of successful dinner-giving in small quarters, lies in the menu, which involves discrimination, and in having all needful things ready at hand, and all unneeded ones tucked safely out of the way. Given these principles, any woman with the gift of cooking, and the ability to think quickly, and to act without delay upon the thought, need not hesitate to give her dinners for any number that her table will accommodate.

Dinner

Clam Broth with Whipped Cream
Roast Lamb Mint Jelly
Browned Potatoes
Creamed Asparagus on Toast
Lettuce Salad Cheese-Crackers
Nesselrode Pudding Wafers
Camembert Cheese Water-Crackers
Coffee.

Luncheon

Cream of Asparagus Soup
Scallop of Clams in Ramekins
Cold Sliced Lamb or Minced Lamb in Rice Border.
String Beans Sprinkled with Grated Cheese
Lettuce and Grapefruit Salad
Cheese Water-Crackers Coffee.

Dinner

Tomato Bisque.
Boiled Chicken with Potatoes and Dumplings.
Tomatoes and Corn Scalloped in Baking Dish or Ramekins.
Romaine Salad.
Roquefort Water-Crackers.
Coffee.

WHEN CAKE MAKING.

Work quickly: Get oven heated and all ingredients measured.

Grease pans, with lard and sprinkle with flour.

Cream the butter; add the beaten eggs and flavoring.

Beat vigorously.

Mix and sift flour, baking powder and salt together.

Add milk and flour alternately; stir as little as possible.

Fill the pans two-thirds full and hollow the centre.

General rules for cake-making direct that flour should be sifted before measuring and that butter should never be melted. If it is very hard, the bowl may be heated before creaming.

THE REFRESHING, CURATIVE PINEAPPLE.

With the coming of the pineapple season it has been brought to our attention that this fruit is of especial value to the dyspeptic and the person afflicted with throat trouble, particularly when the vocal cords are paralyzed. Indeed the "grape fruit" and "apple cure" are finding an officially recognized and most stalward competitor for public favor in the "pineapple cure."

Ripe, luscious fruit, not overripe nor underripe, but tender, sweet and succulent, is one of the most wholesome foods that come to our tables. In recommending its free use to all who would be well, Dr. David Day of the U. S. Geological Survey, who ascribes his own good health to the free use of well-ripened pines, pays this glowing tribute to its manifold virtues: "If you have one foot in the grave and are a nervous wreck from dyspepsia, drink the pineapple juice. It is the greatest tonic nature has yet offered poor man, even better as a weapon against old age and decrepitude than the sour milk diet that has made the Bulgarian peasants the longest-lived people to be found anywhere."

The juice of the pine contains the natural ferments of healthy digestion to a remarkable degree and is far better than sour milk in that it does not have to digest itself. "I really believe," declares this zealous apostle of the pineapple propaganda, "that if we adopted pineapple juice as the national beverage we would be the healthiest people on the face of the earth. We would never know what hyspepsia and indigestion are.

When iced and properly sweetened there is no drink that can equal or even be compared with it. Its active digestive pineapple "bromelin" is now being used by chemists to pre-digest beef and thus obtain a pure tonic for use as foods for the sick and convalescent.

As a digester, the ripe pine has no equal and on this account it is not well to take the fruit on an empty stomach. Failing other material for its activiteis it is apt to get in some strennous work on the lining of the stomach itself. It is better, therefore, to serve it towards the last of the meal at breakfast, or as an accompaniment or followed of the meat course at dinner, when it assists in the digestion of the food.

For diphtheria there is no home remedy that excels the juice of a fresh pine. It has often been known to cut the membrane and relieve the labored breathing when everything else failed.

The old objection to the free use of pineapples, that their price was prohibitive save during three or four months of the year, no longer exists. Not only are fresh pines plentiful in the markets now for half the year, their prices ranging according to size, quality and supply, from 10c to 35c or 40c each, but new canning industries enable us to enjoy some of the most delicious pineapples on earth. From the fields these are sent direct to scientifically clean American canneries, where they are packed in sanitary cans, covered with a syrup of pure granulated sugar, sterilized by steam, sealed and made ready for shipment without the touch of human hands.

The woody fibre that gives a hard core to most pineapples, save those grown under glass, is entirely lacking in those grown in a semi-tropical country where wood does not flourish, while pines are no higher than any first grade fruit canned under sanitary conditions.

Re Remove Stains from the Hands after Peeling Apples.—Rub the inside of the apple peeling on the part stained and yiu will find that the ugly mark will soon disappear.

"What do you think of a man who constantly deceives his wife?"

"Think of him! I think he's a wonder."

1 Pill a Laxative.
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This is the Way Milburn's Laxa-Liver Pills Work.

You won't have the old, griping, nauseating, sickening, purgative pills once you try Laxa-Liver.

They do not knock out your system or deplete the vital organs.

They work gently and effectively, without a gripe or pain.

If you are troubled with constipation or biliousness, driven to distraction with sick headaches, if your tongue is coated, your breath bad, your complexion muddy, your eyes yellow, stir up your liver with a few doses of Milburn's Laxa-Liver Pills.

Mrs. Roy Mackie, Orillia, Ont, writes: "I desire to express my thanks for the relief I have had by using Milburn's Laxa-Liver Pills. I had been suffering, for some time, from constipation and bad headaches. I tried all sorts of cures which did me no good until I was advised to try your pills. I got great relief after taking only a few doses."

Price 25c. a vial at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

JELLY MAKING

To-day I am going to say something about one phase of fruit-preserving—namely, jelly-making. Now, one very important thing is to gather the fruits at the right time, so as to get the proper amount of jelly substance, or pectin.

Acid fruits are most satisfactory for jelly-fruiting, and under this class we may include apples, quinces, crab apples, currants and grapes as being the best jelly-making fruits. But blackberries, raspberries and peaches may also be used, and if a third of rhubarb or apple juice is combined with any of these, the juice will jelly satisfactorily. Currant juice added to raspberry will form a jelly.

Fruit that is not quite ripe contains more pectin. This pectin is found largely in the skin and core of the fruit, which are most essential in jelly-making.

Fruit for jelly-making should be gathered on the morning of a bright sunny day, to ensure its finest flavor. Never gather after rain, as the fruits will have absorbed rain water and so there will not be so much pectin.

The small fruits should be washed quickly, so there will be no chance of them becoming water-logged.

Essentials for Jelly-Making

Pectin.—In under-ripe fruits this pectin is in a sugar called pectone, which is insoluble in water. As the fruit ripens this is changed to pectin, one of the gummy substances. As it becomes still more matured, the pectin is changed to pecticecoid, and then it will not be gelatined when cooking

Acida.—Some fruit juices will not jell when cooked, so that acid may have to be added. In this case, tartaric acid gives a favorable result.

Sugar.—When fruit juice is boiled to a jelly without sugar the jelly is tough. The fruits with less acid require less sugar. The proportion is from three-quarters of a pound or one pound of sugar to one pound or one pint of fruit juice.

The best sugar is the cheapest, for inferior sugar is wasted in skum. The use of too little sugar will make tough jelly, and too much will destroy the flavor and texture.

It is better not to boil sugar with the juice for the whole length of time, as the acid of the juice will tend to invert sugar.

Boil juice alone for half the time, ten, fifteen or twenty minutes, depending on thickness and quantity of juice. Put heated sugar into juice, stir until it dissolves, and then boil mixture till it jellies.

About one tablespoon of lemon juice to one quart of jelly added to fruit juice improve the flavor. It is best always to extract juice from fruits before adding any sugar.

The fruits have the juice pressed from them, with tre addition of as little water and heat as possible.

Draining the Juice

Drain in a bag suspended over a vessel for some hours or over night. Before putting pulp into bag press it through a sieve. The jelly bag should be made of flannel, pointed at the bottom, so the jelly will run out chiefly at one point. Do not squeeze the bag if you wish a clear jelly. After the clear juice has been obtained, the remainder may be pressed out to make a very excellent, but inferior, article of jelly or marmalade.

Use one pint of juice to one pound of sugar. Boil down before adding sugar. If adulterated with water it will require longer boiling than if juice is pure. Heat sugar and add to boiling juice. As it boils up, draw to side of range and skim carefully three different times. Boil until juice will adhere to spoon as a jelly, or until it jellies quickly when cooled in a saucer. Then pour into jelly tumblers which have been well sterilized and afterwards rinsed in cold water before using.

Fruits which will combine in a jelly are grape and apple and quince, grape and quince; raspberry and currant; raspberry and apple or rhubarb, and any of the above mentioned fruits.

Good jelly should not be cloudy. It should not be tough, but firm. It should quiver but not flow. If cut the angles should keep shape.

Sealing.

When the jelly is cold it should be well sealed to prevent mould. Alcohol is the best seal, as it prevents mould life. When cold, fit a circle of tissue paper, dip in brandy, and place directly on surface. Then cover top of glass. Olive oil may be used to cover surface of jelly and also paper for top of jar.

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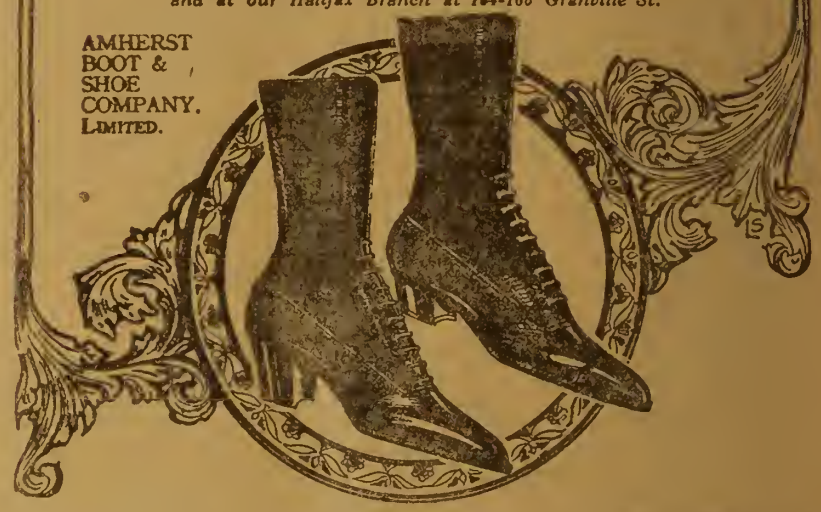

SIMPLE SOUPS

They will do for cool nights or hot.

By Mrs. Emily Grant.

For the past few months we have been all more or less content to leave soups off our menus, but with the approach of cooler weather it once more takes its accustomed place.

While rich and heavy meat soups are not yet inviting nor wholesome, a delicate fish or vegetable soup will be found both appetizing for the cold nights and strengthening for the

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Don't think of OLIVEINE EMULSION solely as a medicine for Heavy Colds, and Deep-seated Coughs. It is more than this. It is the best tonic you can take to purify the blood, give you an appetite, improve the digestion, make flesh, and renew your vigor and vitality.

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The Great Health Restorer

is the ideal spring tonic for the whole family: for pale, thin children as well as for men and women who are tired, worn-out and all run-down.

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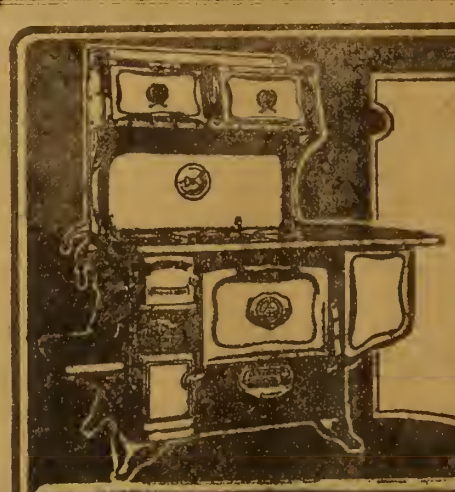

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See the Enterprise dealer and write us today for our free illustrated booklet.

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Makers of the well-known lines of Enterprise Stoves, Ranges and Furnaces.

12

warmer ones that are still to be expected.

From among these light and seasonable soups, the following have been selected.

Potato Soup.

Wash, pare and cut three or four potatoes into small pieces and let them soak in cold water for twenty minutes. Then put into salted boiling water and cook until very soft. Meanwhile put one pint of milk on in a double boiler to scald, adding to it a teaspoonful of scraped onion and a stalk of celery.

When the potatoes are soft, strain and mash, pour the hot milk on them, season with salt and pepper. Rub through a strainer and put on to boil again. Put a teaspoonful of butter into a small saucepan and when melted add a scant teaspoonful of flour. Stir into the boiling soup. Cook five minutes, add a teaspoonful of fine chopped parsley and serve hot.

If too thick, more hot milk may be added. Serve with crackers or croutons.

Tomato Soup.

A delicious and nutritious soup is made in this way. Cook a quart can of tomatoes or its equivalent fresh, for twenty minutes, then rub through a sieve. Season with salt and pepper and a few drops of onion juice. Cook a quart of milk in a double boiler, adding when at the boiling point, two teaspoonfuls of flour stirred smooth in a little milk. Add two teaspoonfuls of butter.

Now beat the yolks of two or three eggs in a tureen, pour the milk into the tomatoes and this mixture into tureen over the eggs, beating vigorously or they will curdle. Sprinkle finely cut parsley over the top and serve very hot with croutons or bread sticks.

Onion Soup.

This is a broth wholesome and tasty. Fry two or three large onions in clarified dripping. When soft, add three teaspoonfuls of flour and stir until cooked and frothy. Now add slowly a pint of boiling water, stirring until smooth and slightly thickened. Have ready three potatoes boiled and mashed, and add to them a quart of milk that has been brought just to the scalding point.

Put the potato and onion mixture together, season with salt and pepper, let it get very hot, then press through a strainer into a cold tureen. Sprinkle over the top a little parsley minced fine and a handful of crisp croutons.

Corn Chowder.

For this one can utilize left over cooked ears of corn. Cut and scrape enough to make a quart of pulp. Peel five small potatoes and cut into small dice, and also dice a half pound of bacon. Put the bacon into a frying pan and cook until brown, adding a medium sized onion sliced fine, just before it is done. As soon as the onion becomes a delicate brown, remove the pan from the fire.

Put a layer of potatoes in a good sized stew pan, and sprinkle over it some of the friend onions and bacon. Next add a layer of the corn pulp and a seasoning of salt and pepper. Next comes another layer of the potatoes, bacon and onion, then corn, and so on until all the ingredients are in the pan, the top one being corn.

Pour in a cup and a half of water and place over the fire where it will cook gently for half an hour. Heat one pint of milk and thicken with two tablespoonfuls of flour blended with two tablespoonfuls of butter. Stir until smooth and creamy. Add this white sauce to the chowder with four crackers, broken pieces.

Stir all together, add a little butter or cream, and serve very hot.

Lobster Soup.

Pick out the meat of a small lobster and with a silver knife cut it in small pieces. Mix with three crackers, broken in pieces and rolled fine. Salt and speck of cayenne and two tablespoonfuls of butter. Add gradually a pint of scalding milk, stirring all the time. Boil up once and stir.

French Bouille.

An acceptable soup for the hot days is the French bouille, made of thickened milk. Put in a sauce pan two tablespoonfuls of corn, flour, a dessertspoonful of sugar, and a teaspoonful of salt. Mix to a smooth paste and add a quart of milk. Cook in a double boiler until thickened, then serve with crisp croutons and a dash of pepper. The hot milk will be found stimulating yet delicate, proving just the soup one requires for a hot day.

Potage a la Crecey

Scrape four large carrots and cut fine. Add two potatoes peeled and diced, two onions and two stalks of celery cut fine, and fry brown in good beef dripping. Then put into a sauce pan with a quart of boiling water, and cook until all the vegetables are tender. Press through a coarse sieve an dreturn to the fire with the addition of a tablespoonful of butter, a half teaspoonful of salt, two cloves, pepper and a tablespoonful of minced parsley. Have ready a pint of milk scalded and thickened, with a teaspoonful of corn starch, add to the soup and serve with croutons.

Creole Soup.

Slice one onion and fry brown in a little butter. Add one can of tomatoes, one carrot scraped and diced, a little minced parsley, a sprig of thyme and half a dozen cloves. Put in a kettle with two quarts of water and simmer slowly for two hours.

Cook two tablespoonfuls of rice and put it where it will remain hot. When the vegetables are tender run through a sieve, season to taste with salt and pepper, add rice, simmer ten minutes longer and serve.

Tomato and Macaroni Soup.

Break a cupful of egg macaroni into small pieces, cover with a quart of boiling, salted water, and simmer slowly for an hour. Add one cupful of stewed, strained and seasoned tomatoes, cook a moment, and just before serving add one cupful of cream or rich milk.

Calf, pig and sheep clubs are responsible for getting many a young lad interested in better stock. Have you a calf club in your vicinity? If not, why wait for anyone else to start it? Get busy.

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BOX 309 WINDSOR, Ontario

THE ST. JOHN EXHIBITION.

(Continued from page 871)

Aged Pen—1, A. Ayre; 2, J. Reagh Horne; 3, A. Parker Horne.

Pen Lambs—1, A. Ayre; 2, J. Reagh Horne; 3, A. Parker Horne.

Fat Sheep.

Ewe, 1 year old—1, Cephas Nunn; 2, A. Ayre.

Ewe Lamb—1, Cephas Nunn; 2, A. Ayre.

Wether Lamb—1 and 2, Geo. L. Boswall.

HORSES

Standard Bred

Stallion, 4 years old and upwards—1 and 4, H. C. Jewett, Fredericton, N. B.; 2, Jas. A. Belyea, St. John, N.B.; 4, Hammond Kelly, Charlottetown, P. E. I.

Mare, 3 years old and upwards—1, V. E. Rice, St. John, N. B.

Hackneys.

Stallion, 3 years old—1, W. M. Johnston, Newcastle, N. B.

Mare, 3 years old—W. M. Johnston.

Clydesdales.

Stallion, 4 years old—1, H. C. Jewett, Fredericton, N. B.

Percherons.

Stallion, 4 years old—I, D. P. Clayton, Fredericton, N. B.; 2, W. E. Wallace, Penobsquis, N. B.; 3, H. C. Jewett.

Roadsters.

Stallion, 3 years old—1, H. C. Jewett;2, Jas. A. Belyea; 3, Hammond Kelly.

Mare or Gelding, 3 years old—1, G. H. Harvey Tapley, St. John; 2, V.E. Rice; 3, Willard Dickson, Hammond River.

Carriage Horses.

Single Horse, Gelding or Mare—1, J. Harold McMurray, Fredericton; 2, Wm. Johnston, Newcastle; 3, Walter E. Allison.

Heavy Harness Horses.

Single Horse, Gelding or Mare—1, J. Harold McMurray; 2, W. M. Johnston, Newcastle; 3, Walter E. Allison.

Pair Horses—1, Walter E. Allison.

Heavy Draught Horses.

Mare or Gelding, 3 years old and upwards—1, R. John Phillips, Millege Ave., St. John.

Bobs and Ponies.

Pony in Harness, 12½ to 14 hands—1, J. Harold McMurray.

SWINE.

Berkshires.

With the exception of first prize on sow over one year and under two years, which went to Roland B. Shaw, Fredericton, N. B., as well as second Fredericton, N. B., all the first prizes as well as second and third prizes on boar, over 6 months, in the Berkshire class went to J.R. Semple & Son, Truro.

Yorkshires.

Boar, over 2 years—1. Fowler Bros., Welsford, N. B.; 2, A. C. Josselyn, Silver Falls.

Boar, over one year—1, W. E. Allison, Rothesay, N. B.

Boar, over 6 months—1, Fowler Bros.

Boar, under 6 months—A. Gordon McKenzie, Welsford, N. B.

Sow, over 2 years—1, A. Gordon McKenzie; 2, Fowler Bros.

Sow, over 1 year—1, A. C. Josselyn; 2 and 3, Allison Bros, Rothesay, N. B.

Sow, over 6 months—1, Fowler Bros.; 2, A. C. Josselyn.

Sow, under 6 months—1, Fowler Bros.; 2, Gordon Brewing, Sussex; 3, Arthur McElroy, Sussex Corner.

Boys' Pig Club Berkshires.

Sow, over 1 year—1, A. Gordon McKenzie.

Sow, under 6 months—1, Gordon Brewing; 2, Arthur McElroy.

Boar or Barrow, under 6 months—1, A. Gordon McKenzie; 2, Arthur McElroy.

Chester Whites.

Jarvis Leaman, Hoyt Station, had the only entries in the Chester White class and was awarded first prize in the sections in which he exhibited, as well as first prize in the section for Chester White pigs exhibited by Boys' Pig Clubs.

Poland Chinas.

All first prizes in the Poland China class went to Ralph H. Libby, Stanstead, Que.

POULTRY

Brahma, Light, Cock—1, Seaman Bros., 20 Somerset St., St. John.

Cochin, Partridge, Hen—1, Seaman Bros.

Plymouth Rock, Barred, Cock—1, F. C. Woodley, St. John; 2, J. R. Semple & Son, Truro, N. S.

Plymouth Rock, Barred, Hen—1, Seaman Bros.; 2 and 3, F. C. Woodley, St. John.

Plymouth Rock, Barred, Pullet—1, W. Priddle, St. John; 2 and 3, F. C. Woodley.

Plymouth Rock, White, Cock—1, G. E. Wilson, Centreville Poultry Yards, Centreville, N. B.; 2, Albert Boswall, R. F. D. No. 3, French Fort, P. E. I.

Plymouth Rock, White, Hen—1, Albert Boswall; 2 and 3, G. E. Wilson.

Plymouth Rock, White, Cockerel—1, and 2 G. E. Wilson.

Plymouth Rock, White, Pullet—1 and 2, G. E. Wilson, Centreville Poultry Yards.

Wyandotte, White, Cock—1 and 3, Evangeline Poultry Yards, Wolfville, N. S.; 2, Seaman Bros.

Wyandottes, White, Hen—1, Seaman Bros.; 2 and 3, Evangeline Poultry Yards.

Wyandottes, White Cockerel—1, Mrs. Geo. Banby, North Devon, N. B.; 2, F. C. Woodley; 3, Evangeline Poultry Yards.

Wyandottes, White Pullet—1, 2 and 3, Mrs. Geo. Danby.

Wyandottes, Buff, Cock—1, W. S. Swetman. 49 Weldon St., Moncton, N. B.; 2, John A. Scott, St. John.

Wyandottes, Buff, Hen—1 and 3, W. S. Swetman; 2, John A. Scott.

Wyandottes, Buff, Cockerel—1 and 2, W. S. Swetman.

Wyandottes, Buff, Pullet—1 and 2, W. S. Swetman.

Wyandottes, Partridge, Cock—1, West End Poultry Yards, Fredericton, N. B.

Wyandottes, Partridge, Cockerel—1, West End Poultry Yards.

Wyandottes, Partridge, Pullet—1, West End Poultry Yards.

Rhode Island Red, S. C., Pullet—1, F. C. Woodley.

Rhode Island Red, S. C. Pullet—1, F. C. Woodley.

Rhode Island Red, S. C. Hen—1, J. A. Scott.

Dominiques, Cock—1, John P. Bain, St. John.

Dominiques, Hen—1, John P. Bain.

Dorkings, Silver Gray, Cock—1, John P. Bain.

Dorkings, Silver Gray, Hen—1 and 2, John P. Bain.

Dorkings, Silver Gray, Cockerel—1 and 2, John P. Bain.

Dorkings, Silver Gray, Pullet—1 and 2, John P. Bain.

Orpingtons, Buff, Cock—1, A. V. Gibson, Moncton, N. B.

Orpingtons, Buff, Hen—1 and 2, A. V. Gibson.

Orpingtons, Buff, Cockerel—1 and 2, A. V. Gibson.

Orpingtons, Buff, Pullet—1, A. V. Gibson.

Redcaps, Cock—1 and 2, John P. Bain.

Redcaps, Hen—1 and 2, John P. Bain; 3, Seaman Bros.

Redcaps, Cockerel—1 and 2, John P. Bain.

Redcaps, Pullet—1 and 2, John P. Bain.

Hamburgs, Black, Cock—1, J, A. Scott.

Leghorns, White R. C.—1 and 2, John A. Scott.

Leghorns, White R. C. Cockerel—1, John A. Scott.

Leghorns, White R. C. Pullet—1, John A. Scott.

Leghorns, White S. C. Cockerel—1, Richard A. McKee, Kinghurst, N. B.

Leghorns, White S. C. Pullet—1, Richard A. McKee.

Leghorns, Brown R. C. Cock—1, John A. Scott.

Leghorns, Brown R. C. Hen—1 and 2, John A. Scott.

Leghorns, Brown, S. C. Hen—1 and 2, John A. Scott.

Leghorns, Black S. C. Hen—1, John A. Scott; 2, Seaman Bros.

Minorcas, Black R. C. Cock—1, John P. Bain.

Minorcas, Black, R. C. Hen—1 and 2, John P. Bain.

Minorcas, Black, R. C. Cockerel—1, John P. Bain.

Minorcas, Black, R. C. Pullet—1, John P. Bain.

Minorcas, Black, S. C. Cock—1, John A. Scott.

Minorcas, Black, S. C. Hen—1, Seaman Bros.; 2, John A. Scott.

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(1)

Minorcas, Black, S. C. Cockerel—1, John A. Scott.

Minorcas, Black, S. C. Pullet—1, John A. Scott.

Spanish—John P. Bain, 1st Cock and 1st Hen.

Anconas—A. V. Gibson, Moncton, 1st and 2nd Cock, Hen, Cockerel and Pullet.

Somerset Bros., St. John, 3rd Hen, Cockerel and Pullet.

Black Breasted Reds—John A. Scott, 1 and 2nd Cock; 1st and 2nd Hen.

Red Pyle—John A. Scott, 1st and 2nd Hen.

White Game—John A. Scott, 1st Hen.

Cornish Dark—All prizes went to John P. Bain, Sewell St., St. John.

Campines, Silver—All prizes went to Geo. F. Holley, Rothesay, N. B.

Campines, Golden—Hen, 1st, John P. Bain.

Cochin, Buff, Cock—1, Wm. S. Swetman, 49 Weldon St., Moncton, N. B.; 2, Seaman Bros., St. John.

Hen—1 and 2, Wm. S. Swetman.

Cochin, White—All prizes went to John Gilkin, St. John.

Cochin, Black, Cock—1 and 2, Wm. S. Swetman; 3, John Gilkin.

Hen—1 and 2, Wm. S. Swetman; 3, John Gilkin.

Black, R. C.—All prizes went to Wm. S. Swetman.

Lebright, Golden—All prizes went to Wm. S. Swetman.

Plymouth Rocks, Barred, Cock—1 and 3, W. E. B. Tait, Dorchester, N. B.; 2, E. Elwood Burtt, Fredericton.

Hen—1 and 3, W. E. B. Tait; 2, E. Elwood Burtt..

Cockerel—1 and 2, W. E. B. Tait; 3, C. D. Hayfield, "Invicta Farm," Oromocto, N. B.; 4, D. P. Mersereau, Russingonish, N. B.

Pullet—1, W. E. B. Tait; 2 and 3, C. D. Hayfield; 4, D. P. Mersereau.

Special Classes (Open to Boys and Girls, Poultry Club Members

Charlotte County

Cock—1, Ethel B. Hansen, Rollingdam Station, N. B.; 2, Herbert Ray, Rollingdam Station.

Hen—1, Hazen I. Reed, Rollingdam Station.

Cockerel—1, Ethel B. Hansen; 2, Hazen I. Reed.

Pullet—1, Hazen I. Reed; 2, Ethel B. Hansen.

Kings County

All pries went to Bessie M. Sterritt, Greys Mills, N. B.

Queens County

All prizes awarded to A. Gordon McKenzie, Welsford, N. B.

Sunbury County

All prizes awarded to Harry Patterson, Hoyt Station, N. B.

York County

Cock—1, Orman Patterson, Hoyt Station; 2, Dorothy Robinson, Harvey Station.

Hen—1 and 3, Dorothy Robinson; 2, Orman Patterson.

Cockerel—1, Dorothy Robinson; 2, Orman Patterson; 3, Ida Tembleton, Harvey Station.

Pullet—1, Ida Tembleton; 2, Orman Patterson; 3, Dorothy Robinson.

Northumberland County

Cock and Hen—1, Camille Chaisson, Rogersville, N. B.

Pullet—Anna P. Gallant, Rogersville.

Kent County

Hen—1 and 3, Louise Vautour, St. Louis, N. B.; 2, Amanda Vautour, St. Louis, N. B.

Cockerel and Pullet—1, Amanda Vautour.

Barred Plymouth Rocks

Any Other County

1, Annie Eddy, South Tetegouche, N. B.; 2, Sadie Rayne, South Tetegouche.

Kent County

1, Yvonne Vautour, St. Louis, N. B.; 2, Eva Porior, St. Louis; 3, Josephine Doiron, St. Louis.

Charlotte County

1, Hazen I. Reed.

Pens of Poultry (Fowl)

Barred Plymouth Rock—1, G. N. Colby, Renforth, N. B.

White Plymouth Rocks—1, Albert Boswell, French Fort, P. E. I.; 2, G. E. Wilson, Centreville, N. B.

White Wyandottes—1, Evangeline Poultry Yards, Wolfville, N. S.

Rhode Island Reds, S. C.—1, Wm. Roberts, St. John, N. B.

Brown Leghorns, S. C.—1, John A. Scott, St. John, N. B.

Brown Leghorns, R. C.—1, John A. Scott.

Black Minorcas, S. C.—1 and 2, E. C. Wilson, St. John.

Rhode Island Reds—1, Mrs. Geo. Danby, North Devon, N. B.

Special Classes (open to Boys and Girls Poultry Club Members)

Charlotte County

Barred Plymouth Rocks—1, Hazen I. Reed.

Queens County

1, A. Gordon McKenzie, Welsford, N. B.

Sunbury County

1, Harry Patterson, Hoyt Station.

York County

1, Ida Tembleton, Harvey Station; 2, Orman Patterson.

Pens of Poultry (Chickens)

Barred Plymouth Rocks—1, 3 and 4, G. N. Colby; 2, George Price, Renforth, N. B.

White Wyandotte—1, Mrs. Geo. Danby; 2, F. C. Woodley, St. John.

White Orpington—1, A. Vye Gibson, Moncton, N. B.

White Leghorns, S. C.—1, H. Wilson Dalton, Renforth.

Black Minorcas, S. C.—1, E. C. Wilson, St. John.

White Indian Game—1, C. D. Hayfield; 2, West End Poultry Yards, Fredericton, N. B.; 3, D. P. Mersereau.

Turkeys and Geese.

All prizes in ducks and geese with the exception of 2nd prize in Pekin Drake and Duck, which went to A. Vye Gibson, were captured by Albert Boswell, French Fort, P. E. I.

AGRICULTURE.

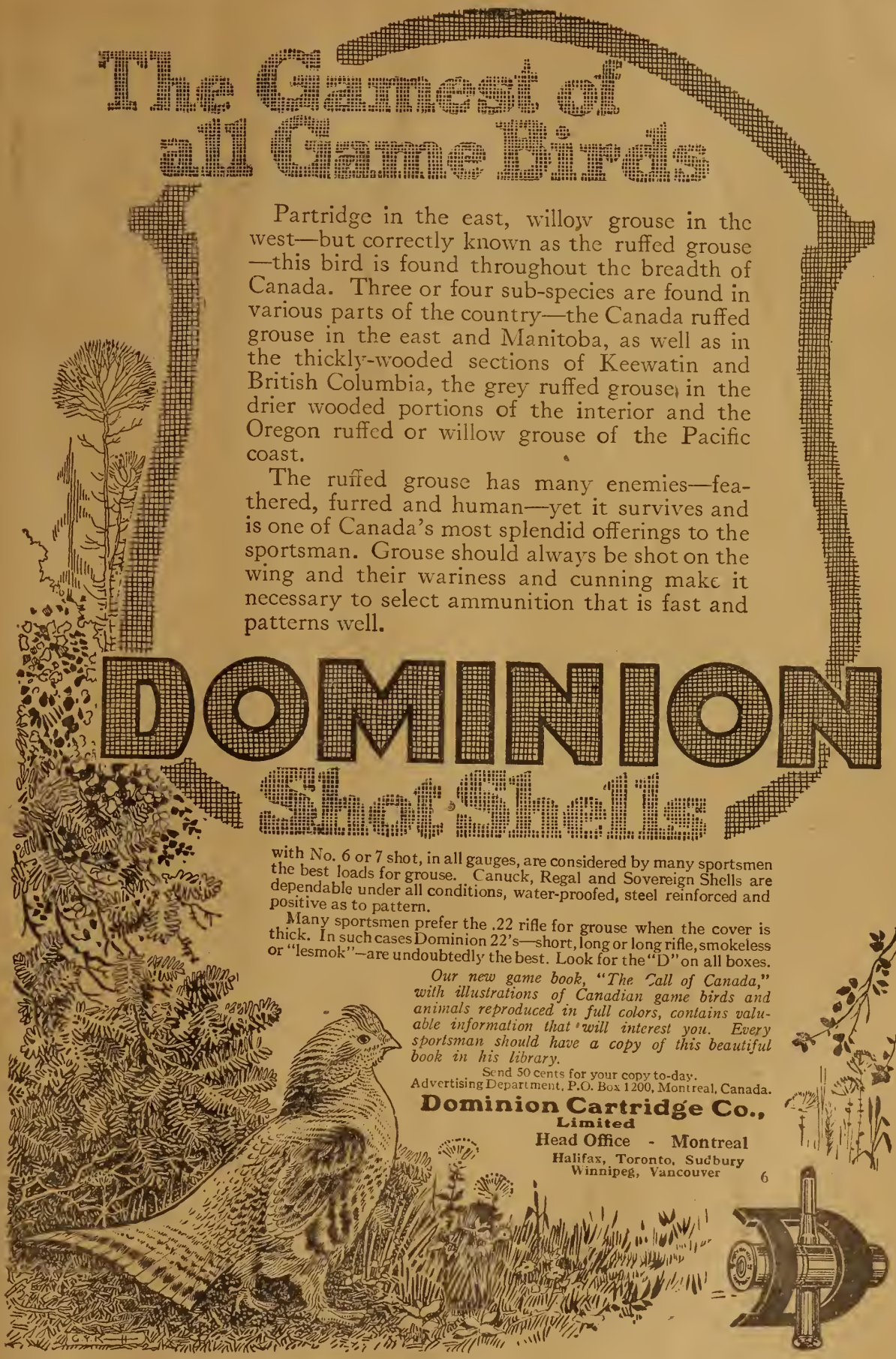
Exhibitors of field grains were Allan Bezanson, Hampton, N. B.; Percy Bezanson, Port Williams, N. S.; H. S. Secord, Pencbsquis, N. B.; Mrs. H. R. McMonagle, Sussex, N. B.; McIntyre Bros., Sussex.

DAIRY PRODUCTS.

Cheese.

Cheese, 2 cheddar, colored—1, Dan McCormac, Newtown, N. B.; 2, Archie H. Brown, Cornhill, N. B.; 3, Henry H. Parlee, Collina, N. B.

(Continued on page 894)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Partridge in the east, willow grouse in the west—but correctly known as the ruffed grouse—this bird is found throughout the breadth of Canada. Three or four sub-species are found in various parts of the country—the Canada ruffed grouse in the east and Manitoba, as well as in the thickly-wooded sections of Keewatin and British Columbia, the grey ruffed grouse in the drier wooded portions of the interior and the Oregon ruffed or willow grouse of the Pacific coast.
The ruffed grouse has many enemies—feathered, furred and human—yet it survives and is one of Canada's most splendid offerings to the sportsman. Grouse should always be shot on the wing and their wariness and cunning make it necessary to select ammunition that is fast and patterns well.
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THE POTATO AND ITS CULTIVATION IN CANADA.

(Continued from page 868)

select at the same time for purity, trueness to type, improvement of shape of tuber, resistance to disease, and anything else which will improve the value of the crop.

SEED POTATOES.

In an article published in the April issue of a prominent agricultural journal, the use of small potatoes for seed purposes was advocated largely on the basis that the cost was considerably less for seed and a comparison between whole small potatoes and cut seed was made that seemed rather unfavorable to the cut seed.

Some western farmers use common small seed potatoes and in the interests of a modification of this practice with its attendant low yields the following material is presented:

The Oregon Experiment Station recommends that small seed as it is sorted out of fields of ordinary potatoes be not used for seed purposes. The reasons for this recommendation are:

1. Continued use of small seed either whole or cut usually results in about three years in the "running out of the seed."

2. Small potatoes in the average field are the result of:

(a) Diseases such as wilt, curly dwarf, Mosaic, chlorosis, rhizoctonia, blackleg, and some other troubles.

(b) Hills which have a natural tendency to produce a considerable number of small potatoes.

3. The use of such seed can not be conducive to good yields.

In the article referred it the writer pointed out that he chose hill selected stock, grew special seed lots, and kept the small seed from such lots. This is entitrely a permissible practice and about which there may be no material objection. Hill selected potatoes, grown in the special seed plots and especially if any diseased potatoes are rogued out as the season advances, are therefore all from superior hill and very different from the comomn run of potatoes in the average or ordinary field. It is the belief of the writer that each potato or cutting of potatoes from a good hill tends to reproduce the hill, and that there is little material difference whether a small potato from a good hill or whether a proper cutting from a larger potato of the same hill is made use of. The author of the article referred to found that he secured larger yields from using whole small seed from these selected hills than he did from cut seed.

The Oregon Experiment Station has ben trying various methods of cutting potatoes and we find that considerable difference in yield may result from cutting potatoes in various ways. We have found that the usual method of splitting potatoes lengthwise, either once or twice, has resulted in decreased yields of potaoes. We believe that the reason for this decreased yield is the destruction of the terminal sprout at the blossom or seed end of the potato, by the lengthwise splitting. In one trial an increase in yield of nearly ninety bushels an acre from land planted to blossom or seed end pieces weighing one and a half to two ounces, cut off, rather than split, was secured over similar potatoes on similar land and handled in a similar way, except that the blossom or seed end had been split, thus destroying in many instances the terminal sprout. We therefore believe that if cut seed potatoes are cut right, so that the blossom end is planted intact, and that a reasonably good number of eyes are left on other pieces of potato, that there will be no material difference in favor of the use of small whole potatoes. However, we recommend that small, while potatoes from hill selected stock be planted whole, unless they are three to four ounce potatoes, in which event they would be cut.

We further recommend that hill selected stock be planted on disease free land rather thickly so that the seed stock will not be too large. In other words, we desire to get a large yield of potatoes from hill seelcted stock, but prefer that these potatoes be small to medium in size and we believe this can be secured to best advantage by planting rather thickly on the seed production area. This small to medium seed stock may then be planted whole in the event of tubers that weigh two ounces or less or may be cut and each seed will then carry a large number of eyes in the event of pieces that weigh more.

Every potato grower recognizes that to cut large seed in a way that will carry a sufficient number of good strong eyes often means an unusually high expense for seed. Thick planting of hill selected stock on disease free land coupled up wtih the roguing out of diseased plants as they appear will produce the very finest quality and of a size that will get good results in the comemrcial field without using an unduly large amount of seed stock.

Whenever the upt-o-date poultryman finds a sick chicken in his flock he usually disposes of that individual promptly. In the event of a sick hog or a sick cow in the herd, the usual procedure is to isolate the animal and prevent any possibility of spread of infection to other members of the herd. The average potato grower upon seeing a sick, diseased, or inferior plant in the field lets it alone and harvests the small diseased potatoes from such a hill and in many cases either plants them or uses them for seed purposes, or sells them for seed. In the meantime he has allowed the disease to spread to other plants in the field. The best producers of the finest quality of seed will dig out such plants and either remove them enttirely from the field or burn them, that there may be no preventable spreading of the disease.

Pieces which carry the terminal sprout usually sprout more quickly and produce a larger number of plants per hill than will a piece of similar size from other parts of the potato which usually carry a smaller number of eyes.

We believe that this stronger and more vigorous terminal sprout, together with a larger number of plants that are produced per hill, account for the greater productiveness of such pieces, and that this terminal sprout on the small hill selected potato was resposnible for their vigor. We do not believe that the common run of small potatoes, even bearing in mind the fact that they carry the terminal sprout, are good seed stock, because terminal sprout advantage is overbalanced by inferior production habits and yield limitations on account of disease.

G. R. H.
Oregon Agricultural College.

THE BANK'S POSITION

As at 30th November, 1919.

Cash and Bank Balances	$ 90,757,510
Other Quick Assets - -	129,154,213
Loans - - - - -	283,870,274
Deposits - - - -	393,605,156
Total Assets - - -	479,644,205

501

THE CANADIAN BANK OF COMMERCE

PAID-UP CAPITAL - -	$15,000,000
RESERVE FUND - -	$15,000,000

POULTRY ACCOUNTS

(Experimental Farms Note.)

Three dollars profit over cost of feed each year for every hen on the farm is a very good return, and according to monthly accounts received from farmers, by the Poultry Division of the Experimental Farm, Ottawa, there are a good many farmers' poultry flocks which are actually giving this profit every year, and some even better.

Poultry keeping on the farm is not merely a side line now, but is a sane business proposition, and the hit-and-miss methods that formerly obtained

Slip Into This Cosy Comfort Garment

ATLANTIC
UNSHRINKABLE.
The UNDERWEAR *that Overwears*

YOU don't have to go South to avoid the rigors of a Canadian winter. A chill-resisting, warm-as-toast suit of ATLANTIC UNDERWEAR is your most reliable health resort.

Sold in five different weights and qualities. Each line is guaranteed to be the best value of its class.

Look for the Trademark---
It is your guarantee

ATLANTIC UNDERWEAR,
Limited
Moncton - - - N.B.

22

in poultry work should no longer be tolerated. A national industry well on to the one hundred million dollars a year demands business methods, and in order to help the industry and to make it possible for the average poultryman to keep track of his poultry operations, the Poultry Division has put out a very simple form for poultry accounting, copies of which will be sent to any person making application and who will return to the Poultry Division each month a duplicate copy.

A Few Figures

For several years these poultry accounts have been supplied to persons asking for them and a compilation of the reports shows some very interesting data. For instance, of all the farms reporting their poultry operations 85.5% of them show a profit, and of this number the average receipt over expenditure for each hen per year is $2.04. As might be expected, a number of reports show a distinct loss each year and that is where one of the benefits of the account form comes in. Either the farmer himself or the Poultry Division at Ottawa can pick out the weak point or points and have them rectified.

Some other interesting figures are obtained from these reports. Among these are the figures that show that the average number of hens on the farms reporting is 52.9 the average expenditure per hen that is, for feed, appliances, etc. is $2.91 and the average profit over expenditure is $2.04. One farmer claims that he can attend to 100 hens while he is attending to one cow and his average return from 100 hens is $250.00.

A Manitoba Farm Poultry Account

Mr. Frank Harman, Boissevain, Man., has been sending in these accounts for some time and his inventory for the past year shows a very good profit on investment. He keeps an average of 150 White Leghorn hens and for the 12 months his expenses were—stock on hand $270. interest on capital invested $16.20, expenditure for feed and what appliances he purchased for the plant $292.37—or a gross expenditure of $578.57. His receipts were—sales—eggs, meat, and stock—$845.81, value of stock on hand at the end of the year $266.25, or a total receipt of $1112.06.

This leaves a balance over cost, without counting the labour, of $533.49 which works out at an average profit over expenditure per hen of $3.55. The average yield per hen was 132 eggs.

Good Prospects

The future looks brlght for the poultry industry, and the man who can keep poultry whether on the farm or in the back-yard, may look for remunerative returns if he uses business methods in his operations. Prices are good and though feed and labour may be high, one can take for granted that the higher the price of feed the higher the price of the product, and the labour question on a well organized poultry plant is not serious, for some one member of the family, even a boy or a girl, can often look after the poultry. The value of poultry products is being appreciated more each year. Last winter, when beef on a Canadian market was selling at from 10 to 12 cents for 1 lb. live weight, guaranteed new laid eggs were selling at 10 cents for two ounces or 80 cents a pound. It is about time that the Canadian hen was considered as a valuable asset.

If you want to make more money out of your poultry, write to the Poultry Division of the Experimental Farm, for free account forms. They will ask you to return each month a copy, but they will help you make your poultry pay.—W. T. Scott.

A BRIDGE
That Never Fails
THE best bridge to carry you smoothly over tire troubles—that abyss which yawns for every motorist—is a "Gutta Percha" Inner Tube. Rough usage and constant service have little effect on "Gutta Percha" Inner Tubes.
"The Tubes It Pays To Buy"
"GUTTA PERCHA" INNER TUBES
Gutta Percha & Rubber, Limited
Head Offices and Factory: TORONTO
Branches in all leading cities of the Dominion
GUTTA PERCHA
"Gutta Percha" High Grade Inner Tube
For Tire

WINTERING BEES IN THE CELLAR VS. OUTSIDE

Whether to winter in the cellar or outside is a question that every beekeeper has to settle. Where the winter is long and steadily cold, the cellar is usually more satisfactory, but outside wintering succeeds in some moderately cold places if proper precautions are taken. At the Central Experimental Farm, Ottawa the two methods have been compared during the last five years. Wintering outside has been done in an apiary protected from wind by a board fence 8 feet high, the hives placed in cases made to hold four colonies each with packing material around the sides, beneath, and above the hives. The cellar was a low dry one, under the Administration Building, which was heated all winter. The results have been very close, but outside wintering has brought the colonies forward slightly in the spring.

In the wide belt where both cellar and outside wintering are about equally satisfactory, the deciding factor appears to be convenience. If the bee keeper has a well insulated and dry cellar, by using it he will save the expense of constructing wintering cases, and also a wind-break, if this is not present. For a few colonies in a cold reglon, a boarded-in part of the dwelling house basement makes a good cellar for the bees. and it is an advantage if the basement contains a furnace. Such a cellar should have a steady temperature somewhere between 42 degrees and 50 degrees F. In outside wintering, it is very important to protect the apiary from wind. Outside wintering has the advantage that the bees may be left without attention throughout the winter, whereas in many cellars in the milder parts of Canada, the ventilation has to be watched and controlled Outside wintering has been very successful at the Experimental Farm at Kentville, N.S., but at the Experimental Farm at Brandon, Man., the winter has been found too severe for the best results.

For successful wintering, more important than the method is early and careful preparation for winter. For example, one cannot expect cellar wintering to be successful if the bees are left outside until zero weather, or if they are brought out very early in the spring. Nor can one expect good results in outside wintering if packing is delayed until cold weather. Neither method will succeed if the colonies do not contain plenty of bees, especially young bees, and, above all, abundance of wholesome stores, preferably clover honey, or syrup made from white granulated sugar, stored in the combs before cold weather. Mice, if they get into the hives during the winter, will ruin the colonies in a very short while.—F. W. L. Sladen, Apiarist.

THE ST. JOHN EXHIBITION

(Continued from page 891)

Cheese, 2 cheddar, white—1, Dan McCormac; 2, Archie H. Brown.

Cheese, 3 flats, colored—1, Henry H. Parlee.

Butter.

Box for export—1, Farmer's Co-operative Creamery Co., Ltd., Moncton; 2, Sussex Cheese and Butter Co., Sussex; 3, C. M. Johnston, Cen. Bedeque, P. E. I.; 4, Wesley Wood, Dunstanage, P. E. I.

Prints, 20 lbs.—1, Farmer's Co-Operative Creamery Co., Ltd., Moncton; 2, C. M. Johnston; 3, Sussex Cheese & Butter Co.; 4, Wesley Wood.

Crock or Tub, 10 lbs.—1, G. Fred Stephenson, Upper Loch Lomond, N. B.; 2, C. H. Weade, Royalton, P.E.I.

APPLES AND PEARS.

Barrels ready for shipment—1, F. E. & H. G. Smith, Long Reach, N. B.

Boxes, ready for shipment—F. E. & H. G. Smith.

Baskets, ready for shipment—1, F. E. & H. G. Smith.

Any three varieties, plates of 5 each, properly made—1, H. E. Bent, Tupperville, N. S.

Any new variety, plate of 5—1, H. E. Bent.

Any Seeding, plate of 5—1, H. E. Bent.

Fruit decoration for show table or shop window—1, F. E. & H. G. Smith.

Apples, 5 Alexander—1, F. E. & H. G. Smith; 2, A. R. Gorham, Greys Mills, N. B.

Apples, 5 Duchess of Oldenburg—1, F. E. & H. G. Smith; 2, H. E. Bent.

Apples, 5 Gravenstein—1, H. E. Bent; F. E. & H. G. Smith; 3, G. Edgar Martin, Fair Haven, N. B.

Apples, 5 Red Astrachan—1, H. E. Bent; 2, F. E. & H. G. Smith; 3, G. Edgar Martin.

Apples, 5 Ribston Pippin—1, H. S. Bent.

Apples, 5 Snow or Famuse—1, F. E. & H. G. Smith.

Apples, 5 Baxter—1, H. E. Bent; 2, A. G. Gorham, Greys Mills.

Apples, 5 McIntosh Red—1, F. E. & H. G. Smith.

Apples, 5 Wealthy—1, F. E. & H. G. Smith; 2, H. E. Bent.

Apples, 5 Blenheim Pippin—1, H. E. Bent.

Apples, 5 any other variety in season recognizable—1, F. E. & H. G. Smith; 2, H. E. Bent; 3, G. Edgar Martain, Fair Haven.

Pears, 5 varieties, 6 of each—1, H. E. Bent.

Pears, 6 fall pears—1, H. E. Bent.

Plums, Peaches, Grapes, Etc.

Plums, collection of 6 varieties, green or yellow, names, not less than one quart—1, H. E. Bent.

Plums, collection of 6 varieties, red or blue, correctly named, not less than one quart—1, H. E. Bent.

Fruits.

Collection of fruits, grown in Kings county, in which there must be at least 3 varieties of apples—1, A. R. Gorham; 2, F. E. & H. G. Smith.

Collection of fruits, grown in St. John County, in which there must be at least 3 varieties of apples—1, F. E. & H. G. Smtih.

Collection of fruits, grown in Charlotte County, in which they must be at least 3 varieties of apples—2, G. Edgar Martin.

Willow Glen Shorthorns!

Thanks to Maritime Farmer Advertising I have disposed of the following individuals from my show herd: 1st Prize 3 year old cow; 1st Prize 2 year old heifer and 1st Prize Senior Heifer to J. M. Laird & Son; 1st Prize Junior Heifer to D. C. McNutt, all of Prince Edward Island, and 1st Prize Bull Calf to Roy B. Pipes, Amherst, N. S. All my bulls are sold. I still have a few heifers for sale, sisters and dams of prize winners.

A. N. GRIFFIN,
New Mines - - - N. S.

NOTICE TO CONTRACTORS

The New Brunswick Electric Power Commission.

Tenders will be received by the above named Commission up to noon, 21st day of September A. D. 1920, for the following work:

(1) The construction of an earth dam across the East Branch of the Musquash River including spillway intake, by-pass, etc., and the grading of a bed to carry a penstock from the damsite to the power house.

(2) The construction of an earth dam across the West Branch of the Musquash River including the items named above, together with the construction of a canal and the grading for the penstock from the damsite to the power house above mentioned.

(3) The construction of an earth dam across the Shogomoc River including items named above together with the construction of a canal and grading for the penstock from the damsite to the power house.

Sites one and two are situated about twelve miles from St. John and about one mile from the line of the New Brunswick Southern Railway.

Site three is situated about 40 miles north from Fredericton on the line of the St. John and Quebec Railway.

Plans, Profiles and Specifications can be seen and detailed information obtained at the office of the Commission, Canada Permanent Building, St. John.

A certified cheque for 5 per cent. of the estimated cost of the work must be attached to tenders.

The Commission does not bind itself to accept the lowest or any tender.

C. W. ROBINSON,
Chairman.
REID McMANUS,
Secretary.
C. O. FOSS,
Chief Engineer.

CHARLOTTETOWN EXHIBITION HAS BIG PROGRAM

The Charlottetown exhibition, which will be held from September 28th to Oct. 2nd, has a splendid program arranged for this year. The show is open to all of Canada. It has been held without a break, during the war, and this year will see a generous increase in the amount of prize money offered. In the live stock classes fourth and fifth prizes will be awarded, where the number of entries are sufficiently large to justify it

The Clydesdale Horse Association, the Shorthorn Breeders' Association, the Ayrshire Association and the Holstein Association, are all offering special prizes for their respective breeds.

The Canadian Bank of Commerce offer Silver Cups in several Classes of Live Stock.

The Exhibition which lasts four days will be full of instruction for exhibitors and visitors.

There will be five days' horse racing when the fastest horses in the Maritime Provinces and Eastern States are expected to race.

A visit to Charlottetown, the centre of the Garden of the Gulf in September is well worth making.

Come at the opening and remain till its close. It will be time well spent.

DATES TO REMEMBER EXHIBITIONS

St. Stephen Exhibition..Sept. 13—17
Woodstock Exhibition....Sept. 13—17
Pictou. N.S., Exhibition..Sept. 27—29
Charlottetown Exhibition Sept. 28—Oct. 1
Hopewell Hill, N.B., Exhibition, Oct. 19
Douglas and Bright, Keswick, N.B., Oct. 5

THE ROYAL BANK OF CANADA

Farmers' Sons and Daughters Have Great Opportunities To-day

They never had better chances to make and to save money. Now is the time to lay the foundation of future prosperity by cultivating the habit of thrift.

There is a Savings Department at every branch of this bank. The staff will be glad to show you how to make the first deposit.

CAPITAL AND RESERVES $35,000,000 TOTAL RESOURCES OVER $500,000 000
640 BRANCHES.

KEEPING DOWN THE COSTS OF PORK PRODUCTION

A test was undertaken by the Deleware Experiment Station to determine as accurately as possible the cost of a pig at weaning time when 60 days old. The experiment began on Nov. 1, 1917, and covered a period of 180 days, closing on April 29, 1918. Twelve Berkshire sows and one Yorkshire sow were mated to a Yorkshire boar. These sows had been running on clover pasture with a limited grain allowance previously to Nov. 1, and were not carrying much flesh. After Nov. 1 they were fed corn at the rate of 1½ per cent of the weight of the sows, wheat middlings and bran mixed in equal parts and supplied in a self-feeder, and tankage fed in another self-feeder. This ration was continued until December 15, or for a period of 45 days. At this date middlings were omitted as the sows were getting rather fat, and bran alone was fed with no other change in ration. On Jan. 1 the corn was reduced to about 1 per cent of the body weight of the sows. On Jan. 31 corn and cob meal was substituted for bran in the self-feeder, and this together with tankage self-fed was supplied to all sows until shortly before farrowing.

A few days before due to farrow each sow was removed to a community hoghouse and fed a thin slop of bran, middlings and tankage, with but little corn. As soon as each sow was on feed after farrowing she received all the thick slop, made of 30 parts middlings, 15 parts bran, and 5 parts tankage, that she could consume while suckling her litter for 60 days. In addition to the slop each sow received about 2 per cent of her body weight in ear corn during the suckling period and plenty of water. When her pigs

Remington UMC

Duck Shooting is Coming

Are you ready for the rousing days when Duck Shooting opens? Keen eyes, steady hands, good judgment and a Remington UMC pump gun will bag the ducks as fast as they come.

Wetproof Shells are Sure

Remington UMC WETPROOF Shells are just what their name implies—proof against wet. Not alone the occasional shower, but the soaking rain, and the day-after damp of a wet climate. You can depend on the Remington UMC "Arrow" and "Nitro Club" shells to work smoothly through your shotgun every time—no matter what the weather.

Remington UMC of Canada, Limited
Windsor, Ontario

REMINGTON UMC

were weaned each sow was returned to the original lot and fed as before farrowing.

At the age of one month all the young pigs were given access to hominy feed and oil meal, each self-fed, and after weaning they received the same amount and kind of slop that their dams had when suckling them. All were given the simultaneous treatment for cholera at 60 days.

The sows made an average daily gain for the six months' period of 0.33 lb. They consumed on an average 2.8 lbs. of grain per 100 lbs. live weight during the six months. They consumed as low as 2 per cent of the body weight in grain daily, while at maximum milk production the consumption often was as high as 4 per cent of their body weight. It was found both economical and desirable to feed the sows to their maximum consumption while suckling the pigs for sixty days. The cost of gains in the pigs was greatly reduced through this system of feeding.

The average number of pigs farrowed per sow was 9.9; the average birth weight of pigs was 2.47 lbs.; the average weight per pig on April 29 was 29.57 lbs.; the average daily gain per pig was 0.46 lb. and the average number of pigs raised per sow farrowing was 6.6. The average amount of grain eaten daily per pig was 0.15 lb. and the grain required per 100 lbs. gain was 30.1 lbs. The cost of grain per 100 lbs. gain of pigs was 82 cents. When we consider the advantage in increased gains that may be secured by using a creep we are forced to admit that a very small amount of grain produced wonderful results in these pigs.

The interest on the investment was figured at 5 per cent for the six-month period. Charge for the simultaneous treatment was $2. A shelter charge of 25 cents per sow was made and a boar service fee of $1 per sow. The labour charge per sow was $3.75 and the estimated value of the manure $8. The average total expense per pig weighing 29.57 lbs. at 65.3 days old was $3.93. The feed prices used are those current at the time of working on the experiment, and they represent war-time prices.

The conclusions may be drawn from this experiment that the cost of producing a pig at weaning time depends upon two main factors: First, the average number of pigs raised per sow, and second, the feed cost of sows and pigs. By selecting prolific females and flushing them at breeding time the first cost item may be greatly reduced. By buying feeds in quantity, using forage crops, using a self-feeder, and feeding an entirely complete ration liberally the second cost can be kept down.—Hays, F. A., (Delaware Experiment Station), in The Breeders' Gazette, Vol. LXXV, No. 10, pp. 534-535. Chicago, March 6, 1919.

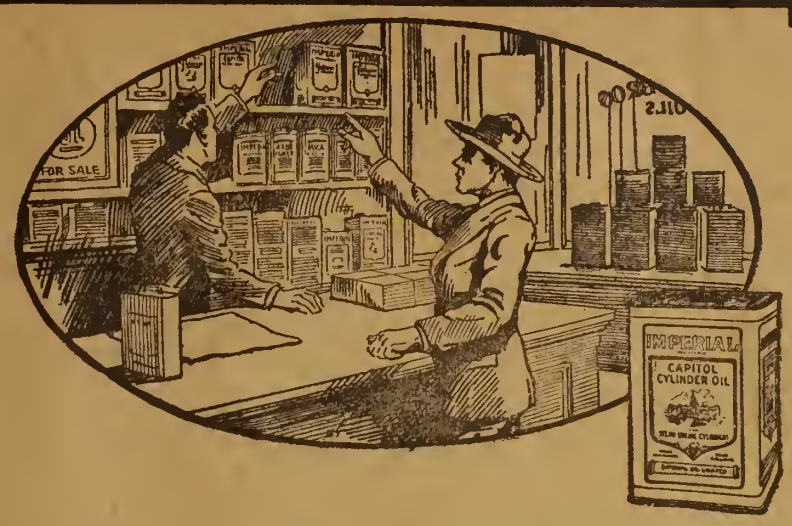
REVIVING OLD MEADOWS

To renovate old meadows, harvest the hay crop early. Just as soon as the field is clear, disc, harrow or cultivate the surface sufficient to break some of the sod surface so that seed sown will come in contact with the soil.

Sow a mixture of the following:—

Timothy	6 lbs.
Red Top	6lbs.
Alsike	6 lbs

When the seed has been sown, run a spike tooth harrow over the surface to cover the seed. Next apply a top dressing of barn yard manure at the rate of 12 tons per acre. This work should be done immediately after the seed is sown. The earlier the seed is sown the stronger the growth of plants will be to withstand the winter. Manure applied early will force the growth of the young plants, revive the parts of the old meadow that is unbroken and will be well incorporated in the soil before winter sets in. Low pasture lands can be revived in the same way and seeded early in August. —John Fixter, Supervisor of Illustration Stations.



"Yes That's the Imperial Lubricant for My Engine"

IMPERIAL Lubricants

For gasoline-burning engines—automobiles tractors, trucks.

IMPERIAL POLARINE AND IMPERIAL POLARINE HEAVY

For motors requiring an unusually heavy oil.

IMPERIAL POLARINE A

For kerosene-burning stationary engines and tractors.

IMPERIAL POLARINE KEROSENE TRACTOR OIL AND IMPERIAL POLARINE KEROSENE TRACTOR OIL, EXTRA HEAVY

For open bearings of separators, binders,etc.

IMPERIAL PRAIRIE HARVESTER OIL LIGHT

IMPERIAL PRAIRIE HARVESTER OIL HEAVY

For worn and loose bearings—a thick oil.

IMPERIAL ELDORADO CASTOR MACHINE OIL

For steam cylinder lubrication—tractors and stationary engines.

IMPERIAL CAPITOL CYLINDER OIL

For stationary and portable engines using either kerosene or gasoline.

IMPERIAL STANDARD GAS ENGINE OIL

For grease cup lubrication—a clean solidified oil.

IMPERIAL ARCTIC CUP GREASE

Made in different consistencies.

Imperial Farm Lubricants are sold in 1 and 4 gallon sealed cans, half-barrels and barrels.

FIND the Imperial Lubricant for your engine—automobile, tractor, stationary—and you will get more and better work from your machinery—at less cost for oils and fuels.

Each Imperial Lubricant represents exhaustive experiments and tests, both laboratory and under searching service conditions. The results of these tests, for automobile and tractor lubrication, are summed up in the Imperial Charts of Recommendations which are displayed wherever Imperial Lubricants are sold.

Follow these recommendations and you will get maximum power and economy from your fuels, with least wear and tear on engaging parts—minimum repair and replacement expense.

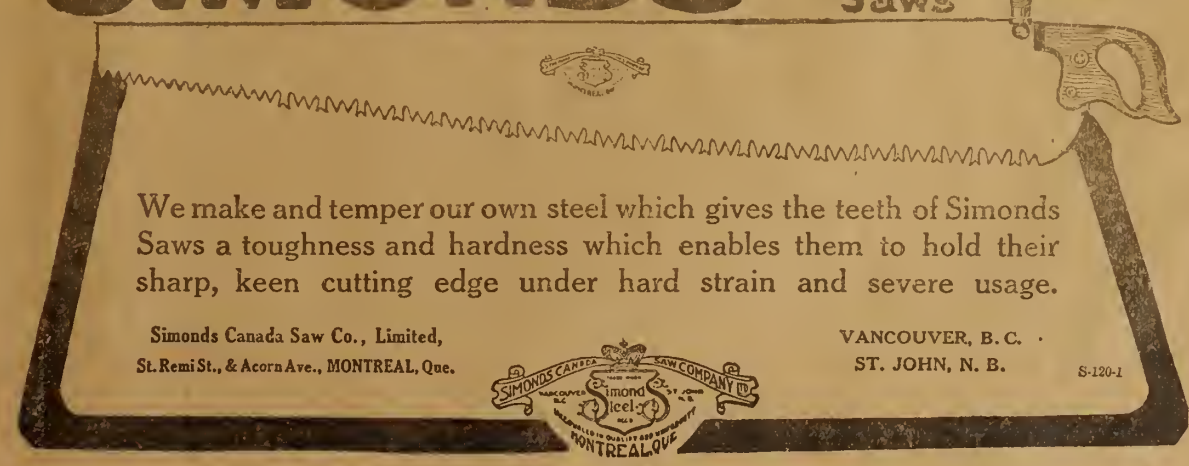
For additional information on farm machinery lubrication problems consult the Imperial Oil Man; or write our nearest branch.

IMPERIAL OIL LIMITED
Power Heat Light Lubrication
Branches in all Cities

HOW MUCH GRAIN TO FEED

Specialists of the United States Department of Agriculture advise poultry keepers to feed about 1 quart of scratch grain and an equal weight of mash (about 1½ quarts) daily to 13 hens of the general purpose breeds, such as the Plymouth Rocks, Rhode Island Reds or Wyandottes, or about 16 hens of the smaller or egg breeds. This would be about 7½ pounds each of scratch grains and of mash daily to 100 Leghorns, and about 9½ pounds of each to 100 general purpose fowls. If hens have free range or large yards containing green feed, a general purpose hen will eat about 75 pounds of feed in a year, while a Leghorn will consume about 55 pounds in addition to the green stuff which she eats.

SIMONDS ONE MAN Cross Cut Saws No. 111



We make and temper our own steel which gives the teeth of Simonds Saws a toughness and hardness which enables them to hold their sharp, keen cutting edge under hard strain and severe usage.

Simonds Canada Saw Co., Limited,
St. Remi St., & Acorn Ave., MONTREAL, Que.

VANCOUVER, B. C.
ST. JOHN, N. B.

S-120-1

THE CITY MILK SUPPLY

(Continued from page 873)

or acting under control from the seat of government. The Vancouver authorities are endeavoring to recognize only one class of milk. They consider this essential because no matter from which dairy the milk is obtained, they must be confident that the milk is pure, clean, obtained from disease-free herds, supplied in sterilized bottles capped by machinery. They also consider that if people want milk other than the one standard it is for the consumer to manipulate it as they require. The authorities act on the principle that if a person likes his food, such as meat, in a state of highness, it is not for the butcher to keep it until it is ripe, but for the purchaser; if also milk is preferred sour, or inoculated, it is the consumer or householder who should bring about the conditions required. At one time approved milk was on the Vancouver market, but owing to its higher price it was used only by the people who could afford to pay, and those who should have benefited could not do so, owing to the higher cost.

No certified milk is sold in Vancouver, because the requirements for certified milk production in British Columbia are prohibitory from the standpoint of cost, and the inability to obtain the right kind of farm help. Ninety per cent of the milk is pasteurized, although this is not compulsory. The method is as follows: The milk passed through a strainer into the receiving vat, then thorugh the clarifier and the pasteurizer, where it is raised to a temperature of 142 to 145 degrees F. It is held at this temperature while passing through the holder for thirty minutes, and then goes to the water cooler. From here it passes to the brine cooler, and to the filler, from which the full bottles pass to the machine capper. It is finally put into the cold room ready for delivery.

Vancouver has both chemical and baeterial laboratories municipally owned. It is estimated that .065 gallons per day per capita is consumed as milk (this does not include cream or its equivalent as milk). This estimate has been found very nearly correct by divison of the milk as put out by the total population.

It is required that evidence be produced to the proper department of the city that herds supplying the city with milk have been tested within the past twelve months. The provincial government have veterinary inspectors travelling the farm districts and testing cattle. Those animals giving positive reactions are condemned, while the herds that pass the test receive from the provincial inspector a certificate showing that the cattle have been tested and are free from disease; also showing in what class they are placed. There are three classes, A., B., and C.

The milk producers in British Columbia do not require a license to ship milk into the city, but producers wishing to sell milk in the city must first take out a license which, however, is not granted until the farm premises are inspected by the city inspector, who satisfies himself as to the adequacy of the equipment provided and is assured that in all respects the city by-law is complied with. The authorities of Vancouver are of the opinion that to license producers supplying milk to municipalities is beneficial, providing that such licensing is only nominal and not for revenue-producing purposes.

The radius in which milk is gathered into the diflerent cities varies considerably, but throughout Canada, except in the case of the larger cities, where the maximum radius is about one hundred miles, the milk is gathered only for a distance of from ten to twenty-five miles, depending on the means of transportation.

CANADIAN SHOES FOR CANADIAN PEOPLE

22,000 Canadian Men and Women ask you to buy "Made-in-Canada" Shoes

22,000 CANADIANS are engaged exclusively in the manufacture of Boots and Shoes.

The industry provides them with over $20,000,000 a year to spend within the Dominion.

They buy food and clothing; pay rent and taxes—they help swell the total of Canadian trade.

ALLIED with these 22,000 men and women are many thousands of other workers who contribute to the making of Boots and Shoes. These include textile operatives; wire, nail and metal workers; machine manufacturers; box and carton makers; coal miners and dealers; railway men and shippers; printers; packers and battalions of clerks.

All these, and more, participate in the 50 million dollars which is the yearly value of the Canadian-Made Shoes.

EVERY pair of Canadian-made Shoes you buy actually puts money in the pay envelope of this vast army of men and women.

Every pair of imported Shoes you buy reduces Canada's capital stock and puts money in the pockets of foreigners who contribute nothing to our national growth

CANADIAN - made Shoes, grade for grade, are the equal of the best in the world.

The most scientific processes of manufacture are employed.

Canadian workmen are as conscientious and skilled as those of any other country.

SITUATED as we are between the Old World and the New, every authoritative idea of shape and style and fashion is immediately seized and developed.

The price of Canadian - made Shoes is based entirely on actual production costs. It represents 100% of value.

¶ *Canada produces footwear of every desirable type, and of standard quality in all grades. When you buy Made in Canada Footwear you are assured, at fair prices always, of the utmost that modern skill can produce in Comfort, Service and Style.*

3

SHOE MANUFACTURERS ASSOCIATION OF CANADA

STORING ROOTS AND POTATOES.

The two methods most used for the storing of roots and potatoes are the pit and the root house. The pit method is excellent but has the disadvantage of not being easily accessible during very cold weather. To make a pit dig a trench four feet wide and two feet deep and pile the crop in level with the sides and heap towards the centre, not having any roots higher than three and a half feet at the centre. Before putting in the crop, nail two twelve-inch boards together forming a V-shaped centilator the full length of the pit and allow them to protrude each end, rest the ventilators on the two boards, a hole being cut in the boards to allow ventilation to come from below. The ventilator shafts are made from 8 in. boards, two sides not boarded up inside the pit but slatted to allow free air passage and at the same time prevent roots from getting into the shaft. When all is in place cover with straw and put on just enough soil to prevent the straw from blowing away, then allow the roots to cool off for a few days. Then add five inches of soil leaving all vents open both at the top and at the ends. As the weather gets colder add more dirt and in very cold weather close the vents by stuffing old sacks or similar material into them. When the weathem modifies remove the sacking.

In root houses similar precautions must be taken. Give the house as much air as possible when the roots are first stored and see that the atmosphere is not too dry. In our dry climate we sprinkle the floor well once in three weeks. Should there be the least sign of shrivelling, more water should be put on the floor. Vegetables that have already gone down a little can be brought back by increasing the moisture in the air. During wram spells close the door during the day leaving it open in the evening till bed time to cool the air. The temperature in a root cellar or pit should not go above 38 deg. Fahrenheit nor below 32 deg. The moisture content of the air can be taken by a hygrometer.

During long spells of cold weather we watch the thermometers very closely and if any danger is feared we use oil burners in the cella at night. The exposed walls of a root cellar need air spaces if made of stone or cement. When only a small portion of the cellar is out of the ground, bank well wit hmanure and this will

keep the frost from penetrating the walls.

Allow the roots or potatoes to harden and dry in the field covering them with tops if the weather is cold.

Handle carefully; bruised and damaged products should be kept apart tb be used up first.

Don't pile up the crop too high. We make our bins three feet high with a false bottom over the lower bin, and then fill another three feet. This allows free circulation of the air and can be cooled off very quickly.

Let the air in freely from doors and ventilators and keep the holes in the roof for filling the root hous open till danger o heavy frost is near.

Watch the humidity of the house and keep the floor well sprinkled to avoid shrivelling.

Do not allow the temperature to go higher than 38 deg., nor lower than 32 deg.—R. H. Helmer, Superintendent, Experimental Station, Summerland, British Columbia.

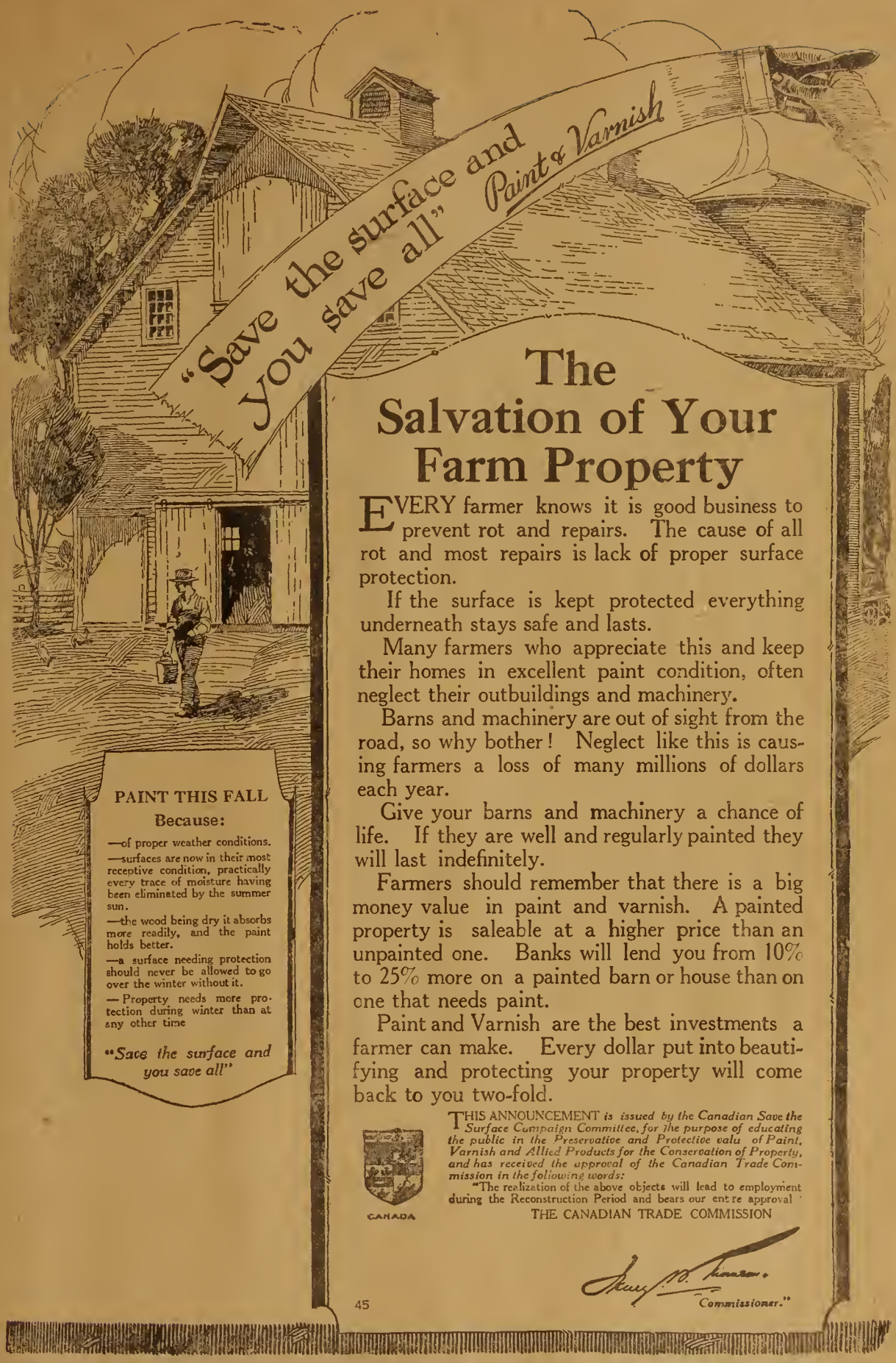
THE VALUE OF ADVERTISING OF AND FOR LIVE STOCK

To the well known, established, breeders of live stock any advice on the value of advertising is superfluous for in the large majority of cases it has been by proper advertising of high class goods that they have built up their business. The purpose of this article is to call the attention of the smaller breeders, the beginners in the business, to the possibilities in advertising any live stock which they may have for sale. For example every year at the Central Experimental Farm, Ottawa, there is a deluge of enquiries as to the possibility of purchasing young animals of the various classes of live stock. Needless to say the Farm is unable to fill all the wants for obvious reasons such as being sold out of the particular class of stock wanted; not having animals of the age or sex wanted; and not keeping representatives of the breed wanted. In an endeavor to assist our correspondents to locate the animals they wished to purchase it has often been found and sometimes too late that breeders right in their own viciniity had animals of the class of stock wanted for sale, but as they had not been advertised for sale nor had the intending purchaser advertised his wants, both parties missed a chance to do business which would have benefited both.

From the above it would seem that a more extended scheme of advertising on the part of breeders who are either in need of or wish to dispose of stock would be profitable for all parties concerned. This advertising need not be very expensive. A small notice in the proper column of the local paper or in one of the farm papers which is popular in the district would serve the desired purpose quite adequately. If the number and quality of the animals warrant it, a larger advertisement with an illustration would be in order.

Advertising is of course, of particular value in disposing of breeding stock or animals not in fit condition for sale on the regular market. The writer has in mind one particular class of stock namely, aged pure bred dairy bulls of good quality and known to be breeding good stock. Many of these find their way to the butchers every year when it would be much to the advantage of the breed as well as to the farmers disposing of them and lucky enough to get them, if they were kept for further years of service A little timely advertising would in many cases accomplish this end.

Lastly advertising must be more or less seasonable, The greatest demand for dairy cattle and swine breeding stock is usually in the late winter and early spring, while sheep are more in demand in late summer and fall. Plan the advertising to meet the seasonal requirements and it can then be done most economically.—Geo. W. Muir, Animal Husbandman.


"Save the surface and you save all"
Paint & Varnish
PAINT THIS FALL
Because:
—of proper weather conditions.
—surfaces are now in their most receptive condition, practically every trace of moisture having been eliminated by the summer sun.
—the wood being dry it absorbs more readily, and the paint holds better.
—a surface needing protection should never be allowed to go over the winter without it.
—Property needs more protection during winter than at any other time
"Save the surface and you save all"
The Salvation of Your Farm Property
EVERY farmer knows it is good business to prevent rot and repairs. The cause of all rot and most repairs is lack of proper surface protection.
If the surface is kept protected everything underneath stays safe and lasts.
Many farmers who appreciate this and keep their homes in excellent paint condition, often neglect their outbuildings and machinery.
Barns and machinery are out of sight from the road, so why bother! Neglect like this is causing farmers a loss of many millions of dollars each year.
Give your barns and machinery a chance of life. If they are well and regularly painted they will last indefinitely.
Farmers should remember that there is a big money value in paint and varnish. A painted property is saleable at a higher price than an unpainted one. Banks will lend you from 10% to 25% more on a painted barn or house than on one that needs paint.
Paint and Varnish are the best investments a farmer can make. Every dollar put into beautifying and protecting your property will come back to you two-fold.
THIS ANNOUNCEMENT is issued by the Canadian Save the Surface Campaign Committee, for the purpose of educating the public in the Preservative and Protective valu of Paint, Varnish and Allied Products for the Conservation of Property, and has received the approval of the Canadian Trade Commission in the following words:
"The realization of the above objects will lead to employment during the Reconstruction Period and bears our entire approval"
THE CANADIAN TRADE COMMISSION
CANADA
Commissioner."
45

VISIT OF CANADIAN FRUIT TRADE COMMISSIONER TO BRITAIN.

(By C. W. BAXTER, Commissioner)

Mr. J. Forsyth Smith, Canadian Fruit Trade Commissioner in Great Britain, who, since 1915, has devoted most of his time to promoting the interest of Canada's fruit industry in Great Britain, is now visiting the apple-growing sections of Canada. During the period when apples were not permitted to enter Great Britain, Mr. Smith acted as general trade Commissioner, and through the courtesy of the Department of Trade and Commerce in which he is employed, he has co-operated with the Fruit Branch of te Department of Agriculture.

Mr. Smith attends all apple sales in the Old Country during the shipping season and cables to the Fruit Branch prices and items of general niterest to Canadians shipping fruit across the sea. This intelligence is published in the Fruit Branch Telegraphic Market Reports which are issued simultaneously to yrowers and dealers twice weekly from Middleton, N. S.. Ottawa, Ont., Winnipeg, Man., and Vancouver, B. C., during the season when the movement of fruit is heavy, and once each week, from Ottawa only, during the balance of the season. In addition to the information from the British markets, these reports contain wholesale prices quoted at all alrge marketing centres in Canada.

Mr. Smith has acquired a thorough knowledge of trade conditions abroad. This is of great value to Canadian exporters, and before leaving for Canada, he visited Europe in order to learn conditions there and to ascertain the possibilities of extending the market for Canadian apples.

Arrangements are being made for the holding of meetings in the various apple-growing provinces in order that people interested in the export market may have an opportunity of obtaining first hand information from Mr. Smith. The dates and places of meetings will be announced through the agricultural press serving the localities in which the addresses will be given.

Lawndale Stock Farm

Jerseys and Shorthorns (Pure Bred)

WE OFFER IN JERSEYS:—

A few mature cows, several heifers and a couple young bulls of serviceable age.

In Shorthorns:—2 cows, 2 heifers and 2 young bulls of special promise.

To reduce our herd—Extra bargains. Write soon to

I. M. LOVITT, M.D.,
Yarmouth North - - - N. S.

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on, as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue, which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word each insertion. MARITIME FARMER, Sussex N. B.

REGISTERED YORKSHIRES. Offering a litter of 12, farrowed August 17. F. SCHAFHEITLIN, Canning, N. S.

WISH TO PURCHASE, 1 Ayrshire Bull under 1 year old. Write stating price and pedigree. MAYNARD SMITH, Sect. of Soc., West Bathurst, N. B.

SHROPSHIRE RAM, yearling, proved getter good stock. 3 Leicester Ewes. All excellent condition. Registered. GEORGE G. PERRY, Havelock, N. B.

BIG MONEY for live man selling trees, shrubs, etc. Part time or steadily. Trees Government Inspected and guaranteed. BROWN BROTHERS COMPANY, Nurserymen, Ltd., Browns Nurseries, Welland Co., Ontario.

BARRED PLYMOUTH ROCK COCKERELS bred to lay and of the same strain as the leaders at Nappan; free range; $2.00 to $5.00 for fall delivery. C. M. PEART, Havelock, Kings Co., N.B.

WANT TO HEAR from party having farm for sale, give particulars and lowest price. JOHN J. BLACK, Maritime, St. Chippewa Falls, Wisconsin.

THREE HUNDRED KEGS first quality wire nails, mixed sizes, suitable for repair work around farm buildings and other premises. Price $4.08 per 100 lbs. Apply by mail to "NAILS," care of Office Maritime Farmer, Sussex, N. B.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up. Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T. D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

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"Carleton County Holstein Breeders' Club, R. W. Maxwell, Woodstock, Secretary."
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F. W. C. Nase, Nerepis Station, Kings Co., N. B.

Ayrshire Cattle

McIntyre Bros., Springbrook Farm, Sussex, N. B.
E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.
C. A. Archibald, Truro N. S.
John H Hughes, Petitcodiac, N. B.
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YORKSHIRE PIGS

E. Chaldecott, Monkham's Farm, West Merigornish, Pictou Co., N. S.

Tamworths

E. W. Heurtley, P. O. Sutherland's River, N. S.

Shorthorn Cattle.

Walter E. Eaton, Upper Canard, N. S.
Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
C.A. Archibald, Truro, N. S.
J. James Ross, Pictou, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

When writing advertisers, please mention the MARITIME FARMER.

Brown Swiss Cattle

Come to the Exhibition at St. John, St. Stephen and Woodstock to see the fine exhibit of this hardy breed of Dairy and Dual Purpose Cattle. Bull calves and heifers for sale at reasonable prices. Do not fail to look us up.

W. A. JOLLEY, Waterloo, Que.
RALPH H. LIBBY, Stanstead, Que.
Exhibitors

Elmwood Stock Farm

We have a few young bulls to offer, sired by Dutchland Colantha Sir Rag Apple, a son of Colantha Johanna Lad. His dam is a granddaughter of Pontiac Korndyke. Thus combining the blood of two of the greatest bulls the world has ever seen.

The dams are daughters of Dutchland Pieterje Count. These calves are a nice straight growthy lot.

W. L. ETTER, Shubenacadie, Hants Co., N. S.

Bloomfield Stock Farm

Ayrshire and Guernsey Cattle—Shropshire Sheep

We are offering males and females, all ages. Have some good cows to freshen soon. Am booking orders for ram lambs for fall delivery. Write or phone for prices and description.

J. ROBIE MacDONALD,
Shubenacadie, - - Nova Scotia
Successor to J. MacDonald & Son

Springbrook Farm Ayrshires !

We are offering for sale several choice young cows, due to freshen in October and November. Also a number of heifers, 36 months old, due to freshen same time. We have a nice selection of young calves, male and female.

McINTYRE BROS.
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Firshade Farm Dual Purpose Shorthorns

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Rothesay, N. B.

Special Offering

Maple Green Farm Holsteins

On account of the great shortage in the supply of milk in our home town, we have decided (with regret) to dispose of our entire crop of Bull and heifer calves.

If taken inside of the next 30 days will price them away below their value.

The Dams of these calves are now running in the R. O. P., and the last official test conducted by the R. O. P. inspector showed an average test of 4.62% fat for the lot.

All are sired by our 32.32 lb. herd sire "King Korndyke Johanna", whose Dam is a full sister to Canada's Champion R. O. P. cow, "Jemima Johanna of Riverside". Milk in 365 days 30373; butter in 365 days, 1280 lbs.

Phone or write.

R. L. HICKS
DALHOUSIE JCT., - - - N. B.

BARRED PLYMOUTH ROCK COCKERELS

From Bred-to-Lay Strain
Imported by New Brunswick Department of Agriculture, and from Breeders of Ontario Agricultural College stock. Three Dollars each for fall delivery.

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Lv Charlottetown	1.40 p.m.	"	"	..	"	"	"	"	"
Lv St. John	6.10 p.m.	"	"	..	"	"	"	"	"
Lv Moncton	10.05 p.m.	"	"	..	"	"	"	"	"
Lv Quebec	5.30 p.m.	E.T.	Su.	M.	Tu.	W.	Th.	Fri.	Sa.
Ar Cochrane	5.20 p.m.	"	M.	Tu.	W.	Th.	Fri.	Sa.	Su.
Ar Winnipeg	6.00 p.m.	C.T.	Tu.	W.	Th.	Fri.	Sa.	Su.	M.

TRAIN EQUIPMENT.—Standard Sleeping and Dining Cars between Halifax, and Levis (Quebec). Observation Parlor Car and Diner between Sydney and Truro. Parlor car St. John to Moncton. Standard Sleeper and Dining car between Quebec and Winnipeg; Tourist Sleeper between Cochrane and Winnipeg, Colonist car between Cochrane and Winnipeg.

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Lv Halifax	8.10 a.m.	"	M.	Tu.	W.	Th.	Fri.	Sa.	Su.
Lv Charlottetown	7.00 a.m.	"	"	"	"	"	"	"	..
Lv St. John	7.10 a.m.	"	"	"	"	"	"	"	..
Lv Moncton	2.25 p.m.	"	"	"	"	"	"	"	Su.
Ar Montreal	9.20 a.m.	E.T.	Tu.	W.	Th.	Fri.	Sa.	Su.	M.
(Bonaventure Dep.)									
Lv Montreal	10.00 a.m.	"	"	"	"	"	"	"	"
Lv Toronto	11.00 p.m.	"	"	"	"	"	"	"	"
Ar North Bay	7.50 a.m.	"	W.	Th.	Fri.	Sa.	Su.	M.	Tu.
Ar Cochrane	5.30 p.m.	"	"	"	"	"	"	"	"
Ar Winnipeg	6.00 p.m.	C.T.	Th.	Fri.	Sa.	Su.	M.	Tu.	W.
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TRAIN EQUIPMENT.—Standard sleeping cars and dining cars between Halifax, Sydney and Montreal—Toronto and Winnipeg—Winnipeg and Vancouver. Tourist sleeper between Toronto and Winnipeg and between Winnipeg and Vancouver. Colonist cars between Toronto and Winnipeg and between Winnipeg and Vancouver. Compartment Observation car between Edmonton and Vancouver.

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VIA MONTREAL, OTTAWA, PORT ARTHUR, FORT WILLIAM.

Lv Montreal	6.10 p.m.	E.T.	Tu.	W.	Th.	Fri.	Sa.	Su.	..
Ar Ottawa	9.30 p.m.	"	"	"	"	"	"	"	..
Ar Port Arthur	7.15 a.m.	"	Th.	..	Sa.	..	M.	..	..
Lv Fort William	7.05 a.m.	C.T.	"	..	"	..	"	..	..
Ar Winnipeg	9.45 p.m.	"	"	..	"	..	"	..	..
Ar Vancouver	9.00 a.m.	P.T.	Su.	..	Tu.	..	Th.	..	..
Ar Victoria	3.00 p.m.	"	"	..	"	..	"	..	..

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For time tables, passenger fares, and all further information apply nearest Canadian National Ticket Agent or:

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Importers and breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep

We are presently offering, one imported Clydesdale Stallion "Dunure Crag" sired by the famous breeding horse "Baron of Buchlyvie."

Also

One Canadian bred Clydesdale Stallion "Baron Cossar", rising 5 years old.

Further particulars on application.

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Eggs for Hatching from winners of P. E. I. Egg Laying Contest 1919, mated to Pedigreed Cockerels Imported from Oregon Agricultural College. Price $4.00 per 15.

Eggs for Hatching from high producing Pens, $2.50 per 15.

ELMHURST STOCK FARM

Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N.S.

When writing advertisers please mention the MARITIME FARMER.

500 CHEVIOT SHEEP FOR SALE

Consisting of 300 Breeding Ewes and 200 Lambs.

This flock located on the south shore N. S, has been bred up from native shore ewes and pure bred Cheviot rams until most of them now have only a sixteenth of blood not Cheviot. They pasture in the open, unhoused, upon the abundant feed of the headland ranges and barrens, summer and winter, requiring help in the way of rough hay only and that only on rare occasions when deep snow remains on the ground for any length of time. Among them are many exceptionally fine hardy breeding ewes and from the lambs of this year excellent service rams can be selected. The purchaser by arrangement can have until January 1st, 1922, to remove them with free use meanwhile of the ranges, houses and necessary equipment. If purchased for slaughter, beginning with yearlings now ready for market, the whole flock will be in condition upon pasturage alone to market before next January, except a few backward lambs which either will do for feeders to be disposed of during the winter or may be left over to market next year.

For further particulars and inspection inquire of

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July 20th, 1920.

Poland China Swine

See my exhibit of Poland China Pigs at St. John and St. Stephen Exhibitions. I have three litters for sale at $12 each. Be sure and see me and get one or more.

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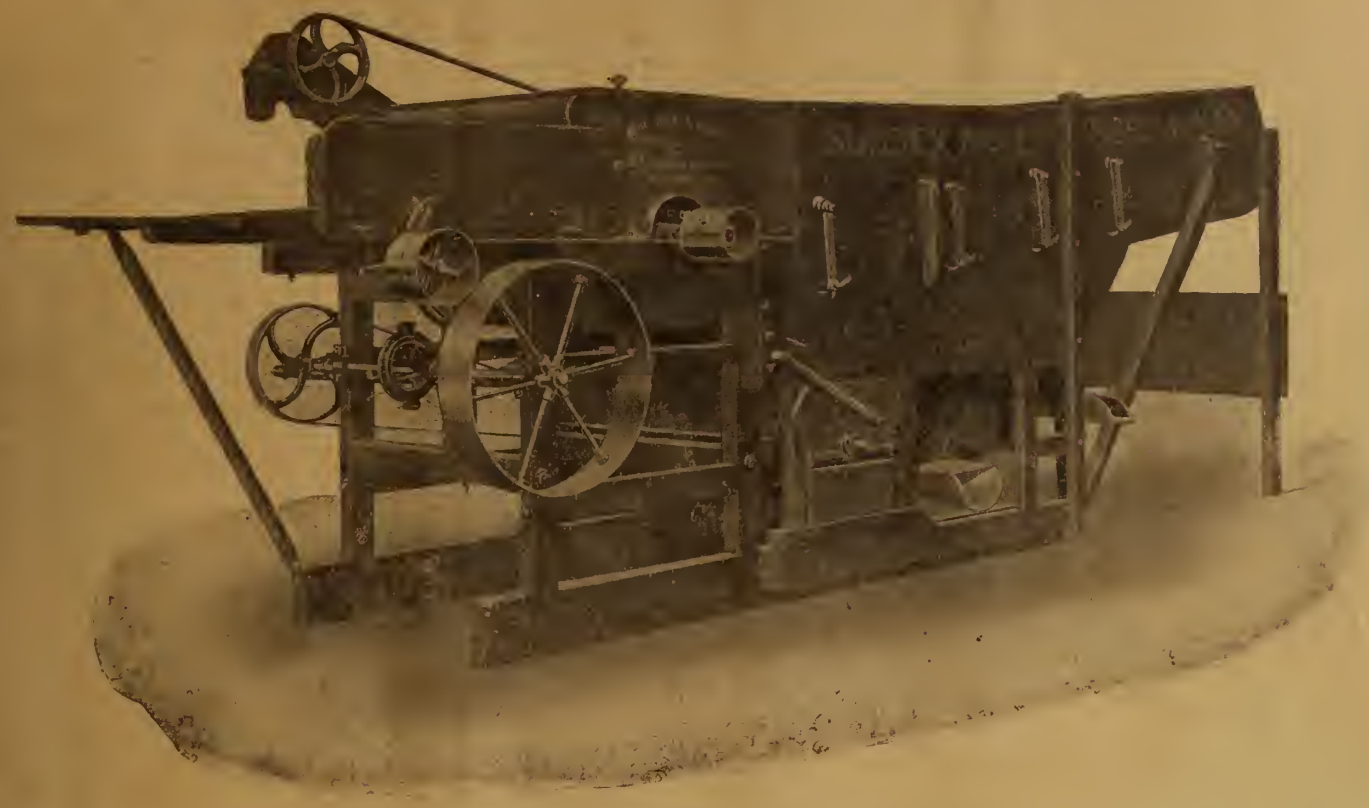

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Present offering: one bull two years old, two aged seventeen months Also a number of younger ones. Females any age. This herd is bred for production having the combined strain of "Jean Armour" and "White Heather"

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Phone 111. - - - - Sussex, N. B.

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Herd sire, AVONDALE PONTIAC ECHO (under lease) a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada.

We have young bulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows: and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam. Send for our BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop 55, Yon e St. Radial) JEFFERSON, ONT

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We are offering for salo calves of both sexes, sired by Dutchland Pieterje Count, a bull of splendid size and type, whose four nearest dams have records averaging 28.61 pounds of butter in seven days. His dam is a daughter of Colantha Johona Lad, who was 101 A. R. O. daughters a over 32 lbs., 7 over 30 lbs., three of them world's records for 365 days. If you want something choice. come and see these calves or write for further particulars.

☞ We will also book orders for young Yorkshire pigs for the next spring's delivery.

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Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - CANARD, N. S

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We have a number of fine young registered bulls, to offer. They are sired by Prince Colanthas Canary B., and out of good producing dams.

We can make prompt shipment. Correspondence invited.

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Have 4 good bulls fit for service, that are well grown and are extra choice individuals, and out of gold, big, heavy producing cows. Also 4 or 5 good bull calves from one to two months, as well as a few good heifers ready to breed, and some already bred to Sir Johanna Ormsby of Hickory, whose dam has a yearly official record of 22,159 lbs. milk asd 971.25 of butter in 365 days. For description and prices write, or come and see our herd.

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EXTRA SPECIAL—I recently imported several Tuberculin Tested R. O. M. daughters of "Sir Lyons Segis" whose six nearest dams average over 30 lbs. butter each in seven days. These cows have in turn been bred to "Riverdale Lyons Echo Posch" whose dam, grand-dam and great grand-dam and dam's sister average officially 34 lbs. butter each in seven days. Am offering young bull calves of this remarkable combination of breeding and will sell a beifer calf or two. Get your orders in quick, they won't be here long.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

FOR SALE

We have to offer a nice bunch of Shorthorn bulls and heifers ages 1 to 3 years.

Also span 4 year old horses, span 5 year old horses span of brood mares and a choice drive

For further particulars apply to

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AYRSHIRES BULLS!

fit for service, bred from heavy producing stock.

FRED S. BLACK & SONS,
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Chester White Pigs for Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

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GUERNSEYS!

For Sale—Registered stock. Male or female.

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High grade registered stock Of for sale

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Graduate of University of Toronto and Ontario Veterinary College, 1910.

Treatment of diseases of all domestic animals.

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'Phones, Office 979, Residence 1079

FOR SALE

Two yearling Gurnsey bulls, well grown, and good pedigree, $50 each. Two yearling heifers, very promising. Two young cows, four and five years old. These cows are good in every way and due to freshen in a month or six weeks. A splendid heifer calf. All registered Guernseys.

SARAH E. M. SMITH,

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AYRSHIRE CATTLE. KARAKULE-ARABI SHEEP

We are offering two Ayrshire Bulls, ages 9 and 14 months. They are from big producing dams. Prices very moderate.

We are also offering Karakule-Arabi rams and ewes, producers of the finest Persian Lamb Fur.

For particulars and prices write

THE EASTERN KARAKULE-ARABI SHEEP CO., LTD. WINDSOR, N. S.

Columbia Grafonolas

All the Music of All the World

JOLLY, rollicking Irish jigs, the hurrying skirl of Highland pipes, plaintive songs of plantation days—all the music of all the world is yours on the Columbia Grafonola.

There's an irresistible fascination in these picturesque melodies of other lands that you find on Columbia Records. The glad, gay songs of gallant France, Italy's moonlit music, fandangos of sunny Spain, the ballads of old England that generations have loved and sung.

All these and more this versatile, melodious Grafonola brings to your home. Just a big jolly friend who knows all the songs you like best. His mellow voice brings out new beauty in any music—he wants to bring the beauty of new music to your home.

New Columbia Records out the 10th and 20th of every month.

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The
MARITIME FARMER
AND CO-OPERATIVE DAIRYMAN

REGISTERED TRADEMARK

Published Fortnightly in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 25 SUSSEX, N. B., SEPTEMBER 28, 1920 No 26.

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Back to Better Baking

BACK to the delicious white bread of pre-war days --- the tasty, cakes and light, flaky pastry we have gone so long without. They are possible now once more when you use

"High Patent"

PURITY FLOUR

For All Your Baking

Western Canada Flour Mills Co., Limited

Winnipeg Toronto Calgary

Why Canada Needs a Protective Tariff

Summary of Statement submitted to the Committee of Cabinet Ministers at Winnipeg, on September 14th, by the Canadian Manufacturers' Associatiou.

ACCORDING to the Dominion Census, about 700,000 people are employed in the factories of Canada. Including their families, the number of persons who depend for their living on the wage rolls of Canadian factories number 2,000,000. In addition there are probably half as many more wholesale and retail traders, professional and business men and others who derive the chief part of their incomes indirectly from industrial establishments. Moreover, as about 80 per cent. of the total annual produce of Canadian farms is consumed in Canada, chiefly by the people living in towns and cities, farmers are also vitally concerned with industrial conditions.

Any civilized country that aspires to greatness must be strong in the following departments of national activitiy; agriculture, manufacturing, transportation and finance. Purely agrarian countries have never reached any degree of greatness; purely industrial countries cannot exist; both manufacturing and agriculture are helpless without the machinery of finance and transportation systems to carry produce.

What part does the factory play? Remove the factories and imagine the effect on the wholesale and retail trade, on the banks, on the financial and brokerage houses, on real estate, on the professional men, on the tax-collecting departments? In the majority of Canadian cities and towns the factories are the direct or indirect cause of a very considerable part of business transacted; because the welfare of many allied activities depends on the ebb and flow of the factory output, the buying capacity of the factory purchasing department and the spending of the factory payroll. Strike at the factory and you strike at nearly every one in the city or town. Strike at the city or town and you strike at the agricultural population surrounding the city or town, for cities and towns use the produce of the farms, while the cities and towns in their turn supply the farms with most of those luxuries, comforts and necessities which are part of civilized existence.

Nearly every family in Canada, directly or indirectly, is benefited by industrial prosperity and injured by industrial depression.

The Principal of Protection.

As the Canadian Customs Tariff has not been revised since 1907, revision is now overdue. After careful investigation, it may be found that the rates of duty on some articles are too high and will consequently be lowered; or, in certain other cases, that the rates of duty are too low and will consequently be raised; or, in other cases, that the rates of duty will be considered fair and remain unchanged. But all tariff revisions are governed by a guiding principle, and this principle must be either the policy of protection or the policy of free trade. The term "tariff for revenue" is misleading because a tariff of even 10 per cent. on an article produced in Canada yields revenue and also affords a small degree of incidental protection.

In presenting this statement, therefore, the Canadian Manufacturers' Association respectfully begs to reaffirm its advocacy and support of the policy of adequate protection for Canadian industry (the policy which has been maintained since 1878 in Canada by all political parties that have held power).

Moveover, the Association pledges its support to any measure which will hasten the adoption throughout the British Empire of substantial customs preferences for Empire products, corresponding to the preferences now provided in the Customs tariff in Canada.

Definition of Protection.

The objects of the protective system in Canada have been and should continue to be,—

(1) To diminish, as far as possible, the importation of goods from foreign countries which can be produced at home.

(2) To facilitate the importation of raw materials for manufacturing processes, which cannot be produced at home.

(3) To encourage the exportation of Canadian goods as finished products.

(4) To make Canada self-contained by developing and encouraging within her boundaries all legitimate activities that will give occupation to Canadian citizens.

The protective system is, above all things, a national system. The country is the unit. It aims to make the individual country strong in all vital departments of activity. If it were founded on any other basis it could not survive, and the only reason that the protective system has been in operation in practically all civilized countries for several centuries, with a few intermittent exceptions, is that the system safeguards and develops the resources and prosperity of the great majority of the citizens of each country.

* A copy of the full statement may be had on application to any office of the Canadian Manufacturers' Association.

A FEW REASONS

Why Canada should retain the present fiscal policy of adequate protection for Canadian agriculture, industry, labor and business.

1. Canada has shown wonderful growth in agriculture, manufacturing, forest protection, mineral production, transportation, banking, insurance, and other business since the adoption in 1878 of the National Policy of adequate protection for all classes.

2. Because Canada was strong in all departments of national activity, she made a great record in the war.

3. Since the war practically all civilized countries have retained or increased their protective tariffs.

4. Over 2,000,000 Canadians are supported by wages paid by Canadian factories.

5. Over 80 per cent. of all the produce of Canadian firms is consumed in Canada.

6. The tariff has caused over 600 branches of United States factories to locate in Canada.

7. The tariff provides a great portion of the revenue of the Dominion Government.

8. The present tariff of Canada is very moderate; tne average rate of duty on all dutiable importations is 22½ per cent.; the average rate of duty on all importations, free and dutiable, is only 14 2-3 per cent.

9. Canadian products should not be exported in the raw state but should be manufactured in Canada in order to create business, provide employment and add to the national wealth.

10. Canada has maintained a protective tariff for 42 years. The United States, our greatest competitor, has maintained a protective tariff for 131 years. Their manufacturers have a home market of 105 million people. Our manufacturers have a home market of about 8 million people. Last year each inhabitant of the United States bought, on the average, $4.41 worth of Canadian goods, while each Canadian, on the average, bought $100.26 worth of United States goods. United States purchases from Canada were largely raw material. Canadian purchases from the United States were largely manufactured goods. Is it surprising that the rate of exchange is against Canada and that our dollar is at a heavy discount in the United States? This is the situation with a Canadian tariff. What would it be if the tariff were removed? Remove the tariff, and in the words of ex-President Taft, Canada will become "an adjunct of the United States."

11. The destiny of Canada is a fully developed nation within the British Empire.

The Tariff.

The tariff protects domestic industry by increasing the difficulty of importing competing products; in the second place, it secures revenue for the Government; and in the third place, it can be used either as a weapon against any foreign country that is using discriminatory methods, or to bargain with a foreign country for tariff concessions that will open desirable markets for Canadian products. Consequently, the tariff, being the chief instrument which maintains the protective system in operation, cannot be suddenly changed or abolished without at the same time changing or abolishing the protective system.

Support of the protective principle should not be confused with advocacy of a high tariff. The Canadian Manufacturers' Association has never advocated a high tariff; and does not advocate a high tariff now; but it is a conservative statement of fact to say that the Canadian customs tariff as it stands today is not a high tariff and that in comparison with tariffs of other countries it is very moderate.

During the year ending March 31st, 1920, the average rate of duty on all dutiable importations, less the customs war tariff collections, was 22½ per cent.

The average rate of duty on all importations, free and dutiable, after deducting the customs war tariff collections, was 14 2-3 per cent.

On the 18th day of May, 1920, the customs war tariff rates were completely removed by Parliament. Surely it is reasonable to say that the average rate of duty of 22½ per cent. on all dutiable importations and the average rate of duty of 14 2-3 per cent. on all importations, dutiable and free, now imposed by the Canadian Customs Tariff, constitute a moderate tariff.

The World Tendency Towards Protection.

Fiscal policies of countries are inter-related and swing together like a pendulum towards protection at one period and towards free trade at another period. This fact is significant because the present swing of the world pendulum is strongly towards protection.

Following the armistice, industrial countries, especially those that had been engaged in the war, took precautions to safeguard their home markets against a deluge of foreign goods, in order that their demobilized soldiers and war workers could secure employment in their own countries. The United Kingdom, notwithstanding statements to the contrary, is not a free trade country. She now applies various protective duties, and has a measure before Parliament designed to prevent dumping, arising from exchange depreciation or other causes. During his budget speech in the House of Commons on April 19th last, the Honorable Austen Chamberlain, Chancellor of the Exchequer, stated that the United Kingdom had raised during the year ending March 31st, 1920, the sum of £149,360,000 from customs duties imposed on goods imported into the United Kingdom That is, every resident of the United Kingdom paid a customs tariff on the average of about $16 last year. In Canada last year the average per capita tariff tax, including the war tariff, now removed, was about $23, or without the war tariff, about $19.50. Yet, some people describe Great Britain as a free trade country and Canada as a high tariff country.

The business men of Great Britain realized early in the war that steps must be taken upon the cessation of hostilities to protect British industries and various committees have reported to the British Parliament recommending a measure of protection for British industries.

France increased her tariff rates during the past year, on most goods, by amounts varying from ten to three hundred per cent.; and as late as April 28th, 1920, she announced a new and extensive list of prohibited imports. Italy, Switzerland, Austria, Spain, Roumania and the Balkan States have made general increases in their tariffs. Recent despatches show that still higher protection is being provided in most of these countries, and especially in France, Italy and Spain. Japan has now in operation a high protective tariff.

In South America, all countries have tariffs designed not only for the purpose of producing revenue, but also to provide for a reasonable measure of protection for home industry. The average rate of duty on all importations, both free and dutiable, for these countries, for 1913, the latest year for which statistics are obtainable, follow:—

Countries.	Average ad valorem duty on Imports per cent.
Argentina	20.8
Brazil	35.9
Bolivia	17.1
Chile	19.9
Ecuador	36.6
Paraguay	31.1
Peru	21.9
Uruguay (1912)	36.2
Venezuela	46.7

The following clause was adopted by the National Republican Convention of the Republican Party of the United States, at Chicago, June 10th, 1920:—

"The uncertain and unsettled conditions of international balances, the abnormal economic and

trade situation of the world, and the impossibility of forecasting accurately even the near future, preclude the formulation of a definite programme to meet conditions a year hence. But the Republican party reaffirms its belief in the protective principle and pledges itself to a revision of the tariff as soon as conditions shall make is necessary for the preservation of the home market for American labor, agriculture and industry."

A tariff was introduced in Australia on March 24th, 1920, which is highly protective in character. All British countries outside the United Kingdom, have tariffs that are protective in character, with the exception of certain Eastern countries, such as India and the Straits Settlements, which impose duties on certain imports for revenue.

Official records show that there is not in the world today one country making any pretensions to industrial development that is without a protective tariff.

This Dominion's tariff legislation, designed for national development, must be affected by the fact that every great industrial nation today throughout the world has erected protestive tariff barriers against the exploitation of its markets by other nations. Were our customs tariff removed whilst other countries maintain and strengthen theirs, our markets would be filled with the overflow goods from protected foreign countries, while our goods would be largely shut out of foreign markets. This would so reduce the markets of our factories as to raise Canadian productive costs above a competitive basis; and many of them would be compelled to cease operations.

Growth of Canada Under Protection.

The best way to determine whether or not Canada has flourished under the policy of adequate protection for Canadian industry is to study the statistics, not for one industry, but for all the great basic industries, and see how they have developed since 1878. Consider first the total trade of Canada. The following table shows that since the introduction of the National Policy, our total trade has multiplied by sixteen times:

Fiscal Year.	Total Trade.
1879	$149,489,188
1920	2,351,174,886

Agricultural production in Canada has flourished as the following statistics indicate:—

Year	Field Crops	Other Farm Produce	Total Production
1900	$194,953,420	$169,953,446	$364,906,866
1919	1,452,437,000	523,404,000	1,975,841,000

The national output of wheat has grown as follows:—

Year	Bushels
1870	16,732,873
1919	193,260,400

Manufacturing has shown a similar extraordinary advance

Manufacturing Industries.

Year	Capital Invested	Employees	Value of Products
1881	$165,302,623	254,935	$309,676,068
1917	2,786,649,727	692,067	3,015,577,940

The products of the forests, of the mines and of the fisheries and the volume of banking and insurance business have shown the following great increase in values under the National Policy:

FOREST PRODUCTION.

Year	Log Products and Wood Pulp
1881	$39,540,570
1919	140,381,584

MINERAL PRODUCTION.

Year	
1889	$14,013,113
1919	173,075,913

FISHERY PRODUCTION.

Fiscal Year.	
1879	$13,529,254
1918	60,243,429

CHARTERED BANKS.

Year	Paid up Capital and Reserve
1888	$79,218,565
1919	243,912,111

Year	Total Bank Deposits by the Public in Canada
1878	$71,900,195
1919	1,841,478,895

AMOUNT OF LIFE INSURANCE POLICIES IN FORCE.

Year, Dec. 31st.	Amount.
1878	$84,751,937
1919	2,187,833,396

AMOUNT OF FIRE INSURANCE POLICIES IN FORCE.

Year, Dec. 31st.	Amount.
1878	$409,899,701
1919	4,904,396,461

Since 1878 the composition of our population has changed. Then the great majority of the people were engaged in farming, lumbering and fishing. There was comparatively little business activity and those who could not be employed in the above industries were forced to emigrate with the result that some millions of Canadians are living in the United States today who would never have left Canada if opportunities for employment had been available. After 1878 the industrial system of Canada began to develop until today it directly supports 2,000,000 Canadians, and in addition, yields indirect opportunities to several millions more.

Transportation.

In 1879, the year after the adoption of the National Policy, there were only 6,484 miles of steam railways in Canada. A glance at the following table will show a great increase in the mileage, in the amount of freight carried, and gross earnings:—

	1879	1889	1899	1909	1919
Miles in operation..	6,484	12,628	17,141	24,104	38,896
Tons of freight....	8,348,310	17,928,626	31,211,753	66,842,258	116,699,572
Gross earnings.....	$19,925,066	$42,149,615	$62,243,784	$145,056,336	$382,976,901

The railways opposed the reciprocity agreement in 1911 with the United States on the ground that such an agreement would build up north and south traffic at the expense of east and west traffic, and would depreciate the value of the huge investments in our transportation systems.

This is even a more important question than it was in 1911, because the Government now owns two out of the three transcontinental railways, and will have to pay deficits out of general taxation.

The organization of the Canadian Government Merchant Marine marks a new period in the history of the country's development. The first vessel was commenced in May, 1919, and by the end of the year, twenty-two ships ordered by the Government were completed. It is expected that by the end of 1920, sixty ships will be in commission. These ships were built in Canadian shipyards, largely from Canadian materials, and by Canadian workmen. The outfitting of these vessels is done in Canadian ports and with Canadian goods. They are manned chiefly by Canadian seamen, and are now carrying Canadian goods abroad.

British and Foreign Capital Invested In Canada.

One of the most remarkable developments attributable directly to the adoption of the protective system in Canada, is the investment of British and foreign capital in this country. At the present time there are over 600 branches of United States' factories in Canada, employing about 87,000 people and representing invested capital of about $400,000,000. While a few of these concerns might have come to Canada if there had been free trade, it is an absolute fact that the great majority came to Canada be the Canadian Customs Tariff stood as a partial barrier to the importation of products manufactured by the parent concerns in the United States. Although the number of branches of British factories established in Canada is small in comparison with the number of United States' branches, as against this, according to Sir George Paish's estimate in 1911, the sum of $1,860,000,000 of British capital was invested in Canada at that time, a considerable proportion of which was invested in manufacturing enterprises.

Growth of Canadian Agriculture.

The Canada Year Book of 1918, published by the Dominion Bureau of Statistics, Trade and Commerce Department, gives interesting statistics in regard to Canadian agriculture. On page 219 of this volume, the following extract appears:—

"If to the estimated value of agricultural production in 1917, viz., $1,621,028,000, be added for land, $2,792,229,000, for buildings, $927,548,000, for implements, $387,079,000, and for live stock $1,102,261,000, the total estimated agricultural wealth of the Dominion of Canada for 1917 amounts to $6,830,145,000."

That was Canada's agricultural capital in 1917.

Realizing the importance of agriculture, the Dominion and Provincial Governments have given special attention and substantial financial assistance to this basic industry.

Of recent years the money appropriated for railway extension has been spent almost entirely with the intention of providing better facilities for the agricultural communities, and possibly no commodity carried by the railways of Canada enjoys a better rate than farm grains.

All these measures are sound, and consistent with the doctrine of protection, because they are designed to stimulate and safeguard the great basic industry of agriculture.

Replies to Free Trade Arguments.

Free trade arguments are being used today as the spear head of the attack against the protective system in Canada. It may be that many who use the free trade arguments do not believe in them, and are merely trying to create a diversion from which they may profit. But, since these free trade arguments are being used to attack the National Policy, it is necessary to show why they cannot be applied profitably to Canada.

One of the chief free trade arguments is to belittle the value of the home market, especially to farmers. It is stated that Canadian farmers sell their products in an open market where the prices are fixed by international competition, and that they buy what they need in Canada which is described as a closed market. For 1919 the gross value of the agricultural production of Canada has been officially estimated at $1,975,841,000. During the same year, exports of unmanufactured farm produce were valued at approximately $315.000,000, or if butter and cheese be included, at a little over $361,000,000. In other words, only between 16 and 18.5 per cent. of all the produce of Canadian farms was exported in the unmanufactured state while between 81.5 and 84 per cent. was marketed in Canada.

The home market under normal conditions is a constant market. In a country where the population is steadily increasing it is a growing market. The foreign market or open market is an uncertain market. It may be lost entirely through war. It may be restricted through legislation or economic causes.

It is natural that the argument about selling in foreign markets and buying in protected markets should be most strongly urged in Western Canada, where grain is grown for export. But the conditions of agriculture are changing very rapidly in Western Canada. Not so many years ago wheat was the principal source of farm revenue in Ontario. What is the case now? Figures for the year 1917 show that wheat constituted 5 per cent. of the total value of the farm produce of Ontario.

Roughly speaking, a new country starts growing wheat and gradually develops into mixed farming, and the progress of the Prairie Provinces away from the wheat growing stage to the mixed farming stage has already reached extensive proportions.

The increase in farm live stock betweeen 1911 and 1916 in the Prairie Provinces is set forth in Table 18, page 195 of the Canada Year Book, 1918.

Prairie Provinces	Increase per cent.
Horses	54
Milch Cows	69
Other Cattle	47
Total Cattle	53
Sheep	73
Swine	91
Poultry	23

The growth of industry in Manitoba, Saskatchewan, and Alberta is also extraordinary. In 1900 the value of goods manufactured in these three provinces was a negligible quantity. For the present year a very conservative estimate would place the value of the goods manufactured in the three Prairie Provinces at $300,000,000. In 1900 there was not a single member of the Canadian Manufacturers' Association located West of the Great Lakes. At the present time there are seven hundred,—five hundred of these in the Provinces of Manitoba, Saskatchewan and Alberta. In fact Western Canada is becoming rapidly industrialized,—the industries which have made the greatest strides being milling, packing, steel and iron, clothing, textiles, building and paper.

The Canadan home market that absorbs farm produce is the population of the cities, towns and villages. Analyze city, town and village, and it will be found that a considerable part of the activities of their inhabitants has its origin and existence in the factories. Manufacturing is the life blood of wholesale and retail trade, transportation, professional practice, and commercial enterprises. Business clusters around the factory. Close or restrict the factory and business dwindles and the home market declines.

Another free trade argument is that under the protective system industry is developed at the expense of agriculture.

Taking the Canada Year Book's estimate of the agricultural capital of Canada in 1917 of $6,830,145,000, and dividing this sum by the number of farms in Canada, given by Government statistics as 730,000, we find that the average capital per farm was $9,356. Moreover, our industrial development has not caused any undue depopulation of the rural areas. In 1911 the rural population of Canada was 54.47% of the total population. This is a marked contrast to Great Britain, where the rural population was 49.8% of the whole when free trade was adopted in 1846 and had fallen to 21.9% in 1913.

It is also argued that. as Canadian manufacturers during the war produced munitions which compared favorably with those produced by other countries, they do not need protection now. This argument ignores the extraordinary conditions governing the munition industry. There was no competition. The price of munitions was fixed and calculated to yield a reasonable margin of profit where the business was efficiently conducted. The work was done to standard specifications. No selling force was required; because the market took all the supply. More important still, Canadian manufacturers secured the opportunity to manufacture in large quantities. That is the pressing need to day, and the home market is necessary to supply it.

It is also argued that protection causes combines.

Proper trade organizations produce greater efficiency, better quality and lower prices. Improper organizations can be prosecuted under existing laws. In any case, industrial combination has not reached undue proportion to date in Canada. The census places the number of manufacturing establishments at about 35,000, although this includes concerns which can scarcely be called factories. As the number of factory employees is estimated at about 700,000, the average number of employees per industrial establishment in Canada is about twenty.

A more serious charge is that Canadian manufacturers take undue advantage of the tariff, for example, by adding freight and duty to selling price of competing products in fixing their own selling prices. We do not defend such practice, but we submit that specific charges should be made against the offenders rather than general statements against all manufacturers, or against the protective system.

We beg to draw attention to an unfair method of attacking manufacturers, and through them, the protective system. A few manufacturers who have enjoyed marked prosperity are singled out. They are attacked in a sensational manner in the press and on the platform. Their profits for particularly successful years are advertised. Their financial statements are analyzed unfairly. No attempt is made to average the lean years with the good years. No tribute is admitted to efficiency, economical management, or unusual business ability. These outstanding examples of prosperity are held up to the public as a general condition of entire industries.

This method of argument is as unfair as it would be to hold up some phenomenal case of profitable farming or a lucky strike in mining as an example of how agriculture or mining pays generally.

A recent survey of the shoe manufacturing industry shows, first, that a very considerable number of firms have tried to succeed in this industry but have become bankrupt, and, second, that the average return on the capital invested in the shoe industry was 5.29 per cent. per annum. Dun's estimate of failures of Canadian manufacturing firms for the years indicated are as follows

Year.	No. of Failures of Mfg. Firms
1918	232
1915	655
1908	426

This is the other side of the story.

For the year ending March 31st, 1921, the Minister of Finance, in his budget speech, estimated that Canada's balance sheet will be:

Estimated expenditure (including capital outlays)	$549,649,428
Estimated revenue	381,000,000
Estimated deficit	$168,649,428

Adopt free trade, lose the customs revenue, which he estimated at $167,000,000, and the deficit will be $335,649,428.

Those who would abolish the Canadian customs tariff and thus lose the revenue which it produces, suggest that this revenue should be replaced by the imposition of the following taxes—a direct tax on unimproved land values and natural resources, increased taxation on personal incomes, increased inheritance taxes, and increased taxation on corporations. As to taxing unearned increment as such, no objection is offered, but it must be remembered that vacant land now pays taxes to the municipalities and in some provinces additional taxes to the provincial government. In fact, much vacant land has been given up by the owners in preference to paying the taxes now imposed. Income taxes are now paid by individuals to the municipalities and also the Dominion Government. Inheritance taxes are now imposed by all the provinces. Corporations are taxed as persons by municipal governments, provincial governments, and the Dominion Government, and also pay special taxes to every province for the privilege of being corporations. It is submitted that the suggested forms of direct taxation, while capable of some extension, cannot produce in one year the huge sum of $335,000,000 (or almost the present entire revenue of Canada).

The fact that the per capita amount of revenue raised by the tariff is greater in Canada than in the United States is often used as an argument that the Canadian tariff is too high. The explanation of the fact is simple. The United States imposes a high tariff on imports which compete with domestic products. But, because the United States has built up home industry by constantly adhering to the protective principle for 131 years, comparatively little is imported. Consequently, the amount of duty collected is smaller per capita than in Canada, not because the United States duties are lower, but because the volume of imports is comparatively much smaller.

United States Competition,

The United States, with a population of 105,000,000 buys from this country of 8,000,000 people only about one-half the value of the goods which it sells us. Our exports to the United States and imports from the United States for various years since 1907 follow:—

VALUE OF IMPORTS FROM UNITED STATES.

Fiscal Year.	Amount.
1907 (9 mos.)	$155,943,029
1912	356,354,478
1917	677,631,616
1920	802,096,817

VALUE OF EXPORTS TO UNITED STATES.

Fiscal Year.	Amount.
1907 (9 mos.)	$79,021,480
1912	120,534,634
1917	486,870,690
1920	464,029,273

Last year each inhabitant of the United States bought $4.41 worth of Canadian goods, while each Canadian bought $100.26 worth of United States goods. Significant also is the fact that our purchases from the United States were largely in manufactured goods while their purchases from Canada were chiefly raw material. It is not surprising that the rate of exchange is against Canada and that our money is at a heavy discount in the United States. This is the situation with a Canadian tariff. What would it be if the tariff were abolished? Canada, in competing with the United States, operates at present under certain disadvantages which may be summarized as follows:

1. The United States has maintained a protective tariff for 131 years; Canada for 42 years.

2. The United States has a more highly organized industrial system, supported by immense wealth.

3. The United States manufacturers are guaranteeed their home market of 105,000,000 people, guaranteeing a large output and specialization.

The Canadian home market of 8,000,000 has already been seriously invaded.

4. The United States has comparatively a greater labor supply.

5. The Customs regulations of the United States discourage Canadian imports while the customs regulations of Canada encourage United States imports.

Briefly, we cannot manufacture extensively in Canada at the present age and stage of our industries, unless these industries are given protection against the industries of the United States. We have two choices. We can abolish our tariff and allow the United States to manufacture for us, while we produce raw materials for them, or we can persevere in our determination that Canada shall continue to develop as a manufacturing country as well as an agricultural country.

In Europe there is a well known phrase "peaceful penetration." Translated, this means the domination of a small country by a big country. The small country, it is true, often keeps the forms of national independence after freedom has departed, and remains bound in fetters of financial and commercial subservience.

During the reciprocity campaign of 1911, ex-President Taft and the late ex-President Roosevelt were agreed that reciprocity would be a good thing for the United States. They wrote confidential letters to each other on the subject; then came the quarrel over the nomination for the Presidency and the correspondence was published by ex-President Taft on the 25th of April, 1912, at Boston, Mass.

In a letter from ex-President Taft to the late ex-President Roosevelt, the following extract occurs:—

> "The amount of Canadian products we would take would produce a current of business between Western Canada and the United States that would make Canada only an adjunct of the United States. It would transfer all their important business to Chicago and New York, with their bank credits and every thing else, and it would increase greatly the demand of Canada for our manufactures. I see this is the argument made against reciprocity in Canada, and I think it is a good one."

In his reply, the late ex-President Roosevelt stated: —

> "It seems to me what you purpose to do with Canada is admirable from every standpoint. I firmly believe in free trade with Canada for both economic and political reasons."

Those who do not believe Canadians when they point out the danger that free trade or a lowering of the tariff would bring to Canada, will perhaps believe such men as ex-President Taft and the late ex-President Roosevelt.

The above references to the United States are made in a friendly spirit. A certain amount of trade between the two countries is necessary and most desirable. But the people of the United States will appreciate the natural desire of Canadians to promote their own national development, while maintaining with the United States the most cordial relations.

Conservation.

There are two courses we can pursue in regard to our natural resources. We can plunder these resources and ship the raw or partly finished products out of the country to other countries, which will take these materials, manufacture them and sell them back to us in the shape of finished articles at greatly enhanced prices. The other course is to conserve, to manufacture in Canada not only the preliminary processes, but also the succeeding processes and export the products in a finished state. Under the first plan, for example, we would export our timber, ores and pulpwood. Under the second plan we would manufacture them into highly finished products for domestic and foreign consumption. Under the first plan only a limited amount of rough labor would be necessary. Most of the business connected with the processes of further manufacture, affecting banking, transportation and insurance, would go to enrich other countries, and part of our own population would be forced to emigrate in search of employment. Under the second plan we would carry these processes of manufacturing to the highest stage here, providing employment and creating business. The first plan is free trde. The second plan is protection.

Preferential Tariffs Within the British Empire.

On the whole, prospects seem bright for the general extension of British preferential tariff systems throughout British countries. Such an arrangement amongst British Overseas Dominions would correspond with the policy followed between the United States and United States overseas countries, including Cuba. A similar policy is followed toward their respective possessions by France and Italy, and was followed by Germany.

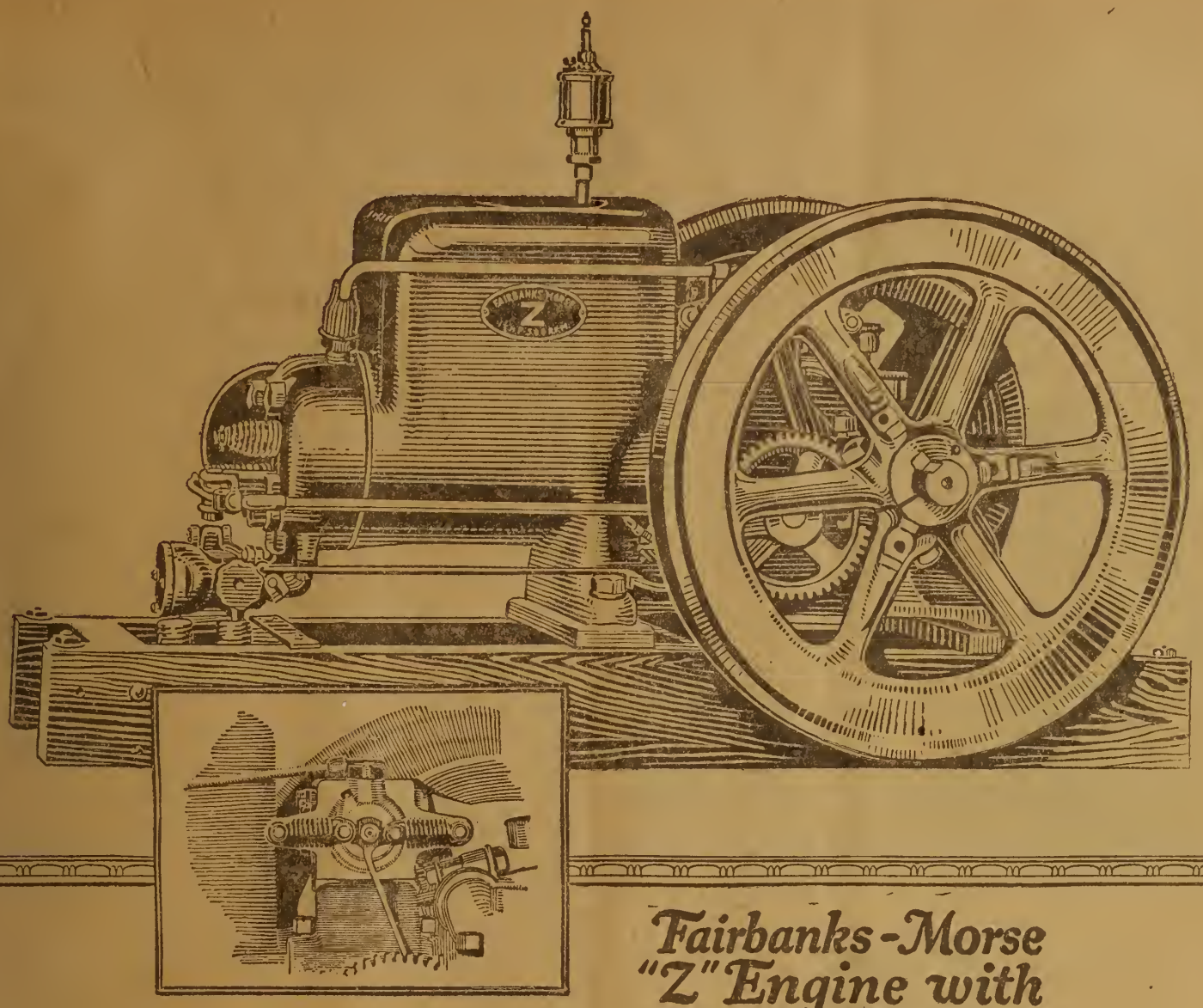
Canadian Factories in the War.

Shortly after the beginning of the war the Canadian factory system was practically put on a war basis, and munition making was organized. How Canadian factories succeeded in war manufacturing is illustrated by the following statement from the report issued by the War Cabinet and presented to the Imperial Government. "The manufacturing resources in Canada have been mobilized for war production almost as completely as those of the British Isles." Munition work was done chiefly under the control of the Imperial Munitions Board—which placed orders in Canada amounting to $1,200,000,000. At the peak of operations betweeen 250,000 and 275,000 workers were employed in making munitions including shells, parts, 64 wooden ships, 44 steel ships and 3,000 aeroplanes. At the same time Canadian factories largely supplied the Canadian people at home and the Canadian army abroad. About half the Canadian army came from the factories and half returned to the factories on demobilization. If we had not built up a factory system and allied business, if our manufacturing and business had been done for us largely by other countries, then Canada could not have sent as many men to the war, could not have supplied shells, ships and aeroplanes, could not have given large financial aid, and could not have absorbed her demobilized soldiers.

Conclusion.

In the course of this statement an effort has been made to show that manufacturing in Canada is inseparably connected with other industries; that two million wage earners and dependents secure their living through manufacturing, and that the most of the remainder of the population derive indirect benefits; that this country as a whole has made remarkable progress under the National Policy of protection; that, with the entire world swinging towards protection, Canada cannot relinquish it; that the revision of the tariff should be scientific and take into consideration the requirements of all classes, that a stable fiscal policy of protection with some assurance of permanence is a vital need; and, finally, that the aim of the fiscal policy determined as a result of this enquiry should be to advance Canada towards her destiny as a fully developed nation within the British Empire.

Issued by the Canadian Manufacturers' Association, Inc.



Fairbanks-Morse "Z" Engine with Bosch Magneto

Now-There is Only *One* Farm Engine

JUST think of the famous "Z" Engine with a Bosch high-tension, oscillating magneto—which delivers a steady succession of hot, intensive sparks. ¶ Every farmer in Canada should at once call on the nearest "Z" Engine dealer and see the result of this recent epoch-making combination—FAIRBANKS-MORSE "Z" ENGINE WITH BOSCH MAGNETO. ¶ Mechanical perfection, plus power—and right price—to date sold the "Z" Engine to over 250,000 farmers. ¶ This quality and quantity production enabled us to contract for a large proportion of the extensive Bosch facilities for making this one possible "Z" betterment, which establishes a new farm engine standard. ¶ And all Bosch Service Stations throughout Canada will assist our dealers in delivering maximum engine service.

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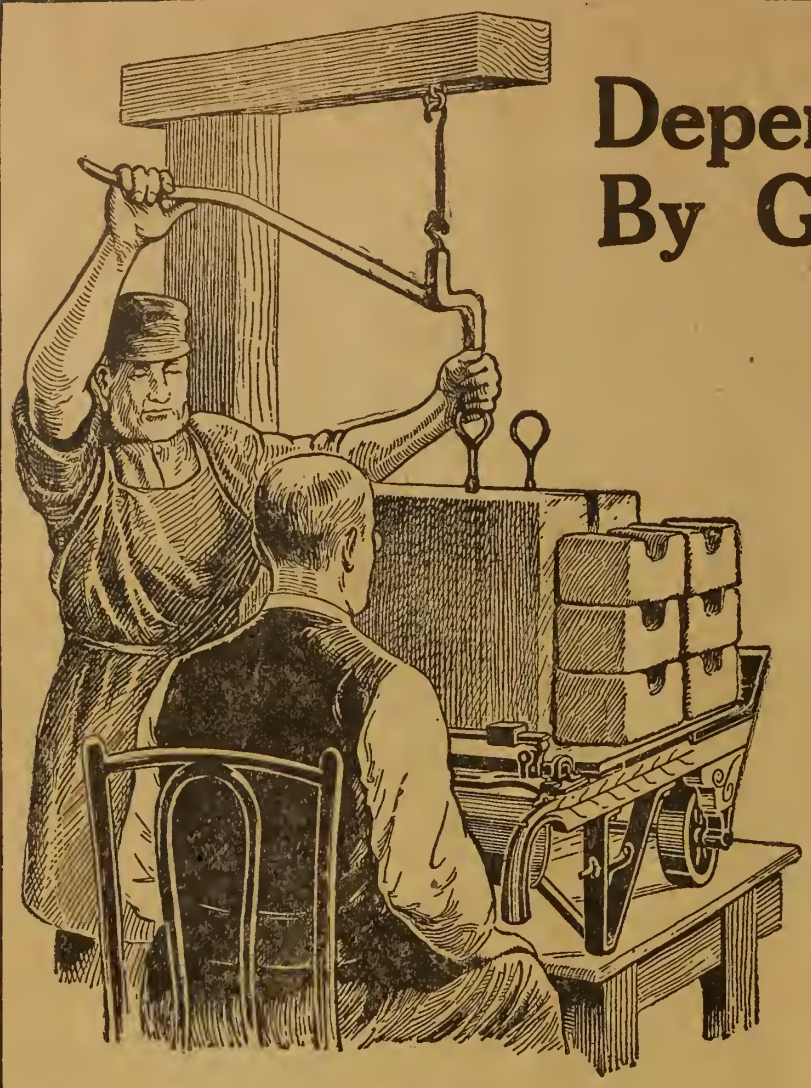
The Canadian

Fairbanks-Morse

Co., Limited.

43

HALIFAX ST. JOHN QUEBEC MONTREAL OTTAWA TORONTO HAMILTON WINDSOR
WINNIPEG SASKATOON CALGARY VANCOUVER VICTORIA



Dependability Assured By Government Test

THIS drawing is from a photograph taken while a Canadian Government inspector was testing a Renfrew Two Wheel Truck Scale. Every Renfrew Scale is tested thoroughly in this way. The slightest defect or inaccuracy means complete rejection for that scale. So that only the ones that conform perfectly to requirements pass out of the work-shops to the Sales department.

After this inspector's test there can be no room for doubt as to the scale's absolute dependability. You can trust a Renfrew Scale always. The inspector's certificate is to be found in an envelope tacked on the bottom of the platform. The

Renfrew

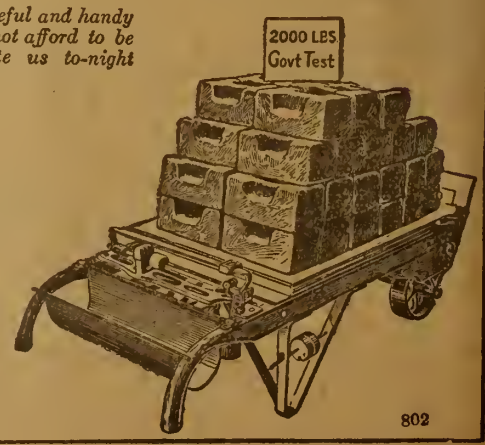
TRUCK SCALE

has been fully approved by thousands of Canadian farming men and women. It will weigh anything from 1 lb. to 2000 lbs.—from a hen to a horse. It can be wheeled about as easily as an ordinary truck. When not in use it can be tipped up and stood in a corner out of the way.

It is a splendid money saver. One user wrote recently to say that he saved money with it "every time he used it." Another in *three ordinary deals*, saved $50! We have had hundreds of letters from Renfrew Truck Scale users, and in every case, the scale has been making and saving money.

With a Renfrew you can weigh your livestock before selling; weigh grain before taking it to elevator; weigh milk and find out the production of each cow; weigh milk and cream before taking to cheese factory or creamery; weigh all the supplies you buy; weigh all the live stock, poultry, vegetables, etc., that you sell; weigh the feed you give your stock. (These are only a few of the uses to which it can be put on the farm.)

The Renfrew is the most useful and handy scale ever invented. You cannot afford to be without one any longer: Write us to-night for prices and particulars.



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THE MARITIME FARMER

AND

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REGISTERED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 25. SUSSEX, NEW BRUNSWICK, SEPTEMBER 28, 1920. Number 26.

The Woodstock Exhibition

The second annual Provincial Exhibition of the Carleton County Agricultural Society No. 41 was held on their beautiful grounds in Connel Park on September 13th to 17th inclusive. The weather man did not furnish good exhibition weather, cold winds and drizzling showers was his program for several days of the show period, thus deterring the best interests of the show.

Thousands of visitors, however, came from far and near, despite the weather man's frowns, to view the evidences of agricultural progress, to glean ideas and to take part in the general good time that prevails at well conducted exhibitions.

Mr. J. S. Leighton, Secretary, and Mr. D. V. Storm, Manager, of the fair, and their assistants, did everything in their power to make matters as pleasant and profitable as possible for the exhibitors and visitors alike. A more obliging and efficient pair of exhibition managers than the gentlemen above referred to would be difficult to find. Their attitude towards the exhibitors was such that it engendered the resolution among the exhibitors to show again next year and help make the fair bigger and better from the agricultural standpoint.

The main building contained the tastily arranged booths of a number of manufacturing concerns. In the centre was the display of field, garden and orchard produce. While there was a good display in this section, there is still ample room for the good farmers of Carleton county to come to the fore and put up a display that will be representative of their splendid agricultural county. A new building erected at the southern end of the main building housed the automobile display. In this building is also located the executive office. Additional buildings have also been erected to accommodate live stock.

Horses.

Among the prize winners in the horse classes were: J. W. Gallagher, Woodstock; A. J. Saunders, Houlton, Me.; Herb. Lindsay, Woodstock; Clover Nook Stock Farm, Hartland; Elisha Shaw, Hartland; L. B. McElhinney, Woodstock; A. C. Lund, Mt. Pleasant; Murdock Allen, Hartland; Harry Reade, Plymouth, N. B.; E. B. Avery, Woodstock; G. Donald Peabody, Woodstock; E. C. Allen, Hartland; Geo. Benn, Houlton, Me.; Wm. Ritchie, C. H. Geary, Woodstock; Elisha Dickinson, Scott's Siding; Chas. Palmer, Warren Ball, Woodstock; Harry Corey, Woodstock; H. C. Jones, Millville; H. Hayden, Hartland; F. Everett, Woodstock; Sam Keys, Woodstock; Howard S. Kearney, Southampton; F. L. Hayden and Urof Rhoda, Hodgon, Me.

The awards were placed by Dr. E. Watson, of Toronto.

Dairy Cattle.

The competition in Ayrshire cattle was between McIntyre Bros., of Sussex, and Clover Nook Stock Farm, of Hartland. Some of the best animals in the McIntyre herd were showing at St. Stephen, but despite this fact they captured the lion's share, capturing all the first prizes where they had entries. Clover Nook had the first prize aged bull and a number of second prize winners in the list.

Brown Swiss.

With the exception of first prize on a young bull and heifer which went to Dr. Griffin, of Woodstock, all the money set up in the Brown Swiss class went to W. A. Jolly, of Waterton, Que., on his well fitted, attractive herd.

Holsteins.

There was keen competition in the Holstein classes. Harding Bros., Welsford, N. B., vieing for the honors with Edwin Robinson, C. L. Smith, John W. Purvis, Earl Phillips, Clover Nook Stock Farm, Warren C. Ball, B. H. Avery, Herb Lindsay and H. Palmer, of Carleton County, and Frank Edwards, of Lower Millstream. Harding Bros. had the largest entry and carried off many of the choicest awards.

Jerseys.

E. de F. Holden, of Frelighsburg, Que., had plain sailing in the Jersey class with a herd that won favorable comment during the previous week at St. John. Other prize winners in the Jersey class were A. J. Raymond and Manzer Clark, of Woodstock.

The showing in dairy grades was limited.

In the dairy test for cows over 4 years old Harding Bros., E. de F. Holden and W. C. Bull were the respective winners of the first three places.

Harding Bros. also had the first and second prize winners in the section for cows under 4 years. All classes of dairy and beef cattle were judged by L. C. McQurt, of McDonald College.

Shorthorns.

There was a fair showing of Shorthorns, made up of individuals from the herds of H. C. Cochrane, Victoria, N. B., Hon. F. B. Carvell, Woodstock, N. B., Chas. P. Malmer and Shaw Bros., of Hartland.

Aberdeen Angus.

Horne Bros., Winsloe, P.E.I., had a good showing of Aberdeen Angus cattle. These progressive young men divided their herd at St. John and sent a number of head to both St. Stephen and Woodstock exhibitions.

Herefords.

One of the largest displays by any breeder was made by Mr. Geo. H. Benn, Houlton, Me., who exhibited a splendid array of well-fitted white faces.

Sheep.

The sheep exhibit was quite creditable. Several of our best breeders were on hand with their flocks. A number of Prince Edward Island Breeders as well as one breeder from Ontario. Clover Nook Stock Farm, Hartland, alone maintained the reputation of the New Brunswick sheep industry at the fair. A full list of awards as placed by F. W. Walsh, Acting Live Stock Supt. for the province, are published herewith.

Swine.

Swine were judged by Prof. Sackville, of the Ontario Agricultural College, Guelph. He was well pleased with the quality of the pigs shown. He made special mention of the splendid quality of the Berkshires shown by Shaw Bros., Hartland, and Yorkshires shown by Fowler Bros., Welsford, and Chas. Gray, of Woodstock.

A few Tamworths, Chesters and Poland Chinas made up the balance of the swine classes.

Poultry.

There was a good showing of poultry. J. W. Clark, Cainsville, Ont., placed the awards.

Aipiarian products were judged by L. T. Floyd, instructor in beekeeping for the New Brunswick Department of Agriculture. The display of bee products staged under Mr. Floyd's direction evoked a great deal of attention. Mr. Floyd knows the bee business from A to Z and many visitors availed themselves of the opportunity to ask questions..

The display of dairy products was not large but brim full of quality. Geo. Ransom placed the awards.

The largest exhibitor of fruit was Mr. Hubbard, of Oromocto. Carleton county exhibitors were, Geo. Tedlie, Lower Brighton; W. S. Kearvey, C. H. Gray, D. G. Purvis, Sanford Pugsley, Woodstock; and Mrs. Elmer Burpee, Jacksonville.

In agricultural products Mr. Allen Bezanson, Hampton, N. S., was an extensive winner. McIntyre Bros., Sussex, were prize winners in field grain. Geo. H. Benn, Houlton, Me.; Wm. Malmain, Harrison H. Rogers, G. W. Shaw, Sanford Pugsley, F. E. Foster, Warren C. Bull, C. H. Gray and John Milberry, Woodstock, and G. Shaw, of Grafton, were also prize winners.

"Our Orchard Possibilities" was amply set forth by an apple exhibit displayed by the New Brunswick Department of Agriculture.

One of the most valuable features to the farmers of Carleton county was the display made under the auspices of the Dominion Entomological Branch by Geo. E. Sanders, in charge of spraying investigation work in the Maritime Provinces.

Interested potato growers kept Mr. Saunders and his assistants talking Bordeaux, a subject dear to his heart. New ideas on spraying and dusting potatoes to combat blight and rot were daily dispensed.

The ladies' work was of high quality. The Women's Institutes also made a good showing.

The town of Woodstock and the county of Carleton have just reason to be proud of their exhibition plant. The town's people are doing their share nobly and well. Let the farmers perform their share at future exhibitions by planning to show the best products of their fields, gardens, orchards and the best of their live stock and thus make a showing worthy of the agricultural possibilities of their country.

PRIZE WINNERS AT WOODSTOCK.

HORSES.

Standard Bred.

Filly, 4 years old—1, J. W. Gallagher, Woodstock.

Filly, 3 years old—1, A. J. Saunders, Houlton, Me.; 2, Herb Lindsay, Woodstock.

Foal of 1919—1, Clover Nook Stock Farm.

Brood Mare With Foal by Her Side—1, Clover Nook Stock Farm.

Hackneys.

Stallion, 4 years and over—1, Elisha Shaw, Hartland.

Clydesdales.

Stallion, 4 years old and over—1, L. B. McElhinney, Woodstock; 2, A. C. Lund, Mt. Pleasant.

Stallion, 3 years old—1, Mudock Allen, Hartland.

Stallion, 2 years old—1, Harry Reade, Plymouth, N. B.

Brood Mare, 4 years and over—1 and 2, E. B. Averey, Woodstock.

Filly, 3 years old—1, Clover Nook Stock Farm.

Filly, foal of 1920—1, S. B. McElhinney.

Stallion, any age—Diploma, L. B. McElhinney.

Stallion and 3 of his get—Diploma, L. B. McElhinney.

Best Foal of 1920, get of Baron Squire—1, G. Donald Peabody, Woodstock.

Mare, any age—L. B. McElhinney.

Percherons.

Stallion, 4 years old—1, E. C. Allen, Hartland; 2 and 3, Geo. Benn, Houlton, Me.

Stallion, 3 years old—2, Wm. Ritchie, Woodstock.

Brood Mare, 4 years and over—1, C. H. Gray, Woodstock.

Filly, 3 years old—1, C. H. Gray.

Stallion, any age—1, E. C. Allen.

Mare, an age—1, C. H. Gray.

Suffolk Punch.

Stallion, 4 years and over—1, Elisha Dickinson, Scott's Siding.

Saddle Horses.

Ridden by a lady—1, Chas. Palmer, Woodstock; 2, Warren Bull, Woodstock.

(Continued on page 914)

The Care of Turkeys

The Breeding Stock.

How to Select.—Turkeks mature slowly. Males reach full growth at three eyars of age; females at two. Select hens from two to five years old for mating to two or three-year-old toms. The male is at his best in his third year. Old hens lay larger eggs and their young are not only larger but stronger than the young from immediate stock. Never breed related birds for the production of market stock, as it is almost certain to result in a high death rate among the poults. For breeding for the market, select medium-sized birds, plump but not fat, fine in bone, active and vigorous and not above standard weight. For breeding exhibition stock the largest-framed birds are generally chosen. Mate from ten to fifteen females to one male.

How to House.—A high shed affording protection on three sides but wholly open to the east and provided with high perches makes an ideal turkey's roost. If there is danger from coyotes or other wild animals, the open side should be seurely covered with wire netting. Turkeys will not make good breeding stock if housed with hens in a damp, badly-ventilated hen house. They are more liable to disease than hens. They will endure cold much better than foul air. They must be kept free from lice and mites, and should be occasionally dusted with a good lice powder and provided with a dust bath Give them leaves or straw litter to scratch in for their grain and permit them ts much range as is possible.

How to Feed.—Avoid over-feeding the breeding stock. Their ration should include less corn than oats, wheat, clover, or alfalfa. Oats are unquestionably the best grain to feed, and are better fed sprouted than dry. If a wet mash is used the following is good One part by measure of cornmeal, two parts of bran, one part chopped onion or raw apples or cooked mashed carrots or potatoes, and one part meat scrap or clabbered milk; mix with boiling water and allow to steam before feeding. Many breeders feed only a dry mash of 8 parts of bran to 1 part of beef scrap. Where bugs are plentiful on the range, no mash is really needed. The birds should be kept active and ready to forage at all times.

Hatching.

Nests.—In spite of attempted domestication, the turkey remains semi-wild. Instinct leads her to steal away to nest. The tom anticipates her absence while hatching, resents it and tries to keep her in his company by breaking up her nest. She, therefore, lays as far away from her roost as she can and in a secluded place, and tries to cover her eggs with grass or twigs whenever she leaves them. To tempt the hen to lay near home, provide nests of loose straw in empty barrels laid on the side, or in rough A-shaped cooped, or in dry weather, by merely putting a generous wisp of dry grass or a heap of leaves in a convenient hollow, and screening the place loosely with branches. Turkey hens lay from 12 to 20 eggs in a clutch. One service from the tom feertilizes all the eggs of the clutch and he can safely be removed thereafter, if found an annoyance. Eggs should be gathered as fast as laid and a couple of china or hard-boiled hens' eggs used to replace them. Write upon each egg with lead pencil the date when it was gathered and hold eggs for hatching not to exceed 10 days. Keep them on the side and turn daily. They are best held at a temperature of from 50 to 60 degrees.

Chicken Hens Versus Turkey Hens for Hatching—It is a good plan to use chicken hens to hatch the first clutch of eggs a turkey lays because, if broken up, she will in a week or ten day be laying again. She may profitably be used as a mother, when she has laid out her second clutch, since she rarely lays a third. A chicken hen will cover 8 to 10 eggs; a turkey 18 to 20.

The advantages of the chicken hen as a mother are:

1. As a rule she is tamer than the turkey hen and stands handling and moving better.
2. She will not wander so far from home, tiring the poults out so that they are unable to make the return journey.
3. She generally seeks shelter from rain, and almost always brings the poults home to roost.
4. She will fight for her brood and watch for hawks or coyotes better than a turkey hen.

On the other hand the turkey mother has these advantages:

1. She seems to understand turkey nature better than a chicken hen.
2. She is slower in movement, more careful about stepping on the poults, and broods them more frequently than the chicken hen.
3. She does not wean the poults so young as does the hen and at an age when they generally most need a mother's care.

It is generally recommended that the earliest laid eggs be hatched under chicken hens, but that later some turkey mothers be used in order that, if possible, the poults when weaned by the chicken hens be added to the flocks with turkey mothers and taught to forage with them, thus making fewer and larger bands for the turkey raisers to guard.

Incubation.—Turkey eggs require 28 to 30 days for hatching. The older the eggs the slower they are to hatch. The greatest care should be taken to keep the sitting hen free from lice or mites. Make nests in new boxes. Dust both nest and mother at least twice during the hatch with a good powder. Persian Insect Powder (Pyrethrum) is as effective as any. It can be purchased at any drug store; is not harmful to the eggs. Do not use sulphur around the nest. It is most essential that there be no lice on the young poults during the first week of their lives. A few lice may either kill them outright or so weaken them that they succumb to disease. Fresh drinking water and a dish of cracked corn and oats wixed with a little grit and charcoal should be kept where the sitting hen can help herself at will. Turkeys are very persistent sitters and often wil refuse to leave their nests for days at a time. They should, therefore, be watched and if they fail to leave the nest every other day they should be gently removed and fed and watered before bing allowd to return.

It is gnerally safest to remove the poults from the nest as they hatch because the mother will remain on the nest longer and often the last eggs do not hatch until from 24 to 30 hours later than the first ones. In very dry weather it is a good plan to build the nest out of grass or straw placed upon a sod turned rootside up, hollowed out bowl-shaped and thoroughly soaked with water. Also to sprinkle the eggs lightly with watch at from 90 to 100 degrees about the 20th day of incubation.

Care of the Poults.

When the last egg has hatched remove all the poults to a warm, flannel-lined basket out of sight and sound of the mother hen Feed and water her and let her move about for a short time. Then remove mother and poults to a clean, new coop with a small grass runway made of 12-inch boards. If the ground is cold and damp the coop should have a board floor; if not, let the little poults live upon the ground from the start, but move coop and runway upon fresh soil at least every other day.

Feed the poults for the first time when they are from 24 to 30 hours old. There are many different ways of feeding recommended by different breeders and probably there are many different rations that give equally good results under right care and environment. Several rations are given below, any one of which will doubtless prove satisfactory, but the following directions all successful turkey breeders subscribe to:

1. Do not change from one ration to another. Select your method of feeding and stick to it.
2. Feed very little, always leaving the poults a little hungry.
3. Feed often; the first ten days once in two hours.
4. Give no sloppy food.
5. In a natural state young turkeys live upon flies, spiders, grasshoppers, grubs, snails, worms, eggs, etc., together with seeds and berries. Little turkeys need more animal food than little chicks and hard-boiled egg and milk are the best substitutes for flies, bugs, etc.
6. Dry cornmeal will swell in their crops; ferment, and kill them. Use cracked corn and cornmeal sparingly while poults are young and always scald before feeding.
7. Remember you must build a large frame, big organs, much muscle, heavy plumage; therefore feed builders, not fats.
8. As soon as the poults jump over 12-inch boards allow them range. They need exercise to have healthy livers, but never allow them to range over ground on which many chickens have run.
9. When the poults begin to droop under the direct rays of a warm sun, shade must be provided.
10. Lice, dampness, filth and overfeeding kill most of the poults that fail to live.

Ration 1. One hard-boiled egg for every eight poults added to stale (but not sour wheat bread dipped in hot milk and squeezed very dry. Crumble egg, including shell, and bread together and season with black pepper sparingly. Feed this for two weeks or more, alternating the egg with cottage cheese or clabbered milk. After two weeks, replace the egg with best grade of beef scrap, and keep clabbered milk before them all the time; but if they can find insects and seeds on the range feed only the milk after the third week. When beef scrap is fed, it must be absolutely fresh and sweet. Sift and use only the finer portion.

Ration 2. One raw egg for every eight poults added to a pint of bran and enough clabbered milk to mix rather dry. For the first fourteen days feed on a clean shingle once in two hours all they will clean up eagerly. Use pepper or ginger only in case of sickness. After the fourteenth day gradually replace the bran, etc., by chick food, using care that it is not mouldy or musty or tainted in any way.

Ration 3. Fresh, dry, steel-cut oatmeal alternated with stale bread dipped in sweet milk and squeezed very dry, then mixed with hard-boiled egg. After two weeks replace the steel-cut oat meal by finely cracked wheat and finally by whole wheat. In place of the egg well-cooked, finely-chopped liver or lean meat may be fed occasionally.

With all these rations it is most important to feed fresh watch, clean, sharp grit, granulated charcoal and plentifully of finely-chopped, tender grass or dandelion leaves, sting nettle, radish tops, onion tops, lettuce, etc. Some claim a range upon green oats will cause diarrhoea, but a grass range is ideal. Others claim that the feeding of both sweet and sour milk in the ration at the same time will cause bowel trouble. In many cases it does not do so, but the possibility should be noted.

Ten Commandments for Prevention of Disease.

1. Never feed on the ground where food may be left to ferment, sour or mould, and later be eaten.
2. Never over-feed, especially of egg or mash. Remember that in a wild state turkeys are more often hungry than not.
3. After two weeks of age in good weather, let the hens take the poults and go. They do not need coddling, but they do need protection from weather, beasts of prey, etc.
4. Keep the poults and their coops free from lice. Use Persian insect powder to dust them or a drop of olive oil on the head, at the quill of the wing feathers, and around the vent.
5. For a tendency toward bowel trouble feed boiled rice. Bowel trouble indicates improper feeding or exposure to dampness and cold, or both.
6. Do not permit poults to run over ground which chickens, pigs, ducks, geese, etc., have made filthy. Plow up such ground or keep the poults yarded away from it.
7. When the poults have been chilled or seem droopy and need a tonic, make it as follows: Boil a pint of milk, put in it a shake of red pepper, add a table spoonful of alcohol; then beat up a raw egg and add to the miqture. Use this to moisten the bran mash. A little finely-chopped lean meat may be added.
8. Use green food finely cut in quantity in all rations as an aid to digestion.
9. Be especially watchful of the poults when at about six weeks of age, they "shoot the red," that is, begin to grow the protuberances on the head and neck. The danger is of the blood flowing pack upon the heart and becoming stagnant, the intestines become clogged and inflammation and diarrhoea follow. The following treatment will prove helpful: Mix one tablespoonful of red pepper and two tablespoonfuls of wheat middlings with water and make into four pills—bake hard. Give one pill three times a day to a full-grown turkey or a smaller pill in proportion to size of fowl. Follow with a tablespoon of castor oil for the old turkey or a teaspoonful for a young poult.
10. Call the turkeys home to roost by feeding them a little grain every night.

Fattening Rations.

Commence to feed turkeys early in the fall to get them ready for the Tranksgiving market. Feed night and morning only, and sparingly the first ten days. The principal food should be whole corn, the older the better, to avoid bowel trouble.

It is the belief that cold weather makes fat turkeys. The real reason is that in a warm fall the ground keeps soft, vegetation lingers and plenty of worms and bugs abound. As a result the turkeys make long forages, eating the worms and bugs. This excessive trave lthins them, and walks all their soft and fine flesh into tough, stringy muscle. On the other hand, a cold fall, with early frosts and snows, freezes the ground and kills the bugs. The turkeys wander less, loaf around the barnyard, gorge an abundance of grain and put on flesh.

Turkeys allowed to run in a patch of field peas will finsh off fairly well with a night feed of wheat or corn. If turkeys are fed on a grain ration of equal parts of oats, boiled carrots, potatoes and milk, a meat is produced

(Continued on page 932)

THE NEGLECTED FARM ORCHARD

From the time the farm orchard is planted, and while the trees are young and not bearing fruit, it is in danger of being neglected. But whether the trees are young or old the orchard needs careful oversight all the time because its trees are exposed to attacks of diseases and enemies, to accidents if they are cultivated; to injury by storms, by sudden and extreme changes in temperature, and by various other untoward influences. Some of these ills can not be entirely escaped. Ithers may to some extent be prevented and the evil effects of those which are inevitable can often be mitigated.

As far as damage by enemies is concerned, the chief reliance should be placed on preventive measures. It is a great deal easier to keep rabbits and mice away from trees than it is to treat the injuries which they have caused, and the results are far more satisfactory. If it is attended to in time, and properly done, spraying is an efficient means of protecting the leaves and fruit from the ravages of insects and of preventing or palliating the effects of various diseases to which trees are exposed. These things are so plain that anyone who cares for his orchard at all will be likely to give them some degree of attention.

But there are other ills to which the farm orchard is exposed which are not so promptly and plainly apparent. They come so gradually that unless there is close and frequent observation, they will not be recognized until they have made a good deal of progress. Low vitality of the trees, shown by slow and irregular growth and a general lack of thrift in their appearance, is one of the insidious and rather common evils which are liable to escape detection too long, but which greatly reduce productiveness and seriously impair the quality of the fruit obtained. In many cases, closer attention to the appearance of the leaves, and when the trees are in bearing, to the color of the fruit, would warn the owner more promptly and more positively that something was wrong than the superficial oversight which he gives. Such indifference is a serious matter, because the possibility of restoring such trees to full vigor and usefulness largely depends upon the promptness with which efforts are made to remedy the evils from which they are suffering. And if the decline is not checked by artificial means, it will be likely to proceed until the trees are ruined.

Then, too, there are cases in which growth is too strong instead of too weak. There are farm orchards in which trees that seemed to be plenty far apart when they were set, have become so large that they are suffering for want of room. If they had been closely watched, the need of more thorough pruning, or of the removal of some of the trees, would have been observed in time to prevent the harm that has been done. And many trees which have sufficient room have formed an excessive quantity of wood. This not only drains heavily, upon the vital forces of the trees, but it also reduces the yield and prevents the full development of the size and color of the fruit. And though they are not so numerous, there are, in all, many cases in which trees have grown far out of their proper shape and the evil has not been realized until they were badly deformed. The only adequate help for this condition is to be found in severe pruning. This should extend over two or three years. It will mutilate the trees, but this harm will be more than offset by the improvement in the appearance of the orchard.

When the causes are determined, the proper remedies for the ills which have been noted will suggest themselves. As a rule, the causes are so evident that they can not be mistaken by any ordinarily observant person, though there are cases in which they are more obscure. In such instances, the decline in the trees may be, and it often is, due to a lack of fertility in the land. Many trees which are unthrifty, and whose appearance strongly suggest disease, are suffering for the want of food. Instead of being sick, they are being starved. Such trees may need pruning, and attention to other details of approved treatment, but if any great and lasting benefit is to be obtained, there must also be an improvement in the physical condition and an increase in the frtility of the soil in which they stand.

In the orchard, as everywhere else, weakness and disease constantly and strongly tend to grow worse and worse. The only hope of checking their progress and of later recovering what has been lost, lies in a prompt, thorough and persistent application of suitable remedies. J .E. R.

HEATING THE FARM HOME.

The comfort of the home during the winter season is largely dependable upon the manner in which the house is heated. Modern heating systems are superior to stoves in more than one respect. In the first place, stoves are rather unhandy, especially where the house is large. If several rooms require heating, a number of stoves must be provided. A great deal of work, and a large amount of fuel is required to keep the fires going. One distadvantage incident to heating rooms with stoves is that it is difficult to keep the temperature even. One hour the stove will be red-hot, making the atmosphere too warm and stuffy. As soon as the fire dies down the room gradually becomes chilly. An even temperature is more comfortable and is also more healthful.

When the farmer decides that he needs a heating system, the next question which arises is the kind of a plant to install. The three principal systems in general use for heating homes are the hot water system, the steam heating system, and the hot air system. Several things must be considered when determinning which system is preferable. The size of the house, etc., must be considered. Usually the hot water system is considered the best for general purposes. However, where the building is large, or widely spread out, a steam heating plant will give better results than a hot water system. The hot water system is considered most economical in regard to fuel consumption. A steam heating plant is less expensive that a hot water system, while a hot air plant generally costs only about half as much as a hot water system.

The operation of a hot water system is very simple; this system is easy to take care of after it is installed and is exceptionally reliable. The heated water is forced to the radiators where it cools, giving off heat into the room. As soon as the water loses its heat it passes down to the bottom of the radiator through the return pipe back to the boiler where it is again heated. As long as a fire is kept burning so the water in the boiler is heated, the water will be kept constantly circulating through the pipes and radiators. A steam heating plant is especially suited for large installations, owing to the ease with which diastant radiators may be quickly reached. A building can be warmed quickly with a steam heating plant.

Many farmers use hot air systems for heating their houses and get excellent service. The hot air plant has an advantage over either the hot water or steam seat system, owing to its ventilating feature. This plant requires more fuel than either the hot water or steam heat systems.

The hot air system is easily installed; when the openings have been made in the floor and the different registers put in, the installing of the furnace proper is simple. Having determined where the furnace is to be located in the basement, the next step is to assemble it. After the furnace is assembled the casting should be put on, the water pan put in place and the holes cut in the bonnet at the desired places. The bonnet is then put on, the pipes are connected up to the different register boxes and boots in the wall stacks leading to the second floor registers, then the smoke pipe is connected with the chimney, the cold air duct is built and the system is ready for service.

An efficient heating system can hardly be considered a luxury; it is more a necessity. The conserving of fuel is an important consideration, as is the added comfort of the inmates of the household. A chilly room, no matter how elaborately itis furnished, is never comfortable. A modern heating system will eliminate any uncertainty in regard to warm, comfortable rooms.

ADVANTAGES AND PROFITS OF SYSTEMATIC CROP ROTATIONS.

The chief advantages of systematic crop rotation may be briefly stated as follows:

1. Rotation systematizes the farm wosk. There is a definite portion of land prepared for each kind of crop for each year and the areas of the crops grown remain constant. Farm work is more economically and efficiently conducted as a result.

2. In a systematic rotation each crop or season is handled in such a manner and is of such a nature as to be the proper preparation for the crop which follows. This results in increased average yields and greater efficiency.

3. The control of weeds, plant diseases and insects is facilitated by crop rotation, as frequent change of type of crop interferes with their multiplication and all good rotations provide regular recurrent times for a clean-up.

4. Any benefits from soil-enriching crops or soil-improving methods are distributed uniformly over a whole farm by a good rotation.

5. Frequent crop change avoids the soil depletion incvident to constant one-crop farming.

A good rotation should include at least one of each of the following:

1. Cash crops, i.e., crops readily convertible into cash and such as are likely to be reasonably sure of success and profit in the territory concerned.

2. Cleaning and moisture-storing crop or fallow, a regularly recurring period in the rotation which provides suitable opportunity for weed eradication and the accumulation of soil moisture.

3. Forage crop. All the best crop rotations assume live stock as an integral part of the farm system and forage crops must be grown to nourish them. Where conditions make live-stock-raising impossible, any permanent rotation must provide a substitute in the form of green manures.

4. Leguminous crop. No permanent system of agriculture has been built up anywhere that does not include in its rotation at least one of the nitrogen storing group of plants.

The rotations under test at Brandon include the following types:

1. Straight grain growing.
2. Grain growing plus hay crop.
3. Grain growing plus hay and hoed crops.

Those of the first type gave better results than unsystematized grain growing but are greatly surpassed in profit, freedom from weeds, freedom from soil drifting and general condition of the soil by both the others. A typical rotation of the second type surpasses the first by 44 per cent. in net profits in the average results of five years. A typical rotation of the third group excels the first by 75 per cent.

Some of the most striking facts in regard to crop sequence that have emerged from crop rotation work are:

1. The great value of corn as a preparation for grain crops.

2. The seeding for grasses and clovers should follow corn or summer fallow. The more intervening grain crops there are, the greater the chance of failure.

3. Wheat is the most profitable crop after fallow or corn.

Coarse grains are more profitable than wheat as second crop after fallow or corn.

5. Wheat makes a satisfactory nurse crop for grasses.

6. Field roots are less effective than corn as a preparatory crop for grain and sunflowers somewhat less though better than roots.—Synopsis of an address by W. C. McKillican, Superintendent, Experimental Farm, Brandon, Manitoba, at the Conference of Conservation of Soil Fertility and Soil Fibre, held at the Fort Garry Hotel, Winnipeg, July 14th, 15th and 16th, 1920, under the auspices of the Commission of Conservation.

BUILD SILO WHERE CONVENIENT TO FEED

The first consideration in locating the silo is to have it convenient; that is, as nearly as possible to the place where the bulk of the silage will be fed.

Another matter of importance is to have it on the least exposed side of the barn. A silo will freeze more readily on the north side of a barn than in the more sheltered position on the south side. However, many silos are built on the north side, and give good satisfaction, and it is better to have the silo conveniently located in another place than to have it convenitnely located on the south side. Where stock is kept in a basement barn, a silo can often be constructed on the upper side of the barn, and thus ten or more feet of the lower part of the silo be built below the ground, where freezing will be very slight. Under such conditions, the silo would be placed on the high side of the barn, regardless of direction.

The foundation is the first part of the silo to construct, and even if a patent silo is built the owner usually furnishes the foundation. The foundation is always important, but it is exceedingly important if a permanent type of silo is to be constructed, because if the foundation gives the wall is almost sure to crack.

Where drainage conditions are favorable—that is, where the soil is dry enough—the foundation should extend at least 5 feet below the surface of the ground. There should be a base 2 feet wide and at least 1 foot deep at the bottom, and above this a wall 8 inches or more thick.

Concrete is the most common material used. The foundation should rise from 6 to 12 inches above the level of the ground. There is no loss in extending the foundation a few feet below the surface of the ground, because this space may be used for storage for silage. Silage can easily be thrown out of a pit four or five feet deep. It is advisable to reinforce quite strongly the foundation, especially if it extends 8 inches or more above the surface of the ground.

THE DUTY ON IMPORTED CATTLE

Following is a certified extract from the minutes of a metting of the Treasury Board, held on the 20th May, 1920, approved by his Excellency the Governor General in Council, on the 26th May, 1920:

The Board recommend that the provisions of the Orders in Council of the 8th February, 1918, (P.C. 226), and the 30th January, 1919, (P.C. 1-233), providing for the remission and refund of duty on neat cattle imported into Canada, be further extended for a period of one year from the 7th February 1920.

(Sgd.) RODOLPHE BOUDREAU,
Clerk of the Privy Council.

The Honourable
The Minister of Agriculture.

The St. Stephen Exhibition

The twelfth annual St. Stephen Exhibition was held on September 14th to 17th. The weather man did not furnish a brand of weather that was conducive to the best interests of the management, the exhibitors or the visitors. A downpour of rain on the night of the thirteenth continued intermittently during the fourteenth and sprinkled and frowned during the remaining days of the fair.

Despite this fact, visitors thronged the grounds to see the biggest and best display of agricultural products and live stock ever witnesed at the border town fair.

Thih was the second time in the life of the show that competition was open to the Maritime Provinces and State of Maine.

So well pleased were exhibitors with the treatment accorded them in 1919 by W. S. Stevens, the obliging and indefatiguable secretary, and his staff of assistants, that they were ready and willing to help make the 1920 show from the exhibitors standpoint a success.

The standard of ideals set by our best live stock breeders has had a good effect on the local breeders, many of whom brought their stock into the show ring this year in better shape than they ever did before. The poorly developed individual has no longer a place at the St. Stephen fair. The Charlotte County breeders are just as intelligent as are the breeders of other parts of Canada, all they needed was to get the proper ideals fixed in their minds, and one by one they will breed and develop a better class of stock than they have had in the past.

The St. Stephen fair is therefore accomplishing one of the main objects for which it was established, and can well lay claim to be the best agricultural fair held in the Province of New Brunswick this year, and as such is entitled to any encouragement it may receive in the form of provincial grants and assistance in the way of furnishing judges for the respective departments.

The ladies fancy and domestic work departments at the St. Stephen fair are always well filled with exhibits of exceptionally fine workmanship. Miss Nutter of the Provincial Department of Agriculture, Women's Institute Branch, placed the awards in the domestic classes, while Mrs. E. McL. Hatt, of Fredericton, carefully and competently dispensed justice in the fancy work department. Particularly inteersting was the display made in the latter department by the Household Arts and Crafts, under the able direction of Miss Mowatt of St. Andrews, who has done and is doing so much to again revive useful arts, now almost forgotten by the younger generation.

The display of fruit was very representative of Charlotte Counties' fruit producing possibilities. Mr. Geo. Danley of the Department of Agriculture, placed the luscious fruits according to merit, and at the same time dispensed valuable information to the public on matters horticultural.

Located on the lower floor of the main building, where various manufacturing concerns displayed their wares, was an exceptionally fine display of field and garden products grown on Dominion Brand Fertilizers, staged by the Dominion Fertilizer Co. of St. Stephen, under the able direction of their chief representative, F. P. Hunter.

The products shown were well developed, and so staged that the booth was the chief centre of attraction for all who were interested in bumper crops.

Visitors who were not agriculturally inclined, found ample amusement in the midway, while all lovers of clean sport were regaled to their hearts' content at the race track, where some of the best horses in Maritime Canada and Maine, exhibited bursts of speed that were most exciting, while in the infield, sturdy ball teams competed for honors with bat and ball. It was rather interesting to watch the crowds that took a keen interest in the ball games, and who were so intent in their favorite game, that they did not seem to realize that the remainder of the throngs were exulting over the equine beauties on the track.

The display of agricultural products in Agricultural Hall was judged by Mr. O. C. Hicks, B.S.A., of the Department of Agriculture, Fredericton. The display was most creditable to the farmers of Charlotte County. The chief contestant in this department from outside the county was Mr. Allen Bezanson, of Hampton, Nova Scotia, who made such a good showing at St. John. The school garden exhibits were nicely staged and a credit to the work that is being done for the rising generation by the Elementary Agricultural Education Department, under the leadership of Mr. A. C. Gorham. The products displayed in this section by the boys and girls were well up to those displayed by their dads.

The display of dairy products was not large, but the judge, Mr. George Timmens, acting dairy inspector for the province, found therein exhibits of high quality.

Apiary products were judged by Mr. L. T. Floyd, Provincial Apiarist. The display was not an extensive one.

Horses

There was a good showing in the horse classes, particularly in the roadster, carriage, heavy draft and agricultural classes.

In the Aged Clydesdale Stallion section, Dr. McCoy, owned by H. C. Jewett of Fredericton, went down to second place. Miss Van Horne's imported stallion, Retinue, headed the list. David Johnston captured the red ribbon with aged mare, the blue going to a mare shown by Miss Van Horne.

Clayton's Indican and Jewett's Arlon were the only Percherons in the ring and were placed in the order named.

The aged Standard Bred Stallion prizes went to Native Worthy, The Exposer and Border Prince, in the order named.

A Cap Aubrey colt, shown by Hugh O'Neill, Fredericton, had no competition in the two-year-old stallion class.

In the absence of Dr. Pugsley of the Provincial Department of Agriculture, who was scheduled to place the awards, but who through illness was unable to attend, the judging of the horse classes was done by Mr. Edward Hogan of St. John.

There was a good showing in the sheep classes. The awards were placed by Mr. Angus Hay of the Experimental Farm, Fredericton. Miss Van Horne and Mr. W. F. McGibbon were the only Charlotte County exhibitors of sheep. The other exhibitors were J. R. Semple & Son, Truro, N. S.; J. H. King & Son, Sussex, N. B., and a number of Prince Edward Island exhibitors, all of whom received a fair share of the monies offered on their stock. One or two of the flocks were not as well finished as we have seen them in the hands of the same breeders on former occasions.

The display in the Swine department was judged by Mr. F. W. Walsh, acting Live Stock Superintendent for the New Brunswick Department of Agriculture. The show was not extensive, but there were some very classy individuals, among which special mention may be made of a pair of fat hogs, shown by the veteran feeder and exhibitor, Mr. Thos. McDonald of St. Stephen. Visitors to the fair always look for Mr. McDonald's pigs, as he has established a reputation for quality stock.

The display of Beef Cattle was almost all in the hands of Howe Bros. of Prince Edward Island, who exhibited a portion of their well fitted Aberdeen Angus herd, that made such a good showing at St. John during the previous week.

Dairy Cattle

The dairy cattle display was the big feature of the St. Stephen Fair. McIntyre Bros. of Sussex, and A. McRae & Sons of Charlottetown, P. E. I., with their accredited herd, were out to pit their herds against Miss Van Horne's Ayrshire herd from Coven Haven Farm, St. Andrew's, Charlotte County.

Fred S. Black of Amherst, N. S., placed the awards without fear or favor.

McIntyre Bros. aged bull, Morton Mains Amanth, went to the top of the list, over the St. John winner, Capt. Kidd, of the P. E. I. herd.

Miss Van Horne's Silver Clink had no competition in the two-year-old class, but in competition with a French Canadian bull from the same herd, and a Holstein bull shown by Moffatt Bros., he was good enough to capture the St. Croix Courier Silver Cup for the best bull any age or breed owned in Charlotte County.

The Male and Female championship went to McIntyre Bros., on their Low Milton McDonald, the imported junior yearling bull, and the senior yearling heifer, Spring Brook Nellie.

Lass o' Gowrie, the champion aged cow at St. John, went down to third place at St. Stephen in the aged cow class.

McRae's Fairville Queen 2nd, topped the list, and McIntyre Bros.' Spring Brook Orange Lily, standing in for second money.

The McRae's had the best dry three year old cow, as well as the best three year old cow in milk, capturing the honors with their Rosabelle and Beauty of Beaver Meadow.

The first aged herd prize went to the McRae's, while McIntyre Bros. captured the much coveted red on young herd, bull and three of his get, four animals get of one sire, two animals progeny of cow and best three heifers.

The competition throughout the Ayrshire class was keen and the well groomed red and whites made an exceptionally pleasing showing.

Holsteins

The lions share in the Holstein class went to Dickie Bros., Cobequid Farm, Truro, N. S., their main competitorh were M. K. Lyons of Calais, Maine, and Moffatt Bros. of St. Stephen. The Cobequid Farm herd were out in the pink of condition, while the other herds were only in good field fit. Jas. Bremner, Agricultural Representative, Chatham, placed the awards.

Brown Swiss

Ralph H. Libby of Stanstead, Que., made a good showing with his Brown Swiss.

Jerseys

Jerseys made a good showing. Mr. Bremner placed the ribbons, the most coveted of which went to J. R. Semple & Son, Truro, N. S.

Poultry

There was a good showing of grades.

The poultry display was quite creditable. Mr. Geo. Wilson of the Federal Poultry Division placed the prizes. The showing of ducks was particularly fine.

St. Stephen holds an annual fair, whether they receive a government grant or not. Plans are already under way whereby they purpose holding a show on the same dates in 1921, as those on which this year's fair. The rank and file of the citizens of the border town take an active interest in the affairs of the Exhibition; the exhibitors are well looked after; the attendance is usually large and expansion is the watchword.

PRIZE WINNERS AT ST. STEPHEN

Standard Bred Horses

Stallion, 3 years old—1, Jas. Belyea, St. John; 2 and 3, H. C. Jewett, Fredericton.

Stallion, 2 years old—1, Hugh O'Neill, Fredericton.

Brood mare with foal—1, Hugh O'Neill.

Mare, 3 years old—1, S. E. Rice, St. Stephen; 2, Hugh O'Neill; 3, W. F. McGibbon.

Filly, 1 year old—1, Wilfred Todd, St. Stephen.

Foal of 1920—Hugh O'Neill.

Carriage Horses to Halter

Brood Mare with foal—1, Hugh O'Neill.

Filly or Gelding, 3 years old—1, Hugh O'Neill; 2, J. Harold McMurray, Fredericton; 3, Moffatt Bros., St. Stephen.

Foal of 1920—Hugh O'Neill.

Carriage Horses to Harness

Mare or Gelding, 3 years old—1, J. Harold McMurray; 2, Hugh O'Neill; 3, Cliff Hanley, Moores Mills.

Hackeneys

Mare, 3 years old—1, J. Harold McMurray.

Saddle Horses

Mare or Gelding, 3 years old—1, Margaret A. Irving, St. Stephen; 2, J. Harold McMurray.

Percherons

Stallion, 3 years old—1, D. P. Clayton, Fredericton; 2, H. C. Jewett.

Clydesdales

1, Miss Van Horne, St. Andrews; 2, H. C. Jewett.

Mare, 3 years old—1, Aubrey F. Johnson, St. Stephen; 2, Miss Van Horne.

Farm or Work Horses

Farm Horse, 3 years old—1, Melborne & Reynolds, St. Stephen; 2, David Johnston, St. Stephen.

Team of Horses—1, Michael Gorman, Cork Station.

Heavy Draught Horses

Mare or Gelding, 3 years old—1, David Johnston; 2 and 3, Moffatt Bros.; 4, Geo. H. Budd.

Matched Team—1, Aubrey Johnston; 2, Moffatt Bros.; 3, Geo. H. Budd; 4, David Johnston.

Ponies

1, Wm. Gunter, Fredericton; 2, Ed. McCrea, DeWolfes; 3, Carmen Ganong, St. Stephen.

Pair Ponies—1, W. & P. Ganong, St. Stephen.

CATTLE

Polled Angus

All prizes in this class were awarded to Horne Bros., Winslow, P. E. I.

Ayrshires

Bull, 3 yrs. and upwards—1, McIntyre Bros., Sussex, N. B.; 2, A. McRae & Sons, Charlottetown, P. E. I.

Bull, 2 yrs.—1, Miss Van Horne, St. Andrews.

Bull, Senior, 18 mos. and under 24—1, A. McRae & Sons.

Bull, 12 mos. and under 18—1, McIntyre Bros.

Intyre Bros.; 2, Albion Moffitt, St. Stephen.

Bull, under 12 mos.—1, McIntyre Bros.; 2, A. McRae & Sons; 3, Miss Van Horne.

Bull, under 6 mos.—1, Miss Van Horne; 2, McIntyre Bros.

Cow, 4 yrs. and upward—1, A. McRae

& Sons; 2 and 3, McIntyre Bros.; 4, Miss Van Horne.

Dry Cow—1 and 3, A. McRae & Sons; 2, McIntyre Bros.; 4, Albion Moffitt.

Cow, 3 yrs.—1 and 3, A. McRae & Sons; 2, McIntyre Bros.; 4, Albion Moffitt.

Cow, 2 yrs.—1, McIntyre Bros.; 2, 3 and 4, A. McRae & Sons.

Heifer, Senior—1, McIntyre Bros.; 2, A. McRae & Sons; 3, Albion Moffitt.

Heifer, junior—1, McIntyre Bros.; 2, A. McRae & Sons.

Heifer Calf, 12 mos., over 6 mos.—1 and 3, McIntyre Bros.; 2, A. McRae & Sons; 4, Miss Van Horne.

Heifer Calf, 6 mos. and under—1, McIntyre Bros.; 2, A. McRae & Sons; 3, H. Trueman Lever, Rollingdam; 4, Miss Van Horne.

Aged Herd—1, A. McRae & Sons; 2, McIntyre Bros.; 3, Miss Van Horne.

Breeders' Young Herd—1, McIntyre Eros.; 2, A. McRae & Son; 3, Miss Van Horne.

Bull, any age, Diploma——McIntyre Bros.

Female, any age, Diploma—McIntyre Bros.

Bull and 3 of his get—1, McIntyre Bros.; 2, A. McRae & Sons.

Ayrshire Special Prize

4 animals, get of 1 sire—1 and 2, McIntyre Bros.

2 animals, progeny of 1 cow—1 and 2, McIntyre Bros.

Best Ayrshire Bull, any age—1, McIntyre Bros.; 2, A. McRae & Sons.

Best Cow, any age—1 and 2, McRae & Sons; 3, McIntyre Bros.

Best 3 heifers under 2 yrs.—1 and 2, McIntyre Bros.

Jerseys

Bull, 3 yrs. and upward—1, J. R. Semple & Son, Truro, N. S.

Bull, over 12 mos., under 18 mos.—1, J. R. Semple & Son.

Bull Calf, under 12 mos.—1, J. R. Semple & Son.

Bull Calf, under 6 mos.—1, Frank McGairity, Milltown, N. B.

Cow, 4 yrs. old—1, Frank McGairity; 2, J. R. Semple & Son.

Dry Cow—1, J. R. Semple & Son.

Cow, 3 yrs. old—1, J. R. Semple & Son; 2, Frank McGairity.

Cow, 2 yrs.—1, J. R. Semple & Son.

Senior Heifer—1, 2 and 3, J. R. Semple & Son.

Heifer Calf, over 6 mos.—1, J. R. Semple & Son.

Heifer Calf, 6 mos. and under—1, J. R. Semple & Son; 2, Hazen Linton; 3, F. M. McCready.

Aged Herd—1, J. R. Semple & Son.

Breeders Young Herd—1, J. R. Semple & Son.

Bull, any age, Diploma—J. R. Semple & Son.

Female, any age, Diploma—J. R. Semple & Son.

Ganong Bros. Ltd., Special Prize

Best Jersey Bull, any age—1, J. R. Semple & Son.

Jersey Heifer, 2 yrs. or under—1, J. R. Semple & Son.

Jersey Calf, 6 mos. old or under—1, J. R. Sefple & Son.

The St. Croix Courier's Prize Silver Cup to the owner of the best individual bull without regard to breed—Miss Van Horne, St. Andrews.

French Canadian

Bull, 3 yrs. old—1, Miss Van Horne.

Dry Cow, 3 yrs. or upwards—W. S. Poole, St. Stephen.

Any Other Pure Breed of Dairy Cattle Brown Swiss

All prizes in this class awarded to Ralph H. Libby, Stanstead, Que.

The makers of Surprise Soap Special Prize

Best Bull, any pure bred beef type—Horne Bros., Winslow, P. E. I.

Best Cow of any pure bred beef type—1, Horne Bros.

Best Calf, either sex, beef type, six mos. old or under—Horne Bros.

Holsteins

Bull, 3 years old—1, Dickie Bros., Truro; 2, Moffatt Bros., St. Stephen.

Bull, 2 years old—2, M. K. Lyons.

Bull, senior yearling—1, Moffatt Bros.

Bull, junior yearling—1, Dickie Bros.

Bull, senior calf—1, Dickie Bros.

Bull, junior calf—1 and 2, Moffatt Bros.; 3, Irvine Moffatt.

Cow, 4 years old and upwards—1 and 2, Dickie Bros.; 3, M. K. Lyons; 4, Hoffatt Bros.

Dry Cow, 3 years old—1 and 2, Dickie Bros.; 3, Moffatt Bros.

Cow, 3 years old—1 and 2, Dickie Bros.; 3, M. K. Lyons.

Heifer, 2 years old—1 and 2, Dickie Bros.; 3, Moffatt Bros.; 4, M.K. Lyons.

Heifer, senior yearling—1 and 2, Dickie Bros., 3, Moffatt Bros., 4, Albion Moffatt.

Heifer, senior calf—1 and 2, Dickie Bros.; 3, Moffatt Bros.

Heifer, junior calf—1 and 3, Dickie Bros.; 2, Moffatt Bros.

Herd—1, Dickie Bros; 2, Moffatt Bros.; 3, M. K. Lyons.

Breeders Young Herd—1, Dickie Bros.; 2, Moffatt Bros.

Best Bull, any age—Disploma and Clarke Bros.' Special—Dickie Bros.

Best Female, any age—Disploma and Clark Bros.' Special—Dickie Bros.

Bull and three of his get—1, Dickie Bros.

Grade Holsteins.

Cow, 4 years old—1, Moffatt Bros.; 2, Albion Moffatt; 3, Harry Reynolds.

Dry Cow, 4 years old—1, Howard Dinsmore.

Cow, 3 years old—1, M. K. Lyons; 2, Moffatt Bros.; 3, Albion Moffatt.

Dry Cow, 3 years old—1, Moffatt Bros.; 2, Albion Moffatt.

Cow, 2 years old—1, M. K. Lyons.

Heifer, 2 years old—1, Albion Moffatt.

Heifer, over 1 year old—1, Melborne Reynolds; 2, Albion Moffatt.

Heifer, under 1 year—1, W. F. McGibbon; 2, Moffatt Bros.

Heifer Calf—1, Alton Reynolds; 2, Harvey McGibbon; 3, W. F. McGibbon.

Herd—1, Moffatt Bros.; 2, Albion Moffatt.

Fat Cattle.

Beef Animal, not over 3 years—1, Moffatt Bros; 2, Albion Moffatt.

Grade Jerseys.

Cow, 4 years old—1, F. M. McCready; 2, Melbourne Reynolds; 3, Irvine Moffatt.

Dry Cow, 4 years old—1, M. K. Lyons; 2, Moffatt Bros.

Cow, 3 years old—1, David Hawthorn; 2, Irvine Moffatt.

Cow, 2 years old—1, Moffatt Bros.; 2 and 3, Irvine Moffatt.

Heifer, 2 years old—1, Melbourne Reynolds; 2, Irvine Moffatt.

Heifer, senior yearling—1, Albion Moffatt; 2, Irvine Moffatt; 3, M. K. Lyons.

Heifer, junior yearling—1, F. M. McCready.

Heifer, senior calf—1, Hugh Love.

Herd—1, Melbourne Reynolds; 2, Irvine Moffatt.

Grade Ayrshires.

Cow, 4 years old—1, Moffatt Bros.; 2. Melbourne Reynolds.

Heifer, 2 years old—1, A. McRae & Sons.

Heifer, over 1 year—1, H. Freeman Lever.

Heifer, senior calf—1, H. Freeman Lever.

Heifer, junior calf—1, H. Freeman Lever; 2, Moffatt Bros.

French Canadian Grades.

Cow, 4 years old—1, Henry Reynolds; 2 and 3, Irvine Moffatt; 4, L. B. Mitchell.

Cow, 3 years old—1, F. M. McCready.

Heifer, 2 years old—1, Moffatt Bros.

Heifer, over 1 year—1, F. M. McCready; 2, Irvine Moffatt.

Heifer, senior calf—1, Harry Reynolds.

SHEEP.

Leicesters.

Ram, 2 shears and over—1, S. L. Boswall, Pownal, P.E.I.; 2, W. F. McGibbon, More's Mills.

Ram, shearing—1 and 2, S. L. Boswall.

Ram Lamb—1, S. L. Boswall.

Ewe, two shears and over—1, 2 and 3, S. L. Boswall.

Shearing Ewe—1 and 2, S. L. Boswall.

Ewe Lamb—1, 2 and 3, S. L. Boswall.

Aged Pen—1, S. L. Boswall.

Pen Lambs—1, S. L. Boswall.

Lincolns.

All prizes in the Lincoln class went to Albert Boswall, French Fort, P.E.I., without competition.

Oxfords.

Ram Lamb—1, Jas. McAllister, Milltown.

Shropshires.

Shearing Ram—1, John H. King, Sussex, N. B.

Ram Lamb—1, John H. King; 2, J. R. Semple & Son.

Ewe, 2 shears and over—1, John H. King.

Shearing Ewe—1, John H. King.

Ewe Lamb—1, 2 and 3, J. R. Semple & Sons.

Pen—1, John H. King.

Pen Lambs—1, J. R. Semple & Son.

Southdown.

Ram, 2 shears and over—1, J. R. Semple & Son; 2, Miss Van Horne, St. Andrews, N. B.

Shearing Ram—1, J. R. Semple & Son; 2, Cephas Nunn, Winsloe, P.E.I.

Ram Lamb—1, J. R. Semple & Son.

Ewe, 2 shears and over—1, Cephas Nunn; 2, 3 and 5, J. R. Semple & Son; 4, Miss Van Horne.

Shearing Ewe—1, Cephas Nunn; 2, J. R. Semple & Son.

Ewe Lamb—1 and 3, J. R. Semple & Son; 2, Cephas Nunn.

Aged Pen—1, J. R. Semple & Son; 2, Cephas Nunn; 3, Miss Van Horne.

Pen Lambs—1, J. R. Semple & Son.

Hampshire Downs.

Ram, 2 shears and over—1, Cephas Nunn.

Ram, shearing—1, Cephas Nunn; 2, J. R. Semple & Son.

Ewe, 2 shears and over—1, 2 and 3, Cephas Nunn.

Shearing Ewe—1, 2 and 3, Cephas Nunn.

Ewe Lamb—1, 2 and 3, Cephas Nunn.

Aged Pen—1 and 2, Cephas Nunn.

Pen Lambs—1, Cephas Nunn.

Cheviots.

Ram, 2 shears and over—1, John H. King; 2, Cephas Nunn.

Shearing Ram—1, Albert Boswall.

Ram, Lamb—1, 2 and 3, John H. King & Son.

Ewe, 2 shears and over—1, 2 and 3, John H King & Son.

Shearing Ewe—1, 2 and 3, John H. King & Son.

Ewe Lamb—1, 2 and 3, John H King & Son.

Aged Pen—1 and 2, John H. King & Son.

Pen Lambs—1, John H. King & Son.

Suffolks.

All prizes in the Suffolk class were awarded to Horne Bros., without competition.

Grades—Long Wool.

Pair Ewes, 2 shears and over—1, Albert Boswall; 2, W. F. McGibbon.

Pair Ewes, shearing—1, Albert Boswall; 2, W. F. McGibbon.

Pair Ewe Lambs—1, Albert Boswall.

Pen—1, Albert Boswall.

Grades—Medium Wool.

Pen—1, W. F. McGibbon.

Fat Sheep.

Ewe, over 1 year—1, John H. King; 2, Albert Boswall; 3, Cephas Nunn.

Ewe Lamb—1, Cephas Nunn; 2, Albert Boswall.

Haley & Son Special Prizes.

Best Ram Fleece—1, Albert Boswall.

Best Ram Mutton—1, J. R. Semple & Son.

Best Ewe Fleece—1, Albert Boswall.

Best. Ewe Mutton—J. H. King & Son.

Best Ram, any fleece type, pure bred—Albert Boswall, French Fort, P. E. I.

Ram, mutton type—J. R. Semple & Son, Truro.

Ewe, any fleece, pure bred—Albert oBswall.

Ewe, any mutton type, pure bred—J. H. King & Son, Sussex, N. B.

Ganong Bros. Ltd., Special Prize.

Best Jersey Bull, any age—1, J. R. Semple & Son.

Jersey Heifer, 2 years or under—1, J. R. Semple & Son.

Jersey Calf, 6 months old or under—1, J. R. Semple & Son.

The St. Croix Courier's Prize

Silver cup to the owner of the best individual bull without regard to breed—Miss Van Horne, St. Andrews.

French Canadian Bull, 3 eyars old—1, Miss Van Horne. Dry Cow, 3 years or upwards, W. S. Poole, St. Stephen.

Any other pure breed of Dairy Cattle—Brown Swiss—All prizes in this class awarded to Ralph H. Libby, Stanstead, Que.

The Makers of Surprise Soap Special Prize.

Best bull, any pure breed beef type—Horne Bros., Winsloe, P. E. I.

Best Cow of any pure bred beef type—1, Horne Bros.

Best Calf, either sex, beef type, six months old or under—Horne Bros.

SWINE.

Improved Berkshires.

All prizes in this class awarded to J. R. Semple & Son, Truro, N. S.

Improved Yorkshires.

All prizes in this class awarded to Fred T. Lever, Rollingdam Station, N. B.

Any Other Breed.

Board, 2 years—1, Ralph H. Libby, Stanstead, Que.

Boar, under 6 months—1, W. S. Poole, St. Stephen, N. B.

Sow, 2 years—1, Ralph H. Libby; 2, Albion Moffatt, St. Stephen.

Sow, over 1 year, under 2—1, Albion Moffatt.

Sow, under 6 months—1, 2 and 3, Ralph H. Libby.

Sow with Litter—1, Ralph H. Libby.

Boar and 3 Females—1, Ralph H. Libby.

Fat Pigs.

Fat Hog—1 and 2, Thomas McDonald.

Fat Spring Pig—1, H. D. McKay, St. Stephen.

Grades.

Sow over 2 years—Moffatt Bros., St. Stephen.

Breeding Sow with Litter—1, W. F. McGibbon, Moore's Mills; 2, Melbourne Reynolds, St. Stephen.

Special prizes open to Members of Boy Breeders Clubs in New Brunswick—Yorkshire Sow—1, Fred T. Lever, Rollingdam.

Best Sweepstakes Boar, Oak Hall Special Prizes—1, J. R. Semple & Son; 2, Ralph H. Libby; 3, Fred T. Lever.

Fat Pig, any breed—1, Thomas McDonald.

F. Walsh, Judge.

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Honey and Bee Supplies, and Bee Products.

Comb Honey in Sections—1, Wilfrid Todd, St. Stephen.

Liquid Extracted Honey, Light—1, C. W. Lewis, Perth, N. B.; 2, Allie

(Continued on page 930)

THE MARITIME FARMER

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DATES OF ISSUE.

September	14—28
October	12—26
November	9—23
December	7—21

SEPTEMBER 28.

THE FARMER VS. MANUFACTURER

Agriculture is one of the industries that has never been put on a sound financial basis. Unlike men engaged in other lines of occupation, the farmer has never been able to get out of his business actual cost, plus reasonable margin or profit. And for this condition of affairs he has no one else to blame but himself. The trouble lies at his own door, and until he faces the issue squarely and fairly, there is not likely to be much of a change for the better.

When the manufacturer starts an industry his aim is to make it pay dividends, and that same thought should be uppermost in the mind of every farmer, whether he toils as a tenant or freeholder. The manufacturer invests his capital, starts the machinery in motion, turns out his wares, and then quietly sits down and figures out the cost of production, before he attempts to do any marketing. Then he adds a certain percentage to cover overhead expenses, and in addition, sufficient to reimburse him for the amount of money he has put into the business. His goods are then ready for the market, with his financial protection practically assured.

Now what about the farmer? Is he not a manufacturer in the same sense of the word, as is the man who turns out clothing, machinery, or any other commodity that might be named? Most decidedly. The agriculturist is a manufacturer of both raw and finished products. He must invest capital in exactly the same way that any other man does who turns his attention to industrial business. The manufacturer with his money buys land, puts up a building, equips it with machinery, engages his expert help and then proceeds to business. Does not the farmer have to do the same thing? Certainly. He makes a purchase of land, erects his house and barns, buys his livestock, and then starts operations. Up to this point both farmer and manufacturer have to all intents and purposes made precisely the same start in their business career. But unfortunately it ends there. Their methods of doing business from now on assume entirely different aspects. The one, as has already been pointed out, follows a course that leads to progress and advancement, yes, and safe assurance of compensation, while the channel taken by the farmer is diametrically the opposite. He does not know what it has cost him to produce his products of the field and stable, he figures nothing on capital invested, in many instances his own labor and that of his family is thrown in, and he goes into the market to sell his goods, with the result that he takes just what the middleman is willing to allow him, regardless of what should be paid according to the law of supply and demand.

But the argument comes back that notwithstanding all that has been said to the contrary about the farmer and his methods of doing business, scores of them are making money, in fact rolling in wealth, as Dr. J. H. Grisdale, Deputy Minister of Agriculture, saw fit to term it some time ago. Of course, many of them are making money. No sane man would argue differently. But the point we have in mind is that the great majority of farmers are not making the same return for capital invested that falls to the privilege of other classes. The farm survey investigations being conducted by Prof. Leitch, of the Ontario Agricultural College, are proving this to be the case. When farmers with a capital of anywhere from fifteen to thirty thousand dollars, invested in land and buildings in our most prosperous dairy sections, receive only five per cent. interest on investment, a free house, free milk and vegetables along with 32 cents per hour for his own labour, it is pretty good evidence that they are not being enriched to any undue extent. Moreover, this is all the more significant when it is taken into consideration that the life of the dairy farmer is one of long hours and great physical exertion, with little or no opportunity in these days of scarcity of good labor for recreation on his part or that of his family.

What is the remedy? Well, here is the answer given the other day by Past National Master Oliver Wilson in his address at the 53rd annual session of the United States National Grange:

> "The greatest need of agriculture from now on is neither subsidies, patronizing nor 'uplifting;' not further campaigns of investigation, literature or other superficial or useless camouflaging, all costing great sums of money, employing an army of non-producers at the expense of the public treasury, and all getting us nowhere. The time has come to simply classify agriculture as one of the great industries that make up our economic structure, and to treat it as one of the vital parts of that structure. This means such an adjustment of prices for farm produce, such a recognition of production costs, such a scale of hours and wages as will enable the farmer to run his business exactly as does the manufacturer of any other commodity—selling price to be based upon the cost of production, plus such reasonable margin as shall provide for depreciation of equipment, for interest on investment and for a fair profit over all.
>
> "When agriculture is thus classified, and thus rewarded, there will be no shortage of farm investors or farm workers, no scarcity of food and no need of any propaganda, either by Government or by anyone else, to 'popularize agriculture.'"

It seems to us that Mr. Wilson has touched a very vital spot, as a means to popularizing farming, which should commend itself to every thoughtful farmer whose desire is to put his business on a safe foundation, socially, financially, and otherwise. And the way to do it is, as Mr. Wilson says, through adopting some means of knowing what it costs to produce what we have to sell, and then through better organiation see that the selling price is worked out on that basis. Such a system would soon settle all controversies as to the selling price of milk, cheese, pork, fruit, in fact any commodity grown on the farm for sale, either for export or local consumption. Then why not give it a trial right now, when the farmers are in a mood for proper organization to protect their own interests?

THE WELL WATER SUPPLY

Impure well water is responsible for more sickness and disease than most people are aware. Its continued use leads to bowel disturbances, typhoid fever, and dysentery, affecting man and beast alike. Provision, therefore, for an adequate and satisfactory water supply is one of the prime necessities of life and the safe-guarding of that supply of equal importance.

Ordinarily, wells are exposed to contamination in two ways. The surface water, from rain, house slops, and barnyard drainage, may find its way into the well at or near the surface of the ground, or the ground water stream supplying the well may in its subterranean movements encounter cesspools or seepings from them, and carry with it soluble and suspended particles, some of which may enter the well.

In the selection, location and sinking of a well it is always a good idea to consider permanence in addition to safety. It should penetrate to a level below that of the ground water surface in the driest season and be located in such a position that the surface drainage from all possible sources of animal and vegetable contamination is away from it. The ground immediately around it should slope gently away and be paved if possible. The well itself should be so constructed that impurities can not get into it from above or the sides. If water can soak into it after passing through a few feet of soil only, it can not be regarded as secure from pollution. To prevent this the well should be provided with a water tight wall built of cement down to the water level. The outside surface of this wall should be covered with a thin layer of cement and clay pounded and puddled in around it.

If for any cause, there is reason to suspect that well water has become polluted, as it often does at this time of year, a sample should be sent at once to a chemical laboratory to be analyzed, which is the only way to tell whether it is pure or not, as there can be no dependence placed upon the color or general appearance of water. In this way you safeguard the health of your family and in the long run it is usually pretty cheap protection.

The mistake in small herds of selling the bull before the production capacity of his heifers is known too frequently occurs. Early disposal of the bull is usually due to the farmer not wishing to practice inbreeding to the extent of mating the bull to the bull's own offspring. Where a farmer has a neighbor who has a good bull of the same breed, and who also does not wish to inbreed, the situation is met by exchanging bulls In this way, young bulls, with good producing parents, can be conveniently kept until their production ability has been tested. Many bulls have been sacrificed at butcher prices, while, if they had been kept a year or two longer, or long enough for their heifers to show their milking capacity, they would have been worth five to fifteen or more times their value for meat.

* * *

There's only one way that's right, and all the other ways are wrong.

* * *

The world is filled with good brains which have missed the opportunity of training.

HOW TO GROUND LIGHTNING RODS

In the installation of any lightning rod system, it is well to consult an expert. A very small point may throw the entire system entirely out of working and so invite lightning rather than prevent it. For instance, conductors of whatever kind should be installed in straight runs as far as possible, avoiding abrupt bends. Where bends are necesasry they should be rounding and never square or acute. Another precaution, never have the rodding on a building divided into two separate systems. This condition would likely cause damage in case of a stroke because the current might jump from one system to the other. As the cable on the side of a barn is liable to be disturbed by live stock, it should be protected by wooden strips nailed over the cable for some distanle above the ground.

Formerly it was thought necessary to have all connections between the rodding system and the building insulated. Glass or earthenware insulators were used. Now, however, it is found that a good electrical connection with the walls of a building facilitate the harmless discharge of the electricity into the ground. Copper nails and metal clips of various kinds are now used to fasten the rods securely to the walls.

One of the important features of any rodding system is the location of aerials. As a rule aerials should be placed not less than 25 feet apart, along a ridge or flat roof. Each elevated portion of the roof, such as chimney peaks, towers, gabel roof, etc., ordinarily should have one or more aerials. In locating aerials it must be kept constantly in mind that they must serve to direct the stroke of lightning and to silently discharge static electricity. Obviously, if they are imperfectly erected and liable to be blown over durig a storm they are worse than useless. The point of an aerial should be strong and durable. There is no particular advantage in several small points over one large one. In fact, the smaller ones are more likely to be fused by the lightning stroke. Copper or iron points are generally preferred because they fuse less easily.

Among the many important details in the establishment of a satisfactory rodding system, getting a proper grounding is perhaps the most important. Unless the rods have continuous connection with soil moisture, the system may be a fire risk rather than a protection. There are several rather important technical points to consider in the grounding of a rodding system. In the first place the rods must be buried sufficiently deep to insure the ends being permanently moist. Again, the area of contact between rods and soil must be sufficient to make possible an immediate distribution of the electrical charge. Sometimes, it is impossible to get the rods into permanent soil moisure, because of a bed of rock. nI this case it is not wise to do like one is reported to have done. He made the rod into a coil and buried it in the surface soil. This makes the entire rodding system worthless and even dangerous. In case rock interferes with the deep burial of the rods, it is best to run the rods horizontally for some distance underground. Several different materials make satisfactory grounds. Copepr plates, standard cable, water pipes and cast iron rods have been used successfully. The practice of making a small hole in the ground and inserting a portion of the same conductor this is used above the building is not advised. Another precaution to take is not to locate grounds where there is manure. The ammonia will attack the rods, especially copper, and in a short time, they will be useless. On the average-sized L or T-shaped building there should ge at least three grounds.

ENGINEER.

THE GRANGE ON POLITICS.

The United States National Grange has issued the following statement which is of interest to farmers generally:

"The Washington office of the National Grange has been called on several times to take part in political contests, either where present members of Congress are being opposed by so-called farmer-labor coalitions, or are being favored by farmer organizations.

"To all such calls there is but one reply, and this statement is issued that there may be no possibility of a misunderstanding, reiterating the substance of what was stated in a previous bulletin issued from this office two weeks ago. The Grange, whether in its subordinate bodies, its county, or its state, or its national organization, does not participate in partisan politics. The organic law of the grange prohibits a grange from taking part in political nominations or during its sessions discussing political candidates. This organic law governs the National Grange as well as the smallest subordinate grange. It applies to the grange in any and every organized form, and to every grange officer acting in a grange capacity.

"Guided by a clear understanding of this rule of conduct, the Grange has refused to enter into co-operative relationship with other organizations seeking political results, or with any labor organization. There are two reasons for this. First, the principle of refraining from political activities. Second, the clear belief of the Grange that just now labor organizations are guided by narrow motives of class selfishness, and led by radical leaders seeking political changes detrimental to the principles of our government, and to what the Grange conceives to be true Americanism.

"The principle upon which the Grange rule is based in this political action should grow out of unselfish consideration for the greatest good to the whole people; not the selfish interests of a class or group. The Grange as an organization, therefore, refrains from joining any partisan appeal, or any group coalition, and is opposed to principles and to candidates for any purpose other than the best interests of the whole public.

"Least of all will the Grange enter into the most objectionable of all political activities, the dealing and dickering between the parties, threatening class opposition, or playing one against the other, with the promise of influencing votes in large blocks to the party or the candidates who promise them most. That form of non-partisanship is the opposite of the principle which actuates the Grange, 'the greatest good of the greatest number.' It is deliberately calculated for the special benefit of the best organized minority. The Grange as an organization refuses to be drawn into partisan politics. Its individuals are left free, and are urged by every teaching of the order to exercise every privilege and vry duty of citizenship, and to do so in freedom guided by their own individual judgment.

"A newer generation not familiar with the history of the 'groundswell' of the seventies, or the 'Farmers' Alliance' of the eighties, is now active in public affairs. This wave of farmer activity in politics which is now at its crest is neither noval or different. The Grange has lived through two such experiences, witnessed the rise and wane of these efforts, measured their results, and has seen its own organization and membership weakened by the failure to achieve anything tangible. It is sound judgment, based on the 'wisdom of the past' that keeps the Grange out of politics now. History proves that the fraternal, educational, social, and co-operative efforts of the Grange win far more for country people and country life than political activity or political office. For fifty-three years the Grange has fought for wise legislation, for sound policies of government, and for honest and economical administration, willing to let the electors of the nation choose the men to make and administer the laws, without the attempted domination of any class, clique, or group of the citizenship."

THE SEED PROBLEM IN CANADA.

Canada requires each spring approximately 65,000,000 bushels of seed grain and 9,000,000 bushels of seed potatoes to sow and plant her fields. These amounts represent approximately 8 per cent. of teh average annual production.

The area devoted to these crops in Canada annually is approximately 41,000,000 acres. An increased yield of only one bushel per acre all round would mean an increase of over 41,000,000 buehels, or an addition to the wealth of the country of at least $80,000,000.

The four main ways of increasing production are: (a) By adding fertility directly; (b) by better cultivation of the land and following a proper system of rotation; (c) by adopting and following out the best methods of protecting the plants from insects and diseases; (d) by the more general use of seed of better breeding and of varieties better suited to the districts where grown.

The need for greater attention to the quality and variety of seed sown is becoming more generally recognized. Agencies already active in seeking to improve the seed situation are: (a) Experimental farms and agricultural colleges; (b) various enterprises conducted by agricultural extension services, e.g., field crop competitions, boys' and girls' clubs and contests, experimental unions, as in Ontario, etc.; (c) the Seed Branch of the Federal Department of Agriculture, and (d) the Canadian Seed Growers' Association.

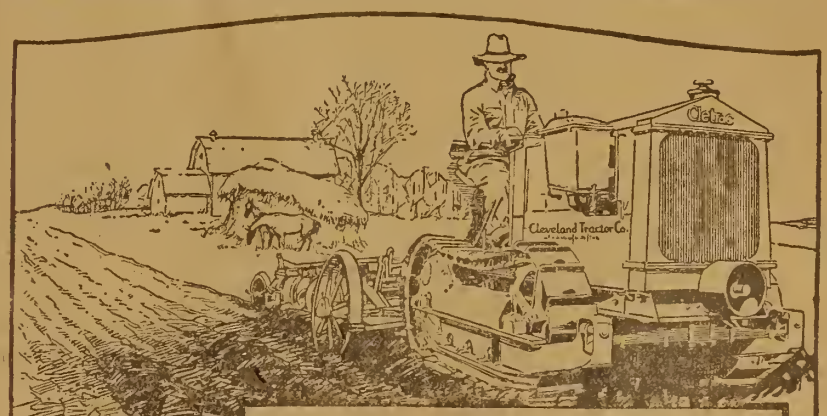
Full advantage should be taken of the growing tendency among farmers to study plant life and to try and produce more productive strains for their localities.

The most pressing problem at the present is that of making pure seed of suitable strains more easily available to farmers. The solution of this problem is being sought in the following ways:

(a) By encouraging organization of seed centres; (b) by improving marketing facilities; (c) by increasing the demand for good seed both in Canada and the United States; (d) by encouraging private enterprise and initiative; (e) by making the production of registerable seed an entirely practical proposition for any farmer whose location and system of farming permits it.

The production or isolation of improved varieties is carried on chiefly by experimental farms and agricultural colleges. Although the possibility of something better than we now have being produced by practical farmers is fully realized.

The encouraging of individual farmers to select plants which may mark the starting point of a superior strain is one of the two main functions of the Canadian Seed Growers' Association. The second function is that of supervising the propagation of improved strains in a large way and in a manner which will ensure that their purity and other industrial qualities may be maintained indefinitely—Synopsis of an address by L. H. Newman, Secretary, Canadian Seed Growers' Associaton, at the Conference on Conservation of Soil Fertility and Soil Fibre, held at the Fort Garry Hotel, Winnipeg, July 14th, 14th and 16th, 1920, under the auspices of the Commission of Conservation.



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THE WOODSTOCK EXHIBITION.

(Continued from page 907.)

Driving Horses.

Mare or Gelding—1, Chas. Palmer; 2, Harry Corey, Woodstock; 3, Warren Bull, Woodstock.

Matched Pair—1, H. C. Jones, Millville, N. B.

Mare or Gelding, driven by lady—1, Chas. P. Palmer.

General Purpose Horses.

Mare or Gelding—1 and 2, H. Hayden, Hartland; 3, C. H. Gray, Woodstock.

Matched Team—1, H. Hayden.

Agricultural Horses.

Brood Mare with Foal at Foot—1, F. Everett, Woodstock, 2, Donald Peabody; 3, Carey Dickenson.

Filly or Gelding, 4 years old—1, F. L. Hayden; 2, Chas. H. Gray; 3, Sam Keys, Woodstock.

Filly or Gelding, 3 years old—1, Chas. H. Gray.

Filly or Gelding, 2 years old—1, Wilfrid Budd, Woodstock; 2, Chas. Palmer.

Filly or Gelding, 1 year old—1, Carey Dickenson.

Foal of 1920—1, Donald G. Peabody; 2, Carey Dickenson; 3, Frank Everett.

Span—1, E. Avery; 2, F. L. Hayden; 3, H. Palmer.

Heavy Draft Horses.

Brood Mare with Foal—1, Howard S. Kearney, Southampton; 2, Warren C. Bull.

Matched Team, 4 years old and upwards—1, Samuel Keys.

Filly or Gelding, 4 eyars old—1 and 2, F. L. Hayden; 3, Chas. P. Palmer.

Filly or Gelding, 3 years old—1, C. H. Gray.

Filly or Gelding, 2 years old—1 and 2, Chas. P. Palmer.

Span Geldings or Mares, 3 years old—1, Chas. H. Gray.

Span Geldings or Mares—1, Harry Corey; 2, F. L. Hayden.

Hauling Match.

Team over 2800—1, Uraf Rhoda, Hogdon, Me.; 2, Frank Hayden; 3, Warren Hall, Grafton.

Team under 2800—1, Herb Lindsay; 2, Sam Keys.

Single Horse over 1400—1, Chas. Palmer.

DAIRY CATTLE.

All prizes in the Ayrshire class were awarded to McIntyre Bros., with the exception of 1st on aged bull, 2nd on Jr. Yearling, 2nd on Senior Calf and 2nd on Junior Calf, which went to Clover Nook Stock Farm, Hartland.

Brown Swiss.

All prizes in this class were awarded to W. A. Jolly, Waterloo, Que., with the exception of 1st prize for Heifer Sr., and 1st prize for Bull Sr., which went to Dr. Griffin, Woodstock, N. B.

Holsteins.

Bull, 3 years and over—1, Harding Bros., Welsford, N. B.; 2, Edwin Robinson, Windsor, Ont.; 3, C. S. Smith, Woodstock; 4, John W. Purvis, Woodstock.

Bull, 2 years old—1, Harding Bros.; 2, Earl Phillips; 3, F. Edwards, Lower Millstream, N. B.

Bull, Sr., 18 months, under 24.—1, Clover Nook Stock Farm; 3, Frank Edwards.

Bull, Sr., 12 months and under 18 months—1, Harding Bros.; 2, Warren C. Bull, Woodstock.

Bull Calf under 12 months, over 6—1, Harding Bros.; 2, Frank Edwards; 3, B. H. Avery, Plymouth, N. B.

Bull Calf under 6 months—1, Harding Bros.; 2, Frank Edwards; 3, Warren C. Bull.

Cow, 4 years and over—1, Harding Bros.; 2, Clover Nook Farm; 3, John W. Purvis.

Dry Cow, 4 years and over—1, Harding Bros.; 2, Clover Nook Farm; 3, F. Edwards.

Cow, 3 years old—1, Harding Bros.; 2, C. L. Smith; 3, Herb. Lindsay, Woodstock.

Dry Cow, 3 years old—1, Harding Bros.; 2, F. Edwards; 3, Clover Nook Farm.

Heifer, 2 years old—1, Harding Bros.; 2, Harding Bros.; 3, Warren C. Bull.

Heifer, 2 years, in milk—1, F. Edwards; 2, Clover Nook Farm.

Heifer, Sr., 18 months, under 24—1, Harding Bros.; 2, H. Palmer, Woodstock; 3, C. L. Smith.

Heifer, Jr., 12 months, under 18—1 and 2, Harding Bros; 3, J. W. Purvis.

Heifer Calf, 12 months, over 6—1 and 2, Harding Bros., 3, F. Edwards.

Heifer Calf, under 6 months—1 and 2, Harding Bros., 3, C. L. Smith.

Herd, 1 Bull, 4 Females over 2 years—1, Harding Bros.; 2, F. Edwards; 3, Clover Nook Farm.

Young Herd, 1 Bull, 4 Females—1 and 2, Harding Bros.; 3, F. Edwards.

Three Animals, any age, get of one sire—1 and 2, Harding Bros.

Three Animals, any age, progeny of one cow—1 and 2, Harding Bros.

Bull and 3 of his get—1, Harding Bros.; 2, J. W. Purvis.

Cow and 2 of her offspring—7, Harding Bros.; 2, C. L. Smith.

Jerseys.

All prizes in this class were won by E. de F. Holden, Freleighsburg, Que., with the exception of 1st prize for Bull Sr., and 2nd prize for Cow 3 years old, which went to A. J. Raymond, Woodstock, and 3rd prize for Heifer Calf over 6 months and under 12, which was won by Manzer Clarke, Woodstock, N. B.

Dairy Test.

Cow, 48 months old and over—1, Harding Bros; 2, E. H. Holder; 3, Warren C. Bull.

Heifer, under 48 months—1 and 2, Harding Bros.

Beef Grades.

Heifer Calf—1, H. C. Cochrane, Victoria, N. B.

Dairy Grades

Cow, 4 years and over—1, F. Edwards; 2 and 3, Warren C. Bull.

Cow, 4 years old—1, F. Edwards; 2, H. Palmer.

Cow, 2 years old—1, H. Palmer.

Heifer, 2 years old—1, Almon Boswell, Dunstaffnage, P. E. I.

Heifer Sr.—1, Warren Bull.

Heifer Jr., 12 months—1, Warren Bull.

Heifer Calf over 6 months—1, F. Edwards.

Heifer, under 6 months—1 and 2, Dr. Rankine, Woodstock.

Female, any age—Diploma, F. Edwards.

Canadian Bankers special, open to girls and boys under 17 years—Calf, 1, J. Bull, Woodstock.

Specials—Open to Purebred Holsteins

Holstein-Friesian Cow, 48 months and over—1, Harding Bros.

Holstein-Friesian Heifer under 48 months—1, Harding Bros.

BEEF BREEDS.

Shorthorns.

Bull Calf over 6 months, under 12 months—1, H. C. Cochrane, Victoria, N.B.; 2, F. B. Carvell, Woodstock.

Bull Calf under 6 months—1, Chas. P. Palmer; 2, Shaw Bros., Hartland; 3, B. Carvell.

Cow, 4 years and over—1, 2, 3, F. B. Carvell.

Heifer, Jr., 12 months, under 18 months—1, 2, F. B. Carvell; 3, Chas. P. Palmer.

Heifer Calf under 6 months—1, H.C. Cochrane; 2, Chas. P. Palmer; 3, F. B. Carvell.

Herd, 1 Bull, 4 Females—1, F. B. Carvell.

Bull and 3 of his get—1, Chas. P. Palmer; 2, F. B. Carvell.

Cow and 2 of her offspring—1, H. C. Cochrane; 2, F. B. Carvell; 3, Chas. P. Palmer.

Massey-Harris

Harvesting the Corn---Right

No need for anxiety about getting your Corn when it is "right" if you use a Massey-Harris Corn Binder. Its reliability allows you to wait till the Corn is just right for it gets it in quickly and without fear of being late. Cut too early it would affect the grain, and if too late it would lessen the feed value of the stalks, so with the Massey-Harris Corn Binder you get the Corn at its best.

It is easy to handle, and so constructed as to give perfect balance, which makes for an even and light draft, with no neckweight. Strong, the Main Frame being entirely of Steel, in one piece. Powerful, cuts all kinds of Corn with ease. Corn is carried to Knotter by Chains with Automatic Conveyor Fingers, which handle it as gently as human hands. No Packers to knock off the ears.

MASSEY-HARRIS CO., Limited

Head Offices—Toronto, Ont.

Branches at

Montreal, Moncton, Winnipeg, Regina, Saskatoon, Swift Current, Yorkton, Calgary, Edmonton.

Transfer Houses—Vancouver and Kamloops.

Agencies Everywhere

Dairy Shorthorns.

Cow, 4 years and over—1, H. C. Cochrane; 2 and 3, Chas. P. Palmer.

Cow, 3 years—1, H. C. Cochrane.

Cow or Heifer, 2 years—1, H. C. Cochrane.

Herefords.

All prizes in this class awarded to Geo. H. Benn, Houlton, Me.

Aberdeen Angus.

All prizes in this class went to Horne Bros., Winsloe Station, P.E.I.

SHEEP.

Cotswalds.

Ram, 2 shears and over—1, Almon Moswald, Dunstaffnage, P.E.I.; 2, Clover Nook Stock Farm, Hartland.

Ram Lamb—1, Almon Boswall.

Ewe, 2 shears and over—1, 2 and 3, Almon Boswall.

Shearing Ewe—1, Almon Boswall; 2, Clover Nook Stock Farm.

Ewe Lamb—1, 2 and 3, Almon Boswall.

Pen—1, Almon Boswall; 2, Clover Nook Stock Farm.

Pen Lambs—1, Almon Boswall.

Leicesters.

Ram, 2 shears and over—1, S. C. Stewart & Son, Sunnstaffnage, P.E.I.; 2, Clover Nook Stock Farm.

Shearing Ewe—1, S. C. Stewart & Son.

Ram Lamb—1, 2 and 3, S. C. Stewart & Son.

Ewe, 2 shears and over—1, 2 and 3, S. C. Stewart & Son.

Ewe Lamb—1, 2 and 3, S. C. Stewart & Son.

Pen—1 and 2, S. C. Stewart & Son; 2, Clover Nook Stock Farm.

Pen Lembs—1, S. C. Stewart & Son.

Lincolns.

Ram, 2 shears and over—1, D. G. Purvis, Woodstock.

Shearing Ram—1, Clover Nook Stock Farm.

Ewe, 2 shears and over—1 and 2, Clover Nook Stock Farm.

Shearing Ewe—1, Clover Nook Stock Farm.

Pen—1, Clover Nook Stock Farm.

Oxford Downs.

Ram, 2 shears and over—1, Clover Nook Stock Farm.

Shearing Ram—1, Clover Nook Stock Farm.

Ram Lamb—1, Clover Nook Stock Farm.

Ewe, 2 shears and over—1 and 2, Clover Nook Stock Farm.

Ewe Lemb—1, Clover Nook Stock Farm.

Pen—1, Clover Nook Stock Farm.

Pen Lambs—1, Clover Nook Stock Farm.

Shropshires.

Ram, 2 shears and over—1 and 2, Geo. L. Boswall, French Fort, P.E.I.; 3, Clover Nook Stock Farm.

Shearing Ram—1 and 2, Geo. L. Boswall; 3, Clover Nook Stock Farm.

Ram Lamb—1 and 2, Geo. L. Boswall; 3, Clover Nook Stock Farm.

Ewe, 2 shears and over—1, 2 and 3, Geo. L. Boswall.

Shearing Ewe—1, C. H. Scott, Hampton, Ont.; 2 and 3, Geo. L. Boswall.

Ewe Lamb—1, 2 and 3, Geo. L. Boswall.

Pen—1 and 3, Geo. L. Boswall; 2, Clover Nook Stock Farm.

Pen Lambs—1, Geo. L. Boswall; 2, Clover Nook Stock Farm.

South Downs.

Ram, 2 shears and over—1 and 2, A. Ayre, Hamilton, Ont.; 3, Cephas Nunn, Winsloe Station, P. E. I.

Shearing Ram—1 and 2, A Ayre.
Ram Lamb—1 and 2, A. Ayre; 3, Cephas Nunn.
Ewe, 2 shears and over—1 and 2, A. Ayre; 3, Cephas Nunn.
Ewe, shearing—1 and 2, A. Ayre; 3, Cephas Nunn.
Ewe Lamb—1 and 2, A. Ayre; 3, Cephas Nunn.
Pen—1, A. Ayre; 2, Cephas Nunn.
Pen Lambs—1, A. Ayre; 2, Cephas Nunn.

Hampshires.

Ram, 2 shears and over—1, A Ayre; 2, Cephas Nunn.
Shearing Ram—1 and 2, Cephas Nunn; 3, A. Ayre.
Ram Lamb—1 and 2, Cephas Nunn.
Ewe, 2 shears and over, 1, A. Ayre; 2 and 3, Cephas Nunn.
Ewe, Shearing—1 and 2, Cephas Nunn; 3, A. Ayre.
Ewe Lamb—1, Cephas Nunn; 2 and 3. A. Ayre.
Pen—1, Cephas Nunn; 2, A. Ayre.
Pen Lambs—1, Cephas Nunn; 2, A. Ayre.

Cheviots.

Ram, 2 shears and over—1 and 2, A Ayre.
Shearing Ram—1 and 2, A Ayre.
Ram Lamb—1 and 2, A. Ayre.
Ewe, 2 shears and over—1 and 2, A. Ayre.
Ewe, Shearing—1 and 2, A. Ayre.
Ewe Lamb—1, 2 and 3, A. Ayre.
Pen—1, A. Ayre.
Pen Lambs—1, A. Ayre.

Dorset Horns.

Ram, 2 shears and over—1, Geo. L. Boswall; 2, Clover Nook Stock Farm.
Shearing Ram—1, Clover Nook Stock Farm; 2, Geo. L. Boswall.
Ram Lamb—1 and 2, Geo. L. Boswall; 3, Clover Nook Stock Farm.
Ewe, 2 shears and over—1 and 2, Geo. L. Boswall; 3, Clover Nook Stock Farm.
Shearing Ewe—1 and 2, Geo. L. Boswall; 3, Clover Nook Stock Farm.
Ewe Lamb—1 and 2, Geo. L. Boswall; 3, Clover Nook Stock Farm.
Pen—1 and 3, Geo. L. Boswall; 2, Clover Nook Stock Farm.
Pen Lambs—1, Geo. L. Boswall; 2, Clover Nook Stock Farm.

Suffolks.

Ram, 2 shears and over—1, A. Ayre.
Ram, Shearing—1, A. Ayre; 2, Horne Bros.
Ram Lamb—1 and 2, A. Ayre; 3, Horne Bros.
Ewe, 2 shears and over—1, A. Ayre; 2 and 3. Horne Bros.
Shearing Ewe—1 and 2, A. Ayre; 3, Horne Bros.
Ewe Lamb—1, 2 and 3, A. Ayre.
Pen—1, A. Ayre; 2, Horne Bros.
Pen Lambs—1, A. Ayre; 2, Horne Bros.

Grades Long Wool.

Ewe, 2 shears and over—1, Almon Boswall; 2, Slover Nook Stock Farm.
Shearing Ewe—1, Clover Nook Stock Farm.
Lamb—1, A. Ayre; 2, Almon Boswall; 3, D. G. Purvis.

Grades Medium Wool.

Ewe, 2 shears and over—1, A. Ayre; 2, Geo. L. Boswall.
Swe, Shearing—1 and 2. Geo. L. Boswall.
Lamb—1 and 2, Geo. L. Boswall.
Pen—1, Geo. L. Boswall.

Fat Sheep.

Ewe, over 1 year—1, Cephas Nunn.
Ewe Lamb—1, Cephas Nunn.
Wether Lamb—1, Geo. L. Boswall.

Fleece Wool.

Fine medium—1, Cephas Nunn.
Coarse (domestic—1, Cephas Nunn.
Medium—1, Cephas Nunn.

SWINE.

Berkshires, Pure Bred.

All prizes in this class were taken by Shaw Bros., Hartland, N. B., with the exception of Boar over 1 year and under 2 years, 1st prize to Manzer Clark, Woodstock, and 2nd prize for sow, 6 months and under 1 year, to Percy W. Bull, Woodstock.
J. P. Lackville, judge.

Yorkshires.

Boar over 2 years—1, Fowler Bros., Welsford.
Boar, over 6 months and under 1 year—1, Fowler Bros.
Boar under 6 months—1, Gordon McKenzie, Welsford.
Sow, over 2 years—1, Fowler Bros.; 2, Chas. Gray, Upper Woodstock.
Sow, over 1 year, under 2 years—1 and 2, Chas Gray.
Sow, over 6 months, under 1 year—1, Chas Gray; 2 and 3, Howard Palmer, Jacksonville, N. B.
Breeding Sow with Litter—1, Fowler Bros.
Herd Boar and 3 Females—1, Fowler Bros.
J. P. Lackville, judge.

Tamworth.

All prizes in this section awarded to Clover Nook Stock Farm.

Fat Pigs—Boars Excluded.

Fat Hog—1, Ballentine Johnston, Woodstock, N. B.

White Chesters.

Boar, over 1 year, under 2 years—1, Ballentine Johnston.
Boar, under 6 months—1, R. B. Avery, Plymouth, N. B.

Poland China.

Boar, over 1 year, under 2 years—1, Warren C. Bull, Woodstock.
Sow, under 6 months—1, Warren C. Bull.

Special Prizes open to Members of Boy Breeders' Clubs in New Brunswick—Chesters.

Sow, over 5 months, under 1 year—1, Percy W. Bull, Woodstock.
Boar, over 5 months, under 1 year—1, Percy W. Bull.

DAIRY PRODUCTS.

Box Creamery Butter, Solid—1, C. M. Johnson, Bedeque; 2, Geo. Ransom, Woodstock.
Box Creamery Prints—1, C. M. Johnson; 2, Geo. Ransom.
Crock Butter—1, Thomas McLaughlin; 2, Geo. E. Teddie, Lr. Brighton; 3, Alex. Crocker, Woodstock; 4, Chas. Palmer, Woodstock; 5, Mrs. Chas. Gough, Woodstock; 6, L. B. McElhinney, Woodstock.
Box of Prints—1, Thos. McLaughlin, Pembroke; 2, Mrs. Alex. Crocker, Woodstock; 2, Chas. Palmer; 3, O. G. Mulbury, Woodstock; 4, Mrs. Cecil Avery, Woodstock; 4, Basil Palmer, Woodstock; 4, Mrs. John Emery, Woodstock.
Factory Cheese, made between 1st and 15th August—1, Harry Parlee; 2, Dan McCormack; 3, A. J. McGilvary.
Factory Cheese—1, Dan McCormack; 2, Harry Parlee; 3, A. P. McGilvary.

HONEY AND APIARY SUPPLIES.

Comb Honey in Sections—1, Phillip J. Bent, Pearl, N. B.; 2, Chas. E. DeMerchant, Pearl; T. H. Manzer, Aroostook Jac.
Light Liquid Extracted Honey—1, T. H. Manzer; 2, C. W. Lewis, Perth,

(Continued on page 930)

The Tripod of Ready Roofing

There is much more to ready-roofing than appears on the surface. You can't judge a roofing by its looks alone.

The three principal elements of ready-roofing—felt, saturant, and coating—may be compared to a tripod. This tripod supports the quality of the roofing. If one leg fails, quality suffers. When you buy Ru-ber-oid you know that no flaw will develop and a leaky roof result. The tripod which supports Ru-ber-oid Quality is sound at every point. Briefly, here are the facts:—

Felt
The backbone of ready-roofing is felt. Upon its quality, primarily, depends the life of the roofing. Because of this fact The Standard Paint Company of Canada makes, in its own factory, the felt which goes into Ru-ber-oid Roofing. This important work is intrusted to no outside concern. We know that only materials of the highest grade are used in the making of our felt.

Saturant
The saturant, properly compounded and applied, preserves the felt and will remain unchanged for many years. *It will not evaporate.*

The saturant used in Ru-ber-oid is composed of the highest grade of bituminous materials. It is forced into the felt under heat so that every pore is filled. *It stays where it is put; it cannot evaporate.*

Coating
The function of the coating is to seal in the saturant. Ru-ber-oid coating compound is a special mixture of animal and vegetable matter compounded with high grade asphalt. These materials can be mixed in many combinations but the one used for Ru-ber-oid will last longest without becoming hard or brittle, peeling, powdering, blistering or drying up.

THE STANDARD PAINT COMPANY
OF CANADA, LIMITED
52 Victoria Square, Montreal, Que.
Winnipeg Toronto Vancouver Highlands
MAKERS OF
RU-BER-OID ROOFING

There is but one Ru-ber-oid—Look for the Man on the Label.

The main ingredient ready for good butter making

Windsor Dairy Salt

Made in Canada

THE CANADIAN SALT CO, LIMITED

C316

DAIRYING.

DAIRY COW MAKES FARMING PAY

Every farmer where conditions will admit at all should not only produce raw material, but should manufacture that raw material into as nearly a finished product as he can with profit, for in this is his opportunity to make the most of his farm. Live stock is the machinery used in the farm factory, and food is the main product, but there are by-products as well. Wool, leather, and fertilizer are all important by-products of the farm factory.

For every pound of concentrates grown on the farm nature produces many pounds of roughage. While a portion of the concentrates may be directly converted into foood, and is sold for this purpose, none of the roughage may. It is a question of employing stock to convert these materials into food or simply to use them as fertilizer. Now when it is learned that live stock will make use of these materials, and yet put back in the manure an average of 80 per cent. of the fertilizing value, and that in a form much handier and more available, we can see that it pays to make use of them.

The cow ranks first as a converter of roughage into foood, and she will produce more food from the same weight of material than any other farm animal no matter what kind of feed it is. The hog ranks next, but with this very important difference—the cow consumes more roughage than concentrates, while the hog reverses this. Even without this the cow yields one-half more for the food, pound for pound.

The Independent Farmer a Dairy Cow's By-product.

The cow on the farm comes the nearest making the farmer independent of the conditions over which he has no control than any other one factor within his reach. With a herd of Holsteins that will convert all his feed into milk and a flock of hens and a bunch of brood sows to help take care of the separated milk and follow the cows, ordinary market fluctuations and transportation troubles will not worry the farmer, for his factory is running with room for a pretty good margin in tsese things. With a careful preparation for labor saving in buildings and equipment this problem will not be so threatening either. These days we can make our cow barns so nearly automatic in operation with the use of electric power, now within the reach of almost every farmer, that the hired man cannot hold much of a club over us.

Probably one of the greatest values of the dairy on the farm is the soli improvement bound to follow. Alfalfa and sweet clover are two of the most productive forage plants, rich in protein, and making a rich manure, and exceptionally valuable for feeding cows for milk production. Not only this, but they in themselves build up the soil. Silage with the grain in it, and alfalfa hay is the ideal ration, and rough pastures in sweet clover supplement these.

While ordinary crops fed to the dairy cow and the manure returned to the soil would gradually deplete the soil because of the presence of plant food not returned in the manure, these legumes take so much fertilizer from the air in the form of nitrogen and store it in the roots that this tends to balance the loss from feeding. Then when to this is added the regular supply of new plant food made available from nature's storehouse, it is a question whether we might not really make a farm increase in productiveness without bringing to it from outside sources any other plant food at all. Still feeding concentrates from outside sources and growing more and more forage crops makes the soil improvement more rapid, and this improvement in turn adds to the amount of silage crops and forage grown on the same acreage.

The dairy cow has paid off more mortgages, built more fine houses, and bought more bonds, than any other source of farm income. She is conservative, stable, and she and her product are subject to less chances of loss from strikes, panics, price crusades, foreign money markets, or any other of the hundred and one real or imaginary excuses for knocking the bottom out of values suddenly that keeps the farmer in hot water. She doesn't have to be marketed herself, and her product is regularly produced.

L. H. COBB.

FALL FEEDING MEANS GREATER MIL KFLOW.

Dariymen whose pastures are run down so that cows can just barely exist, have a tough winter's work ahead in order to catch up the lost condition. The extra winter feed required to make good what the cows lose by dry fall pasture is practically lost; an extra milk flow cannot be expected under such conditions. The method to get the steady milk flow and a healthy well conditioned cow, is to feed her well when pastures are failing.

When cattle are run down badly in flesh due to poor pastures it takes a long period of feeding in the fall and winter to make them regain their normal condition. All that time the farmer is paying the penalty, for his negligence, in extra feed and reduced milk flow. The breeder who keeps his herd coming along during the hot, dry summer months is the man who will reap the profit when the fall freshening and high priced milk is due.

Another serious condition often overlooked by farmers who allow their cows to run down in the summer is that a run down cow many times will produce a weak, unhealthy calf. Cows bred for fall calving are just far enough along in their gestation period to be most vitally affected by under feeding in August and September. The farmer must depend upon his calf crop for improvement and development. If he wilfully neglects his animals at this time he cannot expect his herd to become better.

It does not pay to negelct a herd in the fall months. A little feed at the right time often will save tons later on. Just watch the man who fall feeds this next winter. See if his checks are large and his calf crop stronger. Profit by his experience.

Now, if we wish to take advantage of the best results of progressive breeding for milk production we purchase purebred dairy cattle.

The efficiency of the cow as a milk-producing machine is mostly a matter of inheritance.

Soft as Down

AND warm as the coat of the maritime sheep from which they are made—Atlantic Underwear protects thousands of men from the icy blasts and piercing winds of a Canadian winter.

To wear Atlantic Underwear is merely to transfer the thick, warm, heavy woollen coat of maritime sheep to the back of the purchaser.

Atlantic Underwear will outwear any other line at the same price.

Its cut and fit is one calculated to satisfy the "hardest to please" customer. Try it—then lay in your winter stock.

LOOK FOR THIS TRADE-MARK—IT IS YOUR GUARANTEE

ATLANTIC
UNSHRINKABLE
The UNDERWEAR that Overwears

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ATLANTIC UNDERWEAR, Limited - Moncton, N.B.

SIMONDS

SIMONDS CANADA SAW COMPANY LTD
VANCOUVER B.C — ST JOHN. N.B.
Simond Steel
UNEQUALLED IN QUALITY AND UNIFORMITY
MONTREAL, QUE

Crescent Ground Cross-Cut Saw No. 13

This is a Champion Tooth, Regular Width Cross-Cut Saw. It is specially ground for cutting hardwood and is known as *No. 13 Special for Hardwood.* Simonds Saws are guaranteed to cut easier, saw faster, and stay sharp longer than any other brand of saw at any price. S-120-2

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VANCOUVER, B. C. ST. JOHN, N. B.

BRITISH HOLSTEIN MILK YIELD RECORD.

The remarkable progress made during recent years in Britain in the development of dairy cows generally is emphasized by the wonderful yield of Mr. G. Holt Thomas' British Holstein cow Colton Secret III., that has given under official test, 1$5¾ lb. of milk in 24 hours. The previous best daily yield of any British cow was 101 lb., given by Mr. F. B. May's famous 24,130 lb. British Holstein cow Eske Hetty, now the property of the Olympia Agricultural Company, of Sudbourne.

Colton Secret III., which was purchased for the Northdean herd at Mr. Hugh Brown's record-breaking Colton sale last November, was stripped dry in the presence of officials and independent witnesses at 10 p.m. on the evening prior to the test, and she then gave 30¼ lb. milk. The milk of the ensuing 24 hours was taken for trial, wit hthe following results:

	Weight of Milk.	Weight of Fat.
6 a.m.	30¼ lb.	.78650 lb.
2 p.m.	43¼ lb.	1.21100 lb.
10 p.m.	32¼ lb.	1.12875 lb.
Total ..	1$5¾ lb.	3.12625 lb.

The average of the three butetr fat tests was 2.96 per cent., and the percentage of butetr fat, calculated by dividing the weight of fat by the weight of milk, was 2.96 per cent.. The day of test was unfavorable, being cold and wet. For 31 days since calving on 15th March last, Colton Secret III. has averaged 84¼ lb. milk.

She is being fed a concentrated food ration composed of 3 of ground oats, 2 of bran, 2 of linseed cake, 1 of barley, and 1 of decorticated cotton cake. In addition, she receives silage, meadow hay, and roots.

CAUSE OF GARGET AND ITS TREATMENT.

It is generally believed that garget, mammitis or inflammation of the udder are winter and spring troubles with cows, but they may occur at any time. It is most prevalent, of course, when most of the cows freshen, and that is in spring or autumn, but it likewise occurs and is very troublesome on many farms during the hottest season of the year when grass tends to become bare and brown and flies are most pestiferous in their attacks. If it is borne in mind that any cause of sudden impairment of the circulation of blood away from the udder may end in garget, it will be more easy to understand summer attacks of the disease. The liquid ingredients of milk come directly from the blood and largely at the time of milking. Blood engorges the mammary gland in preparation for elaboration of milk. The solids, mainly butterfat and casein, are formed in the tiny milk cells or acini of the gland.

Shock or chill tend to cause stagnation of the blood and serum then flows into the tissues and distends the udder. That is the cause of acute congestion of the udder just before or after calving. When circulation is perfectly established congestionq subsides. Should it continue garget or inflammation occurs. Infection by germs, associated with other causes, results in the worst forms of garget which are likely to ruin attacked quarters of the udder for milk secretion. In hot weather cows often run wildly to escape torture of flies.

They heat themselves accordingly and should they then run into cold water, as often happens, chill and disastrous stagnation of blood circulation in the udder is bound to occur. Chasing by dogs, followed by standing in water or lying upon cold, wet ground, hsa a similar effect. Chill from sudden exposure to the cold summer thunderstorms is another cause. Chafiing of the distended udder between the thighs when the dairy cow is made to run on the way to the stable at milking time, or is chased by a dog at that time, is another but unsuspected cause. Lying upon bare cement floors when the udder is hot and distended also induces garget in summer. Flies clustering on the milk-wet tips of teats also carry infection and may set up the most disastrous forms of garget. So far as possible prevent such causes. Milk every two hours when a case is noticed. Massage well each time, Foment with hot water for 15 minutes every two hours, in severe cases. Once or twice daily, according to the severity of attack, rub in a mixture of one dram each of pure turpentine and fluid extracts of belladonna to the ounce of sweet oil, or melted lard, used warm. In severe cases prefer a mixture of equal quantities of camphorated oil, carbolized oil and compound soal liniment.

Ford
Touring Car
NATURE'S loveliest beauty spots, her choicest hunting grounds are far removed from the railroads, away from the much-travelled highways. Only a car of light weight and unusual power can traverse bad roads and marshy lands in safety. The Ford surmounts all road difficulties and takes you where you want to go.
The Ford Touring car is equipped with every modern refinement—one-man top; sloping double ventilating windshield; demountable rims, tire carrier and leather door grips. The horn button is mounted on top of the steering column and the headlights are equipped with approved non-glare lens. Electric starting and lighting equipment is furnished if desired at a slight additional cost.
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HOW SOME COWS FOOL YOU.

Anybody who has ever milked a cow for a year or even a few months at a time, knows that some cows start off with a big bucketful, and after a month or two they drop off very badly, After five or six months they don't give enough milk to pay for the trouble of milking them. Such cows, however, are so noticeably lacking in persistency that it is not hard to find them out. The cow that drops off so gradually that you don't notice it, is the one that will fool you the worst. Without weighing the milk one would not notice a difference of a quart or so between one milking and the next. Persistency is one of the biggest factors in making a good record, and it cannot be accurately kept trace of except by the scales and records, at weighing the milk once a month for several milkings.

AT LOWEST COST.

The greatness of a cow is not determined solely by the amount of milk she produces, nor by the high test of butterfat in her milk. Underlying this is the cost of production, which is daily growing more important to those who are looking for the greatest profits from their herds. Many dairymen now weigh the food consumed by the cows and are thus able to tell exactly which cow is producing at the lowest cost.

Dairying is a profitable industry if it is done along efficient and scientific lines, a thing that any farmer can do, and which costs no more than milk production by scrub feeding, with scrub cows, and by using a scrub bull. Get into the game for greater profit—feed, weed, and breed.

Farmers' Accounts

This bank began its career in 1832 when Canada was largely an agricultural country, and during the eighty-eight years of its life it has always given special attention to the care of farmers' accounts.

We pay interest on savings accounts, cash your cheques, take care of your notes and make collections when due.

Business conducted by mail if necessary.

7B

Paid-up Capital $ 9,700,000
Reserve - - 18,000,000
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We invite your account. Special facilities for banking by mail. 38 branches in New Brunswick. Head Office, Halifax, N.S.

The Hit of the Season

For the Farmer's Boy

You want him good and healthy,
You want him big and strong,
Then give him a pure wool jersey,
Made by his friend Bob Long.
Let him romp with all his vigor
He's the best boy in the land,
And he'll always be bright and smiling,
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—*Bob Long*

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Pull-over or Button Shoulder Style

Made for Hard Wear, Comfort and Smart Appearance

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149

When writing advertisers please mention the MARITIME FARMER.

LIVE STOCK.

SHERBROOKE AWARDS OF A MARITIME BREEDER.

Following are the awards captured at the recent Sherbrooke exhibition by Harding Bros., Welsford, N. B.:

2nd, Aged Bull.
2nd, Two-year-old Bull.
3rd, Senior Bull Calf.
2nd, Junior Bull Calf.
4th, Three-year-old Cow, dry.
1st, Two-year-old Heifer, dry.
1st and 3rd, Senior Yearling Heifer.
4th, Junior Yearling Heifer.
4th Senior Heifer Calf.
1st and 2nd, Junior Heifer Calf.
1st, Aged Herd.
3rd, Young Herd.
2nd, Herd of Four Calves bred by Exhibitor.
2nd, Get of Sire.
1st, Progeny of Cow.
Junior and Grand Champion Female.

VALUE OF LIQUID AND SOLID MANURE.

Farmers should save every pound of manure, liquid and solid. In intrinsic and market value barnyard manure is considerably higher than it was a few years ago, and is invaluable on the farm where it is produced. Sources of the three great essential plant foods, nitrogen, potash and phosphoric acid, whether as feed or straight fertilizers, are expensive. The price of acid phosphate is almost prohibitive, owing to various causes. Farmers who breed and feed live stock using as much as possible home-grown feeds are relatively more favorably situated than heretofore for obtaining their sources of plant food, compared with the exclusive grain-farmers. Notwihstanding the present high prices obtained for grains, the growers are finding the apparent advantage offset if they mean to replace those essential elements of the soil which they ship from the farm with each crop. The most up-to-date farmers have an underground tank or cistern connected with their cattle barn and stable drains. Sixty per cent. of the fertilizing ingredients of the feed eaten is contained in the liquid portoin of the manure, and those farmers who have no cistern to collect it should see to it more than ever before that sufficient straw or other absorbent is used for bedding. The fertility of farms where live stock enters largely into the operations can be distinguished at a glance in most districts from the apparent fertility of the land, and under presnt conditions this compartaive advantage over the grain-grower is bound to be more marked. Clovers and alfalfa, along with good live stock, are the things to enrich and preserve the fertility of farms.

THE PROPER CARE OF BREEDING BULLS.

The fact that most aged bulls must be kept confined in the barn or paddock a large part of the time is reason sufficient why they should have comfortable quarters that are clean and well supplied with pure air and sunshine. The dairy farmer who invests a large sum of money in an improved sire to build up the milk-producing qualities of his cows can not expect him to bring about the desired results unless he gives him plenty of oportunity to perpetuate the good qualities he has inherited from his superior ancestry.

It is plain to see that most dairy farmers keep young, immature bulls simply because they lack convenience to handle an aged animal or else are afraid to care for and lead him out when his services are needed. For this reason much of the good blood which might have been used to build up excellent dairy herds has been sacrificed through ignorance and neglect. From calfhood on the bull should be well fed, cared for and trained. Good care and proepr handling will do much to combat the tendency to become cross and unruly. When about one year old he should have a ring put in his nose and as soon as the wound is healed, taught to be handled with a halter and staff. Always watch out for yourself and never permit a bull to get you in a tight place, for nearly all of the accidents with bulls might have been avoided, if the man who was handling them had taken proper precautions to protect himself.

Exercise is one of the most important factors in the handling of breeding bulls, and most often neglected than any of the others. Any cross bull or one hard to manage can easily be quieted and easily handled, if given plenty of exercise on a tread power.

CHAMPION
"Heavy Stone"
B-13, ½-inch
B-43, ⅞-inch, 18
B-53, ⅞-18, long
B-73, ¾-inch
B-83, ¾-inch long
Price $1.25
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Dependable Spark Plugs Make Good Motors Better

Whenever you see "Champion" on a Spark Plug you can be absolutely certain that it will give you as near 100 per cent. efficiency as you may ever hope to obtain.

This is due to our famous "3450" insulator, which is practically indestructible, and to developing a special plug for each type of motor or gas engine.

"Champion" on the insulator is your guide to dependable service, satisfaction and economy.

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Champion Spark Plug Co. of Canada, Limited
Windsor, Ontario

Largest Factory in Canada making Spark Plugs exclusively

106

With a tread power, a large bull can do many odd jobs, such as grinding, pumping, and running a fanning mill. Every good dairy farmer who invests in a pure-bred sire should invest in a god stal land tread power. With these comfortable surroundings and means of working off his surplus energy he will be healthier and more potent, because of the enforced exercise. The mere fact that comfortable surroundings and plenty of exercise make bulls potent, kind and quiet means that more dairy farmers can kep old bulls that have proved their ability to beget high-producing heifers. One of the most discouraging features of our daily farming is the fact htat so much good blood has been lost by selling some of the best bulls before their breeding qualities were known.

The bull should have an abundance of good, palatable feed, and experience proves that such feeds as clover, alfalfa and mixed hay, wheat bran and ground oats make an ideal combination. Some corn silage may be fed along with the above feeds, but many of the leading breeders of dairy cattle prefer to feed roots or green feeds in place of corn silage. The impotency of many breeding bulls has been due to feeding excessive quantities of corn silage and not enough proteinaceous feeds. L. J. M.

YORKSHIRE SOW SELLS FOR $3,780.

The most remarkable prices for pigs ever realized in Britain was obtained at a recent sale at Delmeny Home Farm, near Edinburgh, Scotland, when the second home sale of Lord Rosebery's famous stock was held. The average prices realized for Yorkshires and Middle Whites quite overshadowed any previous sale of these breeds. At the same time a world's record price was made for a pig of any breed, a Yorkshire sow bringing the extraordinary figure of $3,700. The former highest price for a pig was $3,685 for a Large Black.

The record-priced sow—63,700—was Dalmeny Mana 2nd, a two-year old sow by the Highland Society champion boar, Jellico, and in pig to Bourne Emperor. She was the first prize winner at the Highland Society's show last year.

There was a quieter demand for the Kerkshires, the top price being $390, for the two year old sow, Lothian Hepsy.

The following were the averages:

	Average.	Total.
49 Yorkshires	$465	$22,790
33 Middle Whites	330	10.990
16 Berkshires	210	3,460

DO NOT TRUST BULL.

There is scarcely a farmer who does not have personal acquaintance with men who have been injured by bulls. In every neighborhood there is found some person who has suffered broken bones or painful hurts from attacks by animals, many of which had been considered perfectly kind and trustworthy up to the time of the attack.

In the fact of all this knowledge, it is nothing less than wicked for a man to take chances or permit his children or his hired men to take chances with a bull no matter how kindly the animal has always appeared to be.

Familiarity breeds contempt and after the herd sire has been handled for a few months without showing any viciousness, it is an easy habit to get into to disregard the ordinary precautions in feeding or handling him. It is better to be safe than to be sorry, is a good maxim, and it ought to be a positive rule on every farm that each person who has anything to do with the bull must never approach him without using every means for safety that is at hand.

Stock breeders will testify that there is no trusting a bull; that one may appear kindly and affectionate or stolid for a whole year and then apparently without reason, suddenly become vicious. You can not take chances with him.

ALWAYS BURN BODIES OF DEAD LIVE STOCK.

On any farm it is extremely dangerous to leave the carcasses of dead animals exposed, and particularly so, if the animal has died from some contagious disease. Germs are carried by birds and animals that prey on the carcass annd in this way hog cholera, anthrax and other serious live-stock maladies are spread. The safest method is to burn all animals dying of contagious disease. The following method is recommended by a live-stock authority:

Dig a trench 18 inches deep and the length of the carcass. Place iron bars across the trench and roll the animal on. Cut a number of slices in the body. Place some wood and hay in the trench. Pour about a half gallon of kerosene over the animal, letting it run down into the trench. Put a layer of hay completely over the carcass, then a thick layer of manure, another thin layer of hay and last a thick layer of wet manure. Make a fire break around the carcass and then set a match to the hay in the trench. The burning will probaly continue for several days, but upon investigation it will be found that nothing is left but ashes.

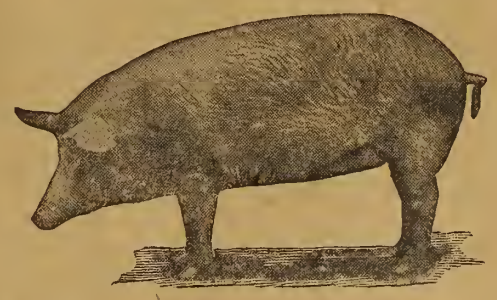
CLOSE GRAZING PASTURES.

Close grazing often endangers a pasture. That is one reason why the use of two or more small pastures are often better than one big pasture field, as it allows one to shift the live stock from one field to another when a rest of a week or two will be of great benefit and give the grass a chance to recover. If it has been necessary to thicken a pasture by sowing a little seed one will be better able to improve the stand by constant shifting of the stock. Permanent pastures may also be protected and made to yield better returns in most years by letting the stock pasture other crops when possible.

A few breeders have achieved a measure of success without patronizing fairs and exhibitions, but the number is so small as to be almost negligible.

Build Solid, Fine-flavored Meat on Your Hogs with EMPIRE Hog Feed

The right hog feed will not be wasteful by providing too much protein nor will it be over-economical so that there is not enough protein to secure the best results.



To arrive at a feed that will avoid both extremes is not easy, and means long, patient research and actual tests in experiments on the hogs themselves.

EMPIRE Hog Feed was not put upon the market until we were sure of its being perfectly balanced, tested and proven.

EMPIRE HOG FEED

Now, we know, and we offer this feed to hog-raisers with every confidence that it is the best for them to use. We are not trying to compete with low-grade feeds that are mixed to get down to a price. EMPIRE Hog Feed has its own standard—the highest—and while it costs a little more will positively yield big results.

"Costs More, but— It's Worth More"

ANALYSIS GUARANTEED

Protein, not less than.....16%
Fat, not less than..... 4%
Fibre, not more than..... 8%

Try also EMPIRE Dairy Feed and Empire Horse Feed—both carefully balanced rations of extra quality ingredients—the sort of feeds that cannot fail to give best results.

Make a careful test and watch results—that's all we ask. 32

EMPIRE FLOUR MILLS LIMITED - ST. THOMAS, ONT.

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A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price $1.75 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Toronto, Ont.

The laws of the land are rather lenient in regard to the working of horses with sore shoulders or other parts where the harness bears heavily. Many horses have tender skin which is easily wounded, but in the majority of cases sore shoulders are directly due to negligence. If the collars fit properly and are kept clean, and the shoulders bathed and rubbed there is not much danger of bruised fresh or open sores. A real horseman is seldom found driving horses with bruised flesh or raw sores.

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TRADE MARK REG. U.S. PAT. OFF.

Will reduce **Inflamed, Strained, Swollen Tendons, Ligaments, or Muscles.** Stops the lameness and pain from a **Splint, Side Bone** or **Bone Spavin.** No blister, no hair gone and horse can be used. $2.50 a bottle at druggists or delivered. Describe your case for special instructions and interesting horse **Book 2 R Free.**

ABSORBINE, JR., the antiseptic liniment for mankind, reduces **Strained, Torn Ligaments, Swollen Glands, Veins** or **Muscles; Heals Cuts, Sores, Ulcers.** Allays pain. Price $1.25 a bottle at dealers or delivered. Book "Evidence" free. W. F. YOUNG, Inc., 124 Lymans Bldg., Montreal, Can.

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LINIMENT

The best all-round liniment for the stable as well as for household use. Cures thrush, sprains, bruises. STOPS BLEEDING INSTANTLY AND PREVENTS BLOOD POISONING. Keep it handy.

Price 35c.
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THE HORSE

THE MEMORY OF A HORSE.

While nursing a broken leg and crushed ankle unforgettable memories come crowding on me, one brought by my neighbor's riding in on a blaze-faced horse with glass eyes. I asked if the horse had a good memory. The owner said yes. Then I told him a story of my boyhood days:

In 1864 one of the Union soldier body, on being discharged at St. Louis, bought the mare which he rode in the service in Missouri, for he was greatly attached to her, and rode her home to woodford Co., Ill. We called her Queen, she was such a beauty and went so strong under the saddle and was so gentle. In the fall of 1870 my oldest brother moved from Woodford county to what is now Cowley Co., Kans. I, a lad of 17, drove one team, of which Queen was more than half as she always had her stay chain stretched. We crossed the Mississippi at Quincy, passing through Paris, but falling in with some undesirable travelers we turned almost due south toward Mexico and planned to cross the Missouri at Jefferson City instead of Boonville. Somewhere between Munroe City and Mexico and Paris the mare became very restless and fretful for several miles. My brother thought it my fault and gave me a round scolding. Finally he noticed that Queen wanted to turn at every road lteading to the right. Since it was about four in the afternoon and the mare was very hot, brother decided to camp.

At a wide lane leading up to a large, old-fashioned house we turned in. Brother took the water jug, went to the house and asked if he could camp there, explaining that he feared he had a horse with the colic. "Certainly, just drive in that little pasture lot and turn loose."

We fed the horses and were getting supper when an old gentleman from the house came to say "Howdy." Ae he talked t kept looking at Queen and finally said: "Stranger, that mare ain't sick. Fact is, you've got my mare and she is so glad to get home she can't eat."

He stepped up to her and called her a pet name. She whinnied and laid her nose on his shoulder.

"Now stranger, she's mine, and I am going to prove it to you. I would know her among a thousand, not only by her bald face and glass eyes, but because I raised and trained her, and know every dapple on her and the little wart on her left ear. She knows me and her name, and she ain't going away as long as she lives or I live."

Brother said, "I bought her for $125, got her second-hand from Uncle Sam."

"That's just it. The aYnkees stole her, they did. I'll prove it to you and that she is as smart as tacks. I will go to the barnlot gate and call her. You slip off her halter, and if she don't come to me on a gallop, reach over and unpin the door and go in the second stall you may have her; if she does she stays there, do you understand?"

Queen did exactly as he said and slept in her old bed the flist time for more than eight years; she did not forget. But there was gloom and little sleep in our camp that night. Early in the morning the old farmer came bringing a bucket of milk and about a gallon of honey. He said to brother, "Well, you did not slip out by mare and skin in the night so just make a good breakfast. But what are you going to do? You can't have my mare, that's certain. The Yanks stole her and well nigh every good thing we had, but one saddle stallion they didn't get because I was riding him."

So he talked until after breakfast was over. Brother offered to buy Queen or to pay him to let him have her without trouble or delay.

"So, sir, I can prove my property by all of the family who are left and my neighbors, too, and you can't have her, not at the end of the law. Stranger, you are in a bad fix sure, but you can't have her, no sir!

"See that bunch of colts over there, three- and four-year-olds. They never had harness on, but are of gentle, good stock. Pick out the one you want, but you can't have my mare."—Frank Darst, Garvin Co., Okla., in Breeder's Gazete.

HELP THE CHILD
TO HELP HIMSELF

It is difficult for a child to realize the value of money. Make him a present of a Savings pass book. The Savings Account will mean far more than the amount deposited. It will mark the commencement of

THE HABIT OF THRIFT

OPEN AN ACCOUNT FOR EACH CHILD IN

THE ROYAL BANK OF CANADA

HORSEMANSHIP.

In these busy times grooming is beooming a lost art and good horsemanship is getting rarer and rarer.

Cord or Fabric.

Chance never drew a neat picture nor built a fair house.

In the making of Partridge Tires nothing is left to chance—detail perfection is secured by craftmanship scientifically directed, and rigid inspection insures outstanding quality.

Partridge Tires are all that good Tires can possibly be.

PARTRIDGE
TIRES
Came as Their Name

118A

Horses are well fed, as a rule, on the farm especially during the busy season, but the teams do not get the care that brings them out of the stable in the morning glossy and prancing. Heay wovrk horses are not disposed to do much prancing at any time, but the appearance of the coat and condition of the harness tells the tale. Farmers and their sons do not take the interest in their horses that was common ten or fifteen years ago. The horse is made a beast of burden and little more and much of the pleasure that can be derived from holding the reins over a "bang-up" good team is not sought after or experienced as it formerly was. It is unfortunate indeed when one looses his zeal for a good horse; the most intelligent and most faithful servant of man. The Boston Work-horse Relief Association, organized to improve the horses and give them better care in that munii-pality, has published a book in which are many hints and much good advice. The Stable Rules given by the association and published below are a good guide to teamsters and horsemen everywhere. They may not lend themselves to farm practice at all seasons, but they are sound in principle, and worthy of consideration:

Stable Rules.

1. The best order in feeding is: Water, hay, water again, grain.

2. Never give grain to a tired horse. Let him rest and nibble hay for an hour or two first. Grain in the manger before the horse comes in looks bad.

3. Water the horses as often as possible; but let the horse that comes in hot drink a few shallows only, until he is cool.

4. Always water the horse after he has eaten his hay at night. Do not go to ged leaving him thirsty all night.

5. Do not forget to salt the horse once a week; or, better yet, keep salt always before him. He knows best how much he needs.

6. Give a bran mash Saturday night or Sunday noon; and on Wednesday night also, if work is slack. After a long day in very cold or wet weather, a hot mash, half bran and half oats, with a tablespoonful of ginger, will do the horse good. Put very little salt, if any, in the mash.

7. If the horse does not eat well, or slobbers, examine his teeth.

8. Keep a good, deep, dry bed under the horse while he is in the stable, day or night, on Sundays especially. The more he lies down, the longer his legs and feet will last.

9. In order to do well, the horse must be kept warm. Give him a blanket on cool nights in late summer or early fall, and an extra blanket on an extra cold night in winter.

10. In cold rains do not tie up the horse's tail. The long tail prevents the water from running down the inside of his legs, and keeps off a current of air from his belly.

11. Take off the harness, collar and all, when the horse comes in to feed. He will rest better without it.

12. Never put a horse up dirty or muddy for the night. At least brush his legs and belly, and straighten his hair.

13. In hot weather, and in all weathers if the horse is hot, sponge his eyes, nose, dock, and harness marks, and the inside of his hind-quarters when he first comes in.

14. When the horse comes in wet with rain, first scrape him, then blanket him, and rub his head, neck, loins and legs. If the weather is cold, put on an extra blanket in 20 minutes. Change the wet blanket when the horse dries. Do not wash the legs. Rub them dry or bandage loosely with thick bandages. It is far more important to have the legs warm and dry than clean.

15. To prevent scratches, dry the horse's fetlocks and heels when he comes in, especially in winter; and rub on a little vaseline before he goes out in snow or mud.

10. Examine the horse's feet when h ecomes in, and wash them if he does not wear pads. If a horse in the city is not shod in front with pads, apply tar and oakum. It is absolutely necessary to keep his feet soft by packing them, or by wrapping a wet piece of old planket around the coronet, or by applying some hoof dressing or axle oil, inside and out, at least three times a week.

A Horse in the Fields is worth Three in the Stable

A horse that's working is paying for his keep. Three lame or sick horses in the stable are simply an expense From now on, you need your horses every day and all day. Get them in condition and keep them in fine condition, with

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HORSE LINIMENT AND CONDITION POWDERS

With these reliable remedies in the stable (used by thousands of Farmers, Liverymen and Horsemen) you can rid your horses of all their ailments such as Coughs, Heaves, Colic, Distemper, Splint, Curb, Spavin, Enlargements, Glanders, Pink Eye, Cracked Hoof, Kidney Trouble, Fever, Sores, Bunches.

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WALTER SLATER—"Cash Livery"

Full directions are on each package so you can treat your stock yourself and keep them in prime condition at small expense. 105

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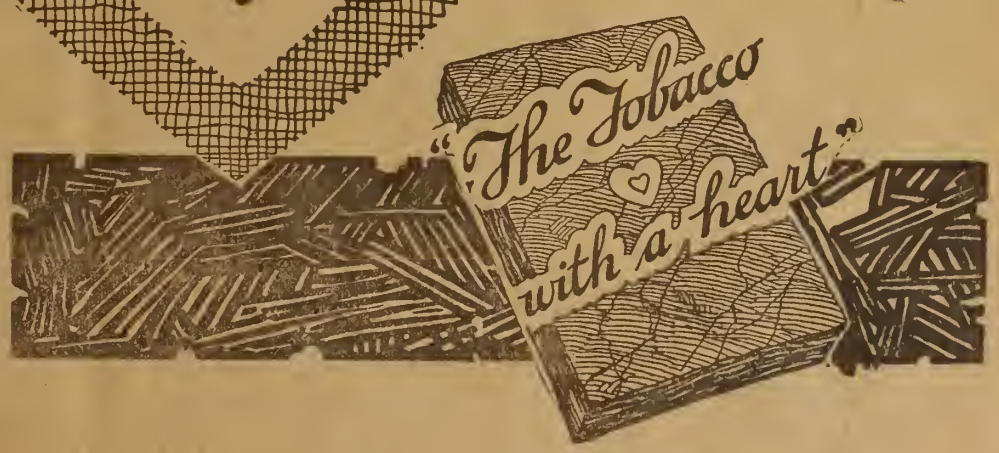

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Write for full particulars at once, and ask to have a place reserved for you.
Address:
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The First Week In September

Is the beginning of our busy season

No need of waiting till then. Students may enter at any time, and the inflowing tide has already set in.

Send For new Rate Card.

The Fredericton Business College

The time spent in preparing green feed for laying hens is well paid for in increased production. As to the milk the having has been a clear gain for we had no other use for it.

When the hens had all the milk they would consume and all the green feed they wanted we found that they ate approximately an ounce less of grain a day.

A MESSAGE TO WOMEN!!

LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, post-paid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me today for free trial treatment.

Mrs. M. Summers, Box 309 Windsor, Ont

POULTRY.

HEN HOUSING HELPS.

The time is now at hand when poultry is no longer considered a necesary evil upon the farm. Most farmers now consider poultry a very profitable sideline in any farming business. With a realization of its value comes the realization that in order to make it profitable, poultry must be properly housed. proper housing does not necessarily imply elaborate or expensive buildings, but a few very important essentials must be borne constantly in mind by the poultry-keeper.

Winter eggs are an out-of-season product, as are fresh winter vegetables and hothouse strawberries. The truck farmer would never think of attempting to produce winter cucumbers, lettuce, tomatoes and strawberries without a heated greenhouse. Neither should we expect to produce winter eggs without providing housing conditions for hens which most nearly aproximate spring, the season of highest production. With the laying hen, proper housing conditions spell comfort and high production.

A few of the more essential features of the house which contribute toward the comfort of the laying hen are: Freedom from moisture, abundance of sunlight, plenty of room, protection from excessive heat and cold, ventilation and sanitation.

The damp, cold house saps the vitality of the fowls, lowers production and aids the spread of disease. The hen can elimnate moisture from the body only through the respiratory organs. A damp, cold atmosphere causes the fowl to be uncomfortable, breathe rapidly, pant, and finally to become completely exhausted. Fowls weakend or in an exhausted condition are easily susceptible to disease.

Sunlight is a good grmicide, helps to keep the house dry and warm, and therefore helps to approximate spring conditoins. Provision should be made so that he sunlight will strike all aprts of the house at some time during the day.

A hen too closely confined soon becomes restless and uneasy. Restlessness results in discomfort and the development of such vices as egg-eating, feather-pulling and cannabalism. There should be plenty of room in the house for proper exercise, not less than four square feet per bird in flocks of less than 100.

Sudden changes of temperature lower production. It is, therefore, necessary to protect the poultry house from north winds. This may be accomplished by locating it in the lee of another farm building, an orchard, or a row of trees. Shade should be provided for the fowls in hot weather.

Adequate ventilation helps to keep the house free from moisture. Plenty of ventilation without drafts keeps the fowls healthy and vigorous. When fowls are alolwed to roose in a draft, they catch cold easily.

Any poultry house should be so constructed that it may be easily cleaned and disinfected. Most common poultry diseases are highly contagious. Mites breed rapidly, and in houses which are hard to clean are extremely hard to eradicate.

It is also quite as essential to locate the poultry house where it will fit in to the routine of every-day farm work. It should be near enough to the other farm biuldings so that the care will consume a minimum of time and labor, and yet not be so near that the birds will be a nuisance.

Attention to these more important features of the subject of poultry housing contribute much toward success.

REMOVE MALE BIRDS FROM THE POULTRY FLOCK.

The presence of male birds in the flock during the summer months has a decidedly detrimental effect upon the quality of eggs and poultry producers lose many thousands of dollars annually through the presence of partly incubated and bad eggs in the produce they market. Reports are now being received from all parts of the country of the number of partially incubated eggs appearing in current receipts. Producers do not realize that it is unnecessary for a fertile egg to be placed under a broody hen to cause the germ to grow; a temperature of 70 degrees is sufficient to start incubation. If the heat is constant, the development of the chick will continue, but if it ceases or is intermittent, putrefaction at once sets in and the egg becomes bad. Such eggs have no place or value in shipments, and should they get to the consumer the

Cowan's
MILK CHOCOLATE COWAN'S ALMOND NUT BAR
The Great Chocolate Industry of Canada
G23

When Home Seems Good

A BLIZZARD OUTDOORS—warmth and comfort within. There is nothing in the home so necessary as a good furnace. Stoves and base burners are unequal to the task—they choke the air with dust and only warm parts of the house.

And buying a furnace is a matter of knowing how. The warm air heating system is the least costly. It is the most effective and healthful too. The

ENTERPRISE BLAZER WARM AIR FURNACE

will keep every corner of your home delightfully comfortable in all kinds of weather. It draws in the pure fresh air from the big outdoors, warms and moistens it and sends it on its way to you. Stoves and radiators can only heat the same air over and over.

Every part of the Enterprise Blazer Furnace is made just a little bit better than is necessary—the grate bars a little stronger—the fire-pot a little heavier. These are the things that enable us to guarantee that the Blazer Furnace will give you entire satisfaction.

Go fully into the matter with your dealer and write us for our free booklet "Warmth and Comfort"

The Enterprise Foundry Co.
Limited
SACKVILLE, N. B.
Makers of the well-known lines of Enterprise Steves, Ranges and Furnaces 22

consumptive demand immediately falls off.

The male bird is not essential in egg production; his usefulness is over when the supply of fertile eggs for the season has been secured. The hens will lay just as many eggs when the male bird has been removed and the eggs will be more suitable for consumption, packing of storing. Further, there is a distinct financial gain to the producer who markets infertile eggs, because the best trade in many cities offers a premium of from one to five cents a dozen for infertile eggs.

Then there is the question of feed. It costs money to feed pounlry, and with feed at its present value, the consumption of feed by males kept for no particular purpose is a serious waste. The reason for this is that the best prices for live and dresed fowl prevail in the spring and early summer. During the summer the price declines, and by the early fall when many producers decide to market their male birds, a lower price than prevailed in the spring has to be accepted; the producer thus losing the amount per pound the market has declined, plus the value of the feed consumed by the birds during the summer months. This financial loss takes on a more serious aspect when it is coupled with the amount charged back by the wholesaler for the bad and partially incubated eggs that have been marketed.

Farmers and others selling eggs for market should, therfore, need no urging to kill off, dispose of, or at least remove the male birds from the flock after the breeding season.

DOSING CHICKENS.

Slight cases of diarrhoea can be greatly benefited by adding a few drops of spirits of camphor to the drinking water; also add finely ground charcoal to the soft feed.

Nothing better than linseed meal for indigestion. Give a gill in the soft feed, to each dozen hens. A teaspoonful of fenugreek added to the mash for every 10 fowls is also a good remedy.

A pill made of a half grain of puinine, one grain of sulphate of iron and five grains of phosphate of lime, is just the thing for cases of leg weakness. A more simple remedy is 10 drops of tincture nux vomica in a quart of drinking water.

A pill of asafetida, about the size of a pea, given night and morning, is highly recommended for cases of limberneck.

When the fowl "rattles in the throat," it is evidence that there is some bronchial affection. This "rattling" will be more plainly noticed at night, while the fowls are roosting. Give a half teaspoonful, every morning, of a mixture composed of equal parts of vinegar and water. If this is not effective, treat with a mixture of one part of spirits of turpentine with four parts sweet oil, giving 10 drops daily.

There is no more effective remedy for scaly legs than to coat them with gas tar, allowing the preparation to remain on the legs until it wears off. The scales, as a rule, come off with the tar. To make a still more complete job of it, after the tar has worn off, is to wash the legs with warm water and carbolic soap, and after wiping dry apply a preparation of one-third carbolic acid to two-thirds glycerine. The glycerine has a tendency to soften and bring out the color on the shanks and toes that may have become harsh and dry.

A drop of glycerine is also a sovereign remedy for sore eyes.

Penmans Underwear

"THE STANDARD OF EXCELLENCE"

"NOT a flaw, my boy, not a hard thread! You will get no end of wear from that garment!"

Who is a better judge of woollens than Grandma? She has knitted nearly all her life. Judging materials was part of a young girl's training in her day.

Grandma readily recognizes the quality in Penmans underwear.

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FEEDING FOR EGGS.

In order to obtain an abundance of eggs it is necessary to have healthy, vigorous stock, properly fed.

The following are good grain mixtures for the laying stock, the proportions being by weight:

Ration One—Equal parts of cracked corn, wheat, oats. Ration Two—Three parts cracked corn, two parts oats, one part wheat. Ration Three—Two parts cracked corn, one part oats.

A choice of any of these rations should be scattered in the litter twice daily, morning and evening.

Either of the following suggested dry mash mixtures should be fed in a dry mash hopper allowing the fowls to have access to it at all times.

Mash One—Two parts corn meal, one part bran, one part middlings, one part beef scrap. Mash Two—Three parts corn meal, one part beef scrap.

When fowls do not have access to natural green feed, sprouted oats, cabbage, mangels, cut clover, etc., should be fed.

When wet mashes are fed, be sure that they are crumbly and not sticky. Plenty of exercise increases the egg yield.

Fresh, clean drinking water should be always provided. Charcoal, grit, and oyster shell should be placed before the fowls so that they can have access to them at all times.

BREEDING MALE BIRD.

1. He should possess the characteristics and markings of the breed and variety of which he is a member.

2. Strong vitality.

3. Active movement.

4. Good health as indicated by ruddy combs and wattles.

(It is not advisable to use a bird for breeding which has ever had a disease even if there are no indications of it at present.

5. No marks of effeminacy. Crow should be strong and clear.

Fancy and Utility White and Barred Plymouth Rocks

Orders booked now for Sept., Oct., Nov., and Dec. delivery.
We offer a limited number of Cockerels and Pullets at reasonable prices. Write us your wants and let us quote you.
All stock shipped on approval.
See our displays at the Fall Fairs.
Our Stock bred to lay, win and pay.

CENTREVILLE POULTRY YARDS
G. E. Wilson, Mgr.
CENTREVILLE - - - - N. B.

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Shbjects relating to household science and all that stands for better homes and communities will be published on this page. The editor, Mrs. M. A. MacLeod, Sussex, N. B. solicits your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

Be satisfied and pleased with what thou art,
Act cheerfully and well the allotted part.
Enjoy the present hour, be thankful for the past
And neither fear nor wish the approaches of the last.
COWLEY.

"THE MOURNING DOVE"

The old Parr house had stood empty and been on sale so long that everybody on Pink street had become resigned to being stared at by its uncovered windows, which were like so many desolate eyes, and to wading over its unshoveled walk in winter. When finally the Town Tattler announced that it was sold there was a good deal of comment.

As it chanced, there was only one new neighbor, though she brought good furniture enough for a large family. Mrs. Orr followed close upon the furniture and for several days the house buzzed with the business of paperhanging, painting and getting settled.

Old Mrs. Foley called first. She was the oldest Pink streeter and she never allowed any one to rob her of her prerogative of setting the pace for others to follow. She took Miss Jessup with her and they came away charmed.

"You must go to see her," Mrs Foley commanded Jill Wing. "Now, don't hold off the way you usually do with newcomers in this town. Remember, she's now as much a Pink streeter as you or I. Go to see her and take your mother along."

So Jill took her mother to see Mrs. Orr. A maid admitted them to the parlor and left them to admire the new paper and the furnishings, which were so different from their own home shabbiness. Jill saw herself in the mantel mirror and realized suddenly that sponging and pressing wasn't going to keep the shine off her blue suit forever and that the muff she had contrived out of an old cape of her mother's had a wantonly home-made appearance. At least her mother's bonnet was quite fresh and becoming.

It helped matters somewhat. But then it ought to, for Jill realized that Cousin Fanny, who had sent the bonnet from the city, had paid a pretty penny for it.

At that moment Mrs. Orr entered. She was very small, very plump, very demure. She wore a simple gray dress of softest crepe de chine, which clung to all her curves tenderly. Her meek brown hair was plastered quaintly on her round, smooth forehead, underneath which large green-gray eyes looked in innocent questioning upon a still mysterious work.

When she spoke her voice was a soft, throaty murmur.

"My dear Mrs. Wing! And Jill!"

"Why—why, you are Dolly Box!" Jill stammered. "I never dreamed —I——"

Mrs. Orr squeezed Jill's hands and looked upon her fondly. "I've been dying to see you," she said. "I was quite sure you'd recognize me. You see, dear Mrs. Wing, Jill and I were classmates at Miss Sears' seminary. When dear old Dr. Bayne recommended this altitude for my asthma I remembered at once that Jill lived here. That fact did much toward reconciling me to isolation in the country."

She dropped into a deep chair.

As a result the first formal call lengthened unconscionably, and even at the last Jill had hard work to get her mother away.

Mrs. Wing was charmed with Mrs. Orr. "She's just a dear, sweet, gentle little thing. To think, Jill, she's younger than you, and yet she has been a widow eleven years! I hope she'll find some one here to marry, for she needs protecting if any one ever did."

Jill winced, for it was her mother's one grievance against her that she would not marry Joel Washburn, when she might any day. After several years of contemplating Joel as a would-be husband Jill was still not just sure of her feelings toward him. She liked him sometimes, she even admired his good nature, his big-heartedness, his strength and steady sobriety of purpose, but necessity had taught Jill to use the same caution in disposing of her future that she did in selecting her frocks; the one was scarcely like to last longer than the others. She would not be urged or coaxed into something she was not sure would be fair to Joel or right to herself.

"You must make a little party for Mrs. Orr, Jill," her mother planned, "and invite in all the people you think she'd like to meet—people like Joel and Lucia Hawver and Mrs. Van Dyke. You can get Helen Barr to help you serve and Mate Cody will do the catering. It will cost something, but I feel you ought to do it."

"I suppose you're right," Jill sighed. She thought of her gala attire—parts of two old dresses combined to make one. She had saved up money enough to get herself a new frock, but if it must go for entertainment for Dolly Box, why it must, that was all. There was nothing niggardly in Jill's nature.

So instead of getting a new dress Jill gave the party for Dolly Orr. All Pink street was there and several outsiders, including Joel Washburn. Mate Cody juggled cakes and hot chocolate in the kitchen, and Jill's young cousin, Helen Barr served them on a borrowed tray. Helen was sixteen, with a great deal more length of leg and arm than was graceful, and coltish ways. She came very near upsetting a cup of hot chocolate on the mourning dove, as she called Mrs. Orr.

"Oh, Helen, don't call her that," Jill chided. "What a strange idea!"

"You wouldn't think it strange, Jill, if you'd ever seen a mourning dove," Helen explained. "I saw lots of 'em that winter I was with papa in Florida. She looks just like 'em—little and gray and quiet; oh, so awfully quiet! And forever coo-cooing. She's been cooing to Joel for the last half hour, and that old Miss Jessup hasn't taken her eyes off 'em. I read the other day that one widow was equal to twenty-five old maids, so you better look out."

"Oh, Helen!" Jill breathed, flushed and exasperated. "As if I cared!"

Helen scrutinied her judiciously. "You'd care like anything if the mourning dove cut you out," she said. "It's one thing to keep a man dangling and another to see him drop suddenly into some other woman's arms. If ever any man acts as though he wanted me, I'll put him out of his misery one way or the other inside of no time."

"By that time, my dear, I hope that you won't know nearly so much as you do now," Jill retored with dignity.

After that party Dolly Orr was taken into full membership as one of the Pink street family. She soon had her hands full of engagements, and everywhere she went was Joel Washburn, who had begun to go about a great deal more than he usually did.

"Have you noticed it, dear?" remarked Mrs. Brink. "He was even at Mrs. Foley's birthday party. Society is growing quite animated since Mrs. Orr's advent. She's really stirring us up. Even you get out more that you used to. I'm so glad of that, Jill. I think it will do you good. It's so nice that you used to know Mrs. Orr. It makes it very pleasant for her and you, too, I dare say."

"Very pleasant indeed," Jill murmured.

In her heart Jill knew very well why she was going out so much more than she had ever done before. Ordinarily she had not cared much for the little social upstirrings of the small, old-fashioned country village. There were other things she liked so much better—books and her piano and her gentle, broken mother. She had been bred nicely, for at first there had been quite a comfortable lot of money. Then her father died suddenly and she was called home from the seminary. Mrs. Wing had never recovered and Jill gave herself up to companioning and comforting her. They were poor—how poor nobody ever guessed, because Jill had the knack of keeping all the seams underside. Sometimes she feared that Joel understood, and that added to her pride. It was coming to her slowly and painfully that Dolly Orr was thrusting herself deliberately and successfully between her and Joel. And it was in order to see the two that Jill went everywhere.

Jill could not get away from Dolly, who hung upon her life like a lichen to a limb. Apparently Dolly could not breathe without Jill's approval. She must be at Jill's every day, or have Jill with her. Jill must lend advice concerning her frocks—and she had so many of them!

"It's so nice she's taken you for her chum," said captivated Mrs. Wing.

What could Jill say? She read Dolly aright. In those long ago days of her girlhood she had not liked her, and she liked her less now. Moreover, she knew something about Dolly that no one else knew—something that Dolly had betrayed to her in a too-confidential moment. A word from her and she could have destroyed the mourning dove's popularity forever. But she kept her mouth shut and looked on sadly at Dolly's efforts to inveigle Joel.

The end came through Joel himself. He cornered Jill one evening and asked her again to marry him.

"If I don't," Jill returned, "I suppose you'll take Dolly "

"Great scott!" cried Joel. "The mourning dove? What do you take me for? She runs a man too close. Even if I didn't love you and want you more than anything in the world, I'd never look at her. Come, take pity on me, Jill, and help me to escape her by putting on my ring. I've carried it for you six years."

Jill put on the ring. She was convinced at last that she loved Joel. After all, the mourning dove had done that for her.

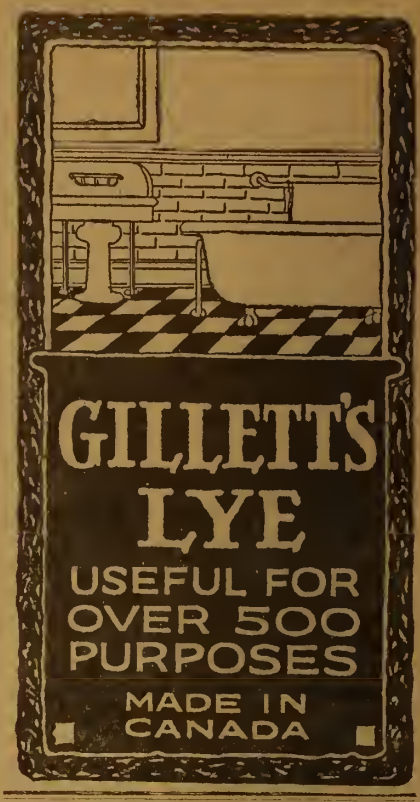
It was just after Jill's announcement of her engagement that Mrs. Orr closed up her house and stole away. A little later her goods were packed and sent to her, and the house was offered for sale.

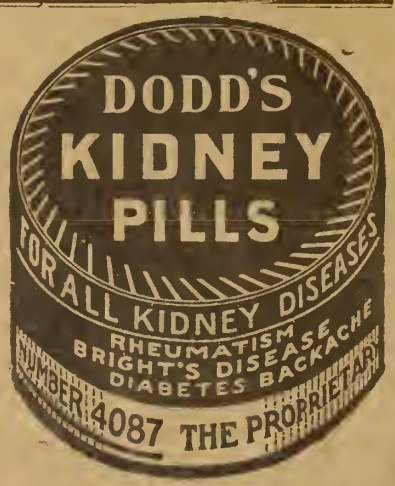
It was Miss Jessup who fired the fuse of a high explosive. "The mourning dove's gone back to live with her husband," she said. "It seems they were divorced just before she came here. They've been remarried recently, and all's merry as a marriage bell."

There was a chorus of exclamations for it was teacup time at the woman's club.

Jill flushed brightly. "Oh, Miss Jessup," she murmured.

"I suppose it hurts your feelings to hear this, Jill," Miss Jessup said, "but I can't help it if it does. She doesn't





McClary's
Make good stoves and
Cooking utensils.

TEETHING BABIES

Thousands of Them Die Every Summer.

When the baby starts to cut its teeth, then is the time the poor mother is under the stress of great anxiety. For some reason or other the bowels become loose, and diarrhoea, dysentery, colic, cramps and many other bowel complaints manifest themselves, the gums become swollen, cankers form in the mouth, and in many cases the child wastes to a shadow.

When the child gets into this condition the bowels must be very closely looked after, and for this purpose we know of nothing to equal Dr. Fowler's Extract of Wild Strawberry.

This sterling remedy has been used for teething babies for the past 75 years, by thousands of Canadian mothers who swear by its efficacy, and there is no mother but should keep a bottle of it on hand.

Mrs. Gordon McCurdy, Falum, Alta. writes:—"I have five children and they have all had summer complaint, especially while teething. I always keep a bottle of Dr. Fowler's Extract of Wild Strawberry in my home as one or two doses completely relieves them. I cannot speak too highly of it for both children and adults."

Mothers, don't experiment with some new and untried remedy which may be dangerous to your baby's health. Get "Dr. Fowler's" the remedy that has stood the test of time.

Price 50c. Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

fool you a mite worse than she fooled the rest of us."

Jill's eyes fisted. She was so happy herself that she could afford to be sorry for the mourning dove.

The Great Health Restorer

You will get rid of the cough and get back your health and vigor just as quickly as did Mrs. J. A. Stonehouse, of Williamsdale East, N.S. who wrote:

"I took a bottle of OLIVEINE EMULSION last spring when I was in a weak condition and had a nasty cough. My cough left me and I also regained my health and strength."

This favorite home remedy is pleasant to take, agrees with the weakest stomach and is suited to every member of the family, young and old.

Sold by Druggists and General Stores

Prepared by
Frasier, Thornton & Co. Limited
Cookshire, Que. 11

THE WIDE-SPREAD VALUE OF SALT

Common salt or Chloride of Sodium is obtained from the Mineral Kingdom. It is found native in the earth and is also produced by evaporation and crystalization from sea water, and other water impregnated with saline particles.

The salt of commerce is obtained from three sources, viz., from sea water, from beds of solid rock salt and from salt springs. The neutral compound being formed by the chemical union of an acid and a base.

Salt is a necessary and indispensable substance used for seasoning food, preserving all kinds of meat and fish. It, no doubt, has been known and employed by the first individuals of our race.

The different names under which salt is known are, Common Salt, Culinary Salt and Chloride of sodium. Besides being an essential article of our food, it is something every animal should have regularly. Horses, cattle, sheep and pigs should have it in front of them all the time, and it should be remembered that stock cannot thrive nearly so well without it. Rock salt is the best form in which to have it, as the animals can lick it whenever they want it. Salt has also been found useful in domesticating wild animals. It is employed by the people of all nations from the most refined to the most barbareous. To us it is an invariable constituent of the healthy food.

Salt is used largely for medical purposes, it being so convenient and efficacious as a remedial agent that not only thousands use it with great success, but medical men count it as among their standards.

As you all know, sea-water is better than fresh water for bathing purposes, so if you dissolve one pound of salt in four gallons of water, it forms a solution of about the same strength as sea-water.

In some diseases the moderate use of salt produces the effect of a tonic, it acts as a stimulant to the mucrous membranes, the absorbent vessels and the glands.

Salt, in moderate quantities, promotes the appetite, assists digestion and assimilation. It can be used externally by throwing a handful of salt in a pail of luke warm water, which makes a very effectual wash for bathing, swellings and wounds.

A saturated solution of salt "applied with friction" externally, is used as a counter-irritant in enlargements of the glands and in chronic diseases of the joints.

In case of fainting, salt is sometimes used as a stimulant by rubbing it on the chest.

In case of hemmorhage or sudden occurrence of bleeding or vomiting of blood, salt is usefully resorted to to stop the flow, by taking a teaspoonful of the dry salt.

In case of malaria, where quinine canot be administered, salt has been found to be very efficient, by giving it in half ounce doses, (dry).

A small pinch of salt, (about 3 grains), added to an ounce of clear, filtered, boiled water, makes a very soothing and beneficial eye lotion by applying it with a medicine dropper several times daily.

Salt is used very successfully in case of felons. Take some salt and put it on the hot stove till dry as possible, then take one teaspoonful of pulverized castile soap, a teaspoonful of Venice turpentine, mix well together into a poultice and apply to the felon, renew this twice daily, and in four or five days the felon will open and get well.

Another purpose for which salt is used is for the toothache. Pulverise and mix alum and salt in equal quantities, wet a small piece of cotton and cause the fixture to adhere to it, and place in the hollow tooth. A sensation of coldness will be produced at first, which will gradually subside and with it the toothache.

Salt is again used in cases of sprains and bruises, by filling a bottle half full with salt, add good brandy until nearly full, shake well and allow to settle, then bathe the part frequently with a soft sponge or cloth.

In case of hives, salt baths are of great value, by relieving the terrible itching—two ounces of salt to thirty gallons of water.

In case of heartburn, take a few grains of salt and allow to dissolve in the mouth and repeat this frequently.

Salt is used for sore throat by gargling the throat with a weak solution of halt and water. It is also used for catarrh. A weak solution, one-half to one teaspoonful of salt in a tumberful of water, and sniffed up the nose morning and night, oftentimes leads to a speedy cure in mild cases.

Salt has also been found very useful in case of fits, apoplexy or convulsions, by placing dry salt on the tongue. It is also useful in extreme cases of sunstroke when the patient is in an unconscious condition. Inject a sterilized salt solution into a vein under the skin of the forearm. This has been found most beneficial and has been the means of saving many patients' lives. (One teaspoonful to a quart of water.)

I need not mention Epsom and Rochelle salt, as they are well known to you all.

In conclusion let me say that salt

Constant Headaches

EVERY headache has a meaning—and you should heed this warning of nature, if you would avoid more serious complaints. A headache frequently points to the failure of the kidneys to perform their natural functions.

Gin Pills remove both headaches and cause, by restoring the kidney action to normal. If you let the cause go unchecked, you may incur years of suffering, with frequent attacks of backache, bladder trouble, lumbago, swollen joints, and other evidences of deranged kidneys.

Give Gin Pills a trial. At all druggists—50c a box. Write for a free sample to National Drug & Chemical Co. of Canada, Limited, Toronto, Ont. U. S. residents should address Na-Dru-Co., Inc., 202 Main St., Buffalo, N.Y.

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I KNOW A WOMAN'S SUFFERINGS

I am a woman.

What I have suffered is a far better guide than any MAN'S experience gained second-hand.

I know your need for sympathy and health.

And the treatment that gave me health and strength, new interest in life, I want to pass on to you, that you, too, may enjoy the priceless boon of health.

Are you unhappy, unfit for your duties? Write and tell me how you feel and I will send you ten days' FREE trial of a home treatment to meet your individual needs, together with references to women in Canada who have passed through your troubles and regained health; or you can secure this FREE treatment for your daughter, sister or mother.

If you suffer from pain in the head, back, or bowels, feeling of weight and dragging down sensations, falling or displacement of internal organs, bladder irritation with frequent urination, obstinate constipation or piles, pain in the sides regularly or irregularly, bloating, dyspepsia, extreme nervousness, depressed spirits, melancholy, desire to cry, fear of something evil about to happen, creeping feeling up the spine, palpitation, hot flashes, weariness, sallow complexion, with dark circles under the eyes, pain in the left breast or a general feeling that life is not worth living, I invite you to send to-day for my complete ten days' treatment entirely free and postpaid, to prove to yourself that these ailments can be easily and surely overcome at your own home, without the expense of hospital treatment, or the dangers of an operation. Women everywhere are escaping the surgeon's knife by knowing of my simple method of home treatment, and when you have been benefited, my sister, I shall only ask you to pass the good word along to some other sufferer. My home treatment is for all,—young or old.

Read My FREE Offer

To Mothers of Daughters. I will explain a simple home treatment which speedily and effectually dispels green-sickness (chlorosis), irregularities, headaches and lassitude in young women, and restores them to plumpness and health. Tell me if you are worried about your daughter. Remember it costs you nothing to give my method of home treatment a complete ten days' trial, and if you wish to continue, it costs only a few cents a week to do so, and it does not interfere with one's daily work. Is health worth asking for? Write for the free treatment suited to your needs, and I will send it in plain wrapper by return mail. Cut out this offer, mark the places that tell your feelings, and return to me. Write and ask for the free treatment to-day, as you may not see this offer again. Address:

MRS. M. SUMMERS, Box 309 Windsor, Ontario

A FULL NIGHT'S SLEEP WAS OUT OF THE QUESTION.

Sleeplessness is caused by the nervous system becoming deranged, and to those whose rest is broken by frightful dreams, nightmares, sinking and smothering sensations, who wake up in the morning as tired as they went to bed, can have their old, peaceful, undisturbed, refreshing sleep back again by using Milburn's Heart and Nerve Pills.

Mr. J. N. Farlane, Red Triangle Club, Halifax, N.S., writes:—"I was a sufferer from nerve trouble for about three years. I used to be so weak and nervous, at times, that I would be afraid to move. Getting a full night's sleep was out of the question. After using the second box of Milburn's Heart and Nerve Pills I could feel quite a change coming over me I used four boxes in all, and I feel now as well as ever I did."

Milburn's Heart and Nerve Pills are 50c. a box at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

MINARD'S "KING OF PAIN" LINIMENT

The old reliable remedy for rheumatism, neuralgia, sore throat and sprains.

Best Liniment Made

MR. A. E. LAUNDRY, EDMONTON, writes:—"I fell from a building and received what the doctor called a very bad sprained ankle, and told me I must not walk on it for three weeks. I got MINARD'S LINIMENT and in six days I was out to work again. I think it the best Liniment made."

Minard's Liniment always gives satisfaction. For any ache or pain. It gives instant relief.

Minard's Liniment Co., Limited

Yarmouth, - - N.S.

is sometimes used as a fire extinguisher.—Written by Miss Edna I. Oldfield, Secertary of the Newtown and Smith's Creek Women's Institute.

SCOTCH POTATO SCONES

1½ cups flour, 1-3 cup butter, 1 cup mashed potatoes, 2 teaspoons baking powder, ½ teaspoon salt, 1 egg.

Sift flour, salt and baking powder together, add mashed potato, and rub in lightly the butter. Make a soft dough by adding the egg, well-beaten, and a little milk, if necessary. Make the dough of the right consistency to roll out. Divide into three parts, and roll out into rounds half an inch thick. Cut each round into flour, and cook on a griddle. Split and butter them, and serve hot.

REPORT OF WOMEN'S INSTITUTE CONVENTION OF P. E. ISLAND, SEPTEMBER 1st-2nd, 1920.

The Seventh Annual Convention of the Women's Institutes of Prince Edward Island, was held in Charlottetown, September 1st and 2nd, with fifty delegates enrolled. Considering the very unfavourable weather, this was a splendid attendance.

The address of welcome was given by Hon. Walter M. Lea, Commissioner of Agriculture, who expressed his pleasure at the privilege accorded him of welcoming so many delegates. Mr. Lea referred especially to the good work which the Institutes are carrying on in connection with school and community improvement, and urged the women to use their influence to increase the attendance in the rural schools. He laid stress on the fact that the Government does not legislate in advance of the wishes of the people, and said that if the rural communities desire educational advancement, they must agitate for it.

Mrs. Walter Simpson of Bayview replied to the address of welcome, and after thanking Mr. Lea for his words of appreciation of the Women's Institutes, she spoke of the excellent programme which had been prepared for the enjoyment and profit of the delegates. She went on to state that to those who had attended the Convention in previous years, it was an event which is looked forward to and planned for, as one of the greatest pleasures of the year. It is a time when the home cares and work can be dropped for a day or two, and our women realize that after all, through the agency of the Women's Intituteh, woman is coming into her own.

In our Women's Institutes there must be a living germ—the germ of service, of mutual helpfulness. It is so easy in this busy world to attend to our own work and let our neighbour do the same, but how much we miss of the real joy of living and how much more it means to us through life, to once in a while drop our work and take some message of love and sympathy to one who is really in need of it. In closing, Mrs. Simpson said, "Let us all resolve at this Convention to do better—to remedy our mistakes and to put before the world a work of which none need be ashamed." "Service" was the keynote of her address.

Mrs. C. L. Barnes of Georgetown was appointed Secretary of the Convention, then Miss Saunders, Supervisor of Women's Institutes for P. E. I., presented her annual report.

There are now thirty-one active Institutes in the province, with a membership of six hundred. Nearly $5000 was raised by the clubs during the year, most of which was expended on school and community improvements. Fifty visits were made to the Institutes and Assetaoin etaoin etaoinnn when demonstrations in Millinery, Home Nursing and Cooking were given as well as talks on Institute work and other subjects of interest. Teaching cooking to the pupils of the Charlottetown schools is also a part of the work of the Women's Institute Branch. Eight classes a week receive instruction.

During the winter months a series of Short Courses were conducted for the women of the rural districts of the Province. Each class lasted two weeks and practical work in Cooking, Laundry, Home Nursing, First Aid, Sewing and Millinery was given, as well as lectures on many subjects of interest to the home-maker. A six weeks' course for the wives and sisters of the P. E. I. soldier settlers was also put on by the Women's Institute Branch.

Miss Saunders spoke of the great opportunities for service afforded the Women's Institutes, and urged the members to make the current year the very best one in the history of their clubs. She pointed out that the great success of an Institute is not measured in dollars and cents, but by the spirit of sympathy and co-operation which it has engendered throughout the community.

Following the report of the Supervisor, the branch reports were read, and these proved most interesting. School improvement is engaging the

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attention of most of the Institutes, and many much-needed reforms have been brought about by their agency. Covered drinking fountains, individual drinking cups, hardwood floors, new blackboards, libraries, musical instruments for use in the schools, school gardens, pumps in the school yards, and more sanitary conditions of schoolhouse and out-buildings, are some of the improvements noted in the schools as the result of the work of the Women's Institutes.

The Wednesday evening meeting, presided over by W. J. Reid, B.S.A., opened with community singing, and all joined most heartily in a song service of "Old Time Favourites."

A feature of the evening's programme was a talk by Dr. Helen MacMurchy on Child Welfare Work. Dr. MacMurchy received hearty applause in coming forward, and opened her address by paying an enthusiastic tribute to the Island Province, to its resources and its beauty. "It is twenty years since I first visited P. E. I." she said, "and I have come back to it as often as I could. The Island is noted throughout Canada for its potatoes, its horses, its foxes, but there is something greater than all these, which the Province is producing—Men."

Dr. MacMurchy explained the duties of the Department of Health at Ottawa, and stated that before the formation of this new Department, eight different ministries were occupied with its work, a large part of which fell to the lot of the burdened Department of Education. Now conditions are changed, and a competent staff of educationalists has been appointed to look after the problem of Child Welfare throughout the Dominion.

The great importance of looking after the children, and of raising large and healthy families, was emphasized. We should not only see that our children are reared strong and healthy, but that their school life should be made comfortable and inviting. Some of the schools, even in this great modern Canada, are maintained in a disgusting condition, through carelessness or ignorance, and the Dr. appealed to the women to do all in their power to remedy such conditions. In closing, she emphasized the importance of accurate registration of all marriages, births and deaths.

Following the address of Dr. MacMurchy, a vocal solo was rendered by Mrs. Wm. Trainer, and was much enjoyed.

Dr. Ira Yeo, Chief Provincial Health Officer, then addressed the meeting. Dr. Yeo spoke on the subject of Medical Inspection of School Children. He emphasized its paramount importance, not only to the children themselves, but to the country. This is an age in which efficiency is being demanded in every department. In the industrial world old ideas and methods have been discarded, and it is time that they were being "scrapped" in our educational system. The necessity for medical inspection of the school children is urgent. It has been neglected in the past because its great necessity has never been brought before the public. "To the members of the Women's Institute of this Province," continued Dr. Yeo, "the appeal is made to establish this great movement."

At the close of the meeting a hearty vote of thanks was extended to the speakers.

The Thursday morning meeting of the Convention opened at 9.30 a. m., with Miss Helen McKenna presiding.

A talk on "Girls' Clubs" was given by Miss Bona Mills, Sec'y. Y. W. C. A., and an interesting discussion followed The idea of Junior Women's Institutes for the girls was received with much favor, and it is thought that a number of these clubs will be organized in the near future.

Miss Helen J. Macdougall, Supt. Women's Institutes for Nova Scotia, was the next speaker. She gave a splendid talk on "Institute Work" which was thoroughly enjoyed by all, and those who listened to her could not but be impressed by the boundless opportunities for service confronting the Women's Institutes.

Miss Macdougall also explained the aims of the Federal Women's Institutes of Canada, and read the Constitution. The question as to whether P. E. I. would join the Federation, was then discussed. W. J. Reid, B.S.A., representing the Commissioner of Agriculture, stated that the Department would pay the initiation fee and, for this year, bear the expenses of two representatives to the Board of Directors' meeting in Montreal. (Applause). It was then moved, seconded and carried that P. E. I. join the Federation.

Thursday afternoon meeting opened with Miss Saunders presiding. The naminating committee's report was read by Mrs. C. L. Barnes, when the following was presented as candidates to represent the Province on the Board of Directors—Mrs. John McGuigan, Mrs. Gordon Ives, Mrs. Wm. Cotton. Vote by ballot being taken, resulted in the election of Mrs. John McGuigan Hope River.

(Continued in the next issue)

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HOUSEWORK AS A BEAUTIFIER

It has long been said that housework and beauty cannot go hand in hand, but it remains for the woman of 1920 to prove that she can do all her own housework and be as dainty and pretty as her next door neighbor who keeps a hired girl. It is quite unnecessary to have red, rough, unsightly hands because you wash the dishes three times a day or do the family washing, and so it goes with all the other household duties; they can be done so you are not less but more beautiful.

The girl who knows how to do her housework in a sensible manner will be able to broaden her chest, improve her complexion, keep down the pounds of flesh that cause her to ache with fatigue, beautify her hands and arms and receive the chance visitor with a radiant smile.

I hope the busy housewife won't smile incredulously at this and read no further, because I may be able to give her a few practical hints on the beauty possibilities of the ordinary humdrum home duties.

In the beginning, make up your mind that you like housework, that you love to do this for your mother or father, or perhaps your husband, remembering how many things they have done for you. If you get into this frame of mind you will give an extra shine to the kettle and an extra pat and smooth to the bedspreads. It's all in looking at things as they are, and when you come to think of it, making a home is a pretty big thing to do and there is every reason you should be proud of it. Don't forget that.

"But," you say, "what about red hands with blisters where you hit them on the hot pan, or tired backs from ironing and washing?" Yes, I know, and that is what I am coming to.

Suppose we take up dish-washing first, because that is something that comes three times a day and can't be avoided. There is a right way and a wrong way of washing dishes. You mustn't bend way over until your back looks like the half of a barrel hoop. If you do this, it explains why you have such an aching back all day long. Try standing erect when washing your dishes, and be sure not to stand with all the weight on one foot. That gives you a foot ache. Stand levelly on both feet.

To avoid putting your hands in the dish-water, use mops for washing the dishes. These can be made by taking a short stick and tying a mop of soft cloth at one end. With this you can wash everything but the pots and kettles.

I suppose, of course, as soon as you are through cooking you fill these utensils with water, so they will not be hard to clean. If you do this, you can easily clean them with a long-handled stiff cleaning brush, and just as quickly as if you were soaking your hands in the greasy, soapy water.

One of the most convenient things I knew of is rubber gloves for dish washing, window cleaning, scrubbing, etc. They are not expensive and will last for a very long time if you are careful not to cut them. Think what a difference it would make in your hands! They would be soft and white and you could go out to entertainments without being ashamed of them.

With your hands so carefully protected, you wouldn't mind splashing around in the water and giving every dish a little extra attention. For my part I love to wash and dry dishes, but, of course, I see that my hands are taken care of.

It is easy to burn one's hands on the hot stoves or dishes, but I've found that a substantial dish-cloth hanging handy to the stove, and careful covering up of the hands when taking dishes out of the oven, or stirring things over a hot fire, will keep your hands free from the ugly, disfiguring burns and blisters. The only times I have been burned was when I was careless and not paying attention to my work.

Remember when scrubbing the floor to use the rubber gloves. You can clean the floor just as well so and keep your hands white and soft.

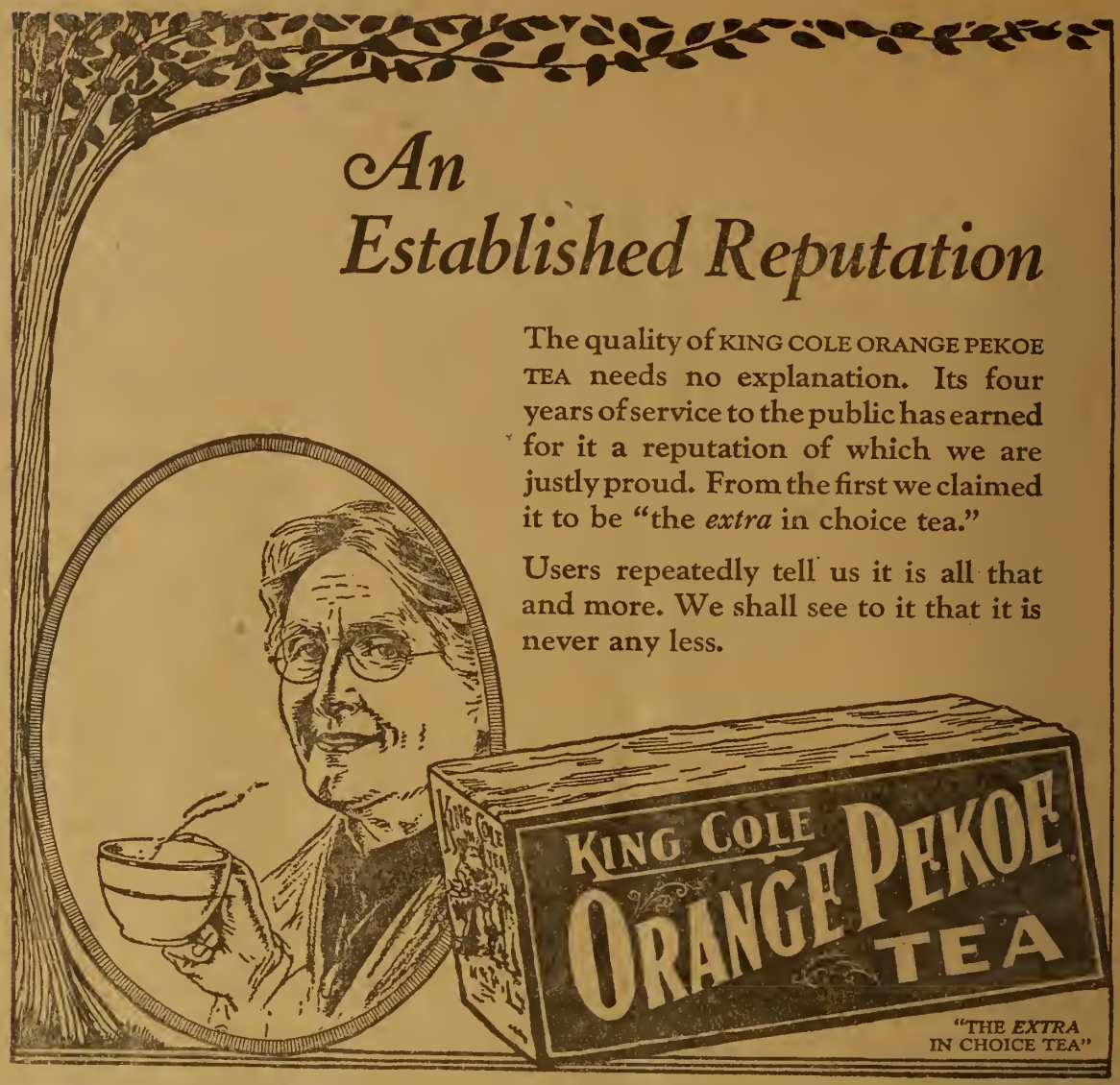
Nowadays the long-handled, self-wringing mops are much used, and they keep the floors clean, if plenty of floor soap is used, and think what a saving to your back and knees!

When you are paring vegetables or fruit, and find you have stained your hands, you can remove these marks by rubbing on a little oxalic acid. Your druggist will tell you how to use it. A slice of lemon will do the same work and is much cheaper. So you see you need not have stained hands, unless you want them.

Perhaps you have thin arms. Let me tell you a secret. Window-washing will develop them better than anything I know of, making them round and shapely, so that the new, tight-fitting sleeve can be worn without fear. Think of that!

Washing clothes is not considered a very desirable occupation, but if you use plenty of water, soap and a wringer, and remember to place the tubs high, so you won't need to bend over much, you will find it doing you more good than harm, as in this way your skin gets its weekly steaming. When the clothes are all hung out on the lines to dry, run into the house, wash off the perspiration with soap and water, massage in a little cream, fluff on some powder and see if your skin doesn't feel and look the better for its steaming over the tub. Ah your hands are all puckered up from being in the water so long, rub them while wet, with cider vinegar and they will become smooth quickly. As soon as this is done rub in a little sour cream, slip on a pair of gloves made of drilling and hie you away to sprinkle the clothes and begin your ironing.

This is not hard, and if you have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the windows open so you can breathe fresh air, your board placed high so you need not bend your back, it is really nothing but a pleasure. I know because I've doue it.

Every girl or woman wants to have a pretty bust and broad chest, and instead of telling her to take this or that, I am going to ask her to—sweep.

Sweep with back held erect, broom held firmly in both hands, and a smile on your lips. Why, you cau do as much for bust and chest by sweeping as your heart could desire, but not unless you stand up. Sweeping with bent back and bowed-in chest will spoil your figure aud ruin your health. Health is beauty, girls dear.

The hair, to be pretty and easily dressed, must be kept from the dust and so I think it a good idea to make a dust-cap of heavy cottou cloth, (muslin isn't thick enough, Miss Vanity), and put it on after breakfast is over, the dishes washed and dried and you ready for dusting, sweeping and making beds. You will find your hair comes out just as soft and pretty, after a regular orgy of dust, as if you had been gathering flowers in the garden.

When dustiug the high mouldings and big pictures, never use a long-handled brush, but have a small firm step-ladder. Climbing the steps is mighty good exercise for the thick waist, and the girl who wishes to have the long waist so popular now, should try dusting the high places standing on a step-ladder.

If the busy housewife intends to take a morning for polishing the silver or polishing the range, she should first rub on her hands a generous supply of mutton tallow, also filling up the spaces under and around the finger nails. In this way the grease prevents the grim from filling the pores of the skin and a little soap and water will cause the hands and nails to come out perfectly nice, instead of one having to rub the skin off with a nail brush.

As most working clothes are not beautiful, why not make your working dresses out of some pretty light brown or blue or of black and white calico? Get cheap washable stuff and make the dresses with plaited skirt, walking length, the waist buttoning up the back with short sleeves, simple blouse and low turn-over collar or no collar at all, just a low Dutch neck? Make the dress all in one piece with sewn-on belt. When working, cover with big apron and if anybody comes in unexpectedly throw off the apron and there you are as neat and pretty as you can be. This dress is suitable for afternoon and evening also.

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Milk is a real food, just as much, and even more so, than meat. Milk contains all the food nigredients of meat and, in addition, contains a vital food substance indispensable to growth and health. Milk is a perfect food, and a complete food. It is also a productive food, in that it tends to make good the deficiencies of other articles of the diet. Its protein, or muscle-building ingredients, are ideal in quality, its sugar is of the best, its fat is superior to the fat of any other food because of the presence, in large quantities, of this vital substances called fat soluble A, so essential to human welfare, and its mineral matter is most wonderful in promoting growth and repair and stimulating the physiological functions of the body.

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Milk is the best food we have. Give your children milk, a quart a day for every child if possible, a pint without fail. Plenty of milk will help you give all your children, both big and little, the chance for health they ought to have. Buy more milk and less meat and your family will be better fed.

Milk is an economical food, too, one quart being equal in food value to eight eggs, or four-fifths of a pound of beefsteak.

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(Continued from page 915)

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(Continued from page 911)

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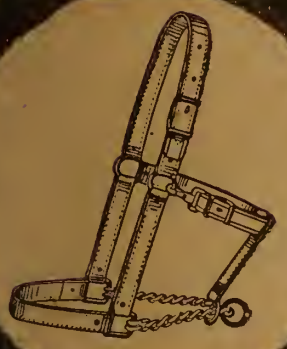

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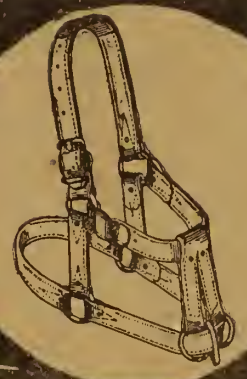

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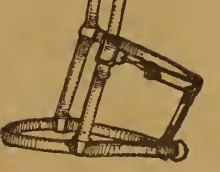
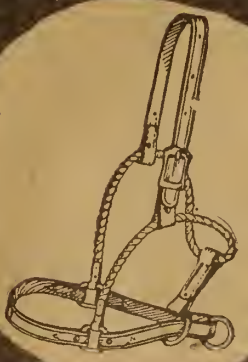


STURDY COLT

GIANT



CLASSIC

WE make a complete line of better halters, and each Griffith Halter bearing a Guarantee Tag will be replaced free of charge, or repaired if broken within one year from date of purchase. Simply return the broken halter to us with the tag attached.

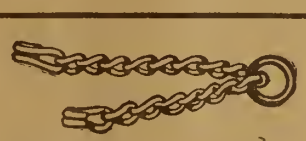
We are able to place this unconditional guarantee on our halters because they are made of choice chrome leather and other material of superior quality which insure great strength and durability.

Griffith

Guaranteed Halters

are made for the steady work team, the driver, the colt and the hardened halter-breaker. They are reasonably priced—$1.25 to $3.50 and sold by better dealers everywhere throughout Canada. If your dealer does not have **GRIFFITH** Halters, send direct to us giving dealer's name. Our illustrated Halter Booklet will interest you. We mail it free on request.

This steel chain, chin draw as used on our "Sampson" halter may be purchased separately and used on any old halters you may have to lengthen their usefulness. It is easily attached.



Steel Chain, Chin Draw

Price 30 cents

60

G. B. Griffith & Sons

LIMITED Stratford, Canada.

Pears, Plums and Grapes.

Best plate of 5 Pears, any variety—1, Miss Mary Whitney, St. Stephen.

Best plate Moore's Arctic Plums—1, Charles Vontt, St. Stephen; 2, Fair Haven, N. B.

Green Gage Plums—1, D. L. Martin & Son.

Any other variety Plums—1, W. S. Poole, St. Stephen; 2, G. H. Vontt.

Cranberries—1, Margaret Lunn, Milltown; 2, Annie Lunn, Milltown.

POULTRY.

Fowls.

Anconas, hen—1, Howard Dinsmore, St. Stephen; 2, Howard Dinsmore.

Brahmas, Light, hen—1, Frank McGarrity, Milltown, N. B.

Buttercup, Sicilian, hen—1, Alston Johnson, Moore's Mills.

Houdan, cock—1, Irvine Hoffatt, St. Stephen; 2, Mrs. F. D. J. Graham, St. Stephen.

Houdan, hen—1, Mrs. F. D. J. Graham.

Leghorn, White S. Comb, cock—1, Arthur Claxton, Oak Bay.

Leghorn, White S. Comb, hen—1, Arhtur Claxton; 2 and 3, Lloyd F. Hill, Calais, Me.

Brown Leghorn, S. C., cock—1, Moffatt Bros., St. Stephen; 2, Jas. Collins, Calais, Me.

(Continued on page 934)

CARE OF TURKEYS.

(Continued from page 908)

that is extremely plump and white. A little suet mixed toward the end of the season will materially aid, also. Another good fattening ration is ground oats moistened with skim-milk and a little mutton fat added every other day. Still another is equal parts of cornmeal and ground barley with boiled potatoes or boiled rutabagas.

All mashes should be mixed soft but not sticky and when fed, grit and charcoal should be supplied.

PREVENTION OF OAT SMUT.

The Wet Method, Formalin Treatment

A day or two before the oats are required for seeding they should be piled in a heap on a clean barn floor, and the pint of formalin poured into a barrel containing 40 gallons of water. With a broom or sprinkling can the solution should be sprinkled on the grain. At the same time the grain is shovelled over and over until every grain is wet. The pile of wet grain should be left for two or three hours, then covered with clean sacks for five or six hours or over-night. After this the grain should be spread out to dry. In order to avoid recontamination of the treated seed before sowing, it is advisable to dip the bags or sacks in the barrel of formalin solution while the grain is being treated, and allowed to dry. Grain thus treated but not required for seed is perfectly safe to use for feed.

The Dry Method, Formalin Treatment

Place the oats to be treated in a pile on the granary or barn floor and shovel them over into another pile, and as they are being shovelled over spray them with a solution consisting of one part formalin (40 per cent. formaldehyde) and one part water. Use this solution at the rate of one pint to twenty-five bushels of seed, that is, use half a pint of formalin mixed with half a pint of water for every twenty-five bushels of oats. If smallor larger quantities of oats are treated, use proportional amounts of formalin and water. Thus, twelve and a half bushels of oats require only a quarter of a pint of formalin mixed with a quarter of a pint of water. A small quart sealer, costing about $1, is most convenient for spraying the formalin solution on the oats. Two men can best do the work. One man shovel the oats while the other sprays each shovelful. In order to avoid irritation of the eyes, nose and throat, from the strong formaldehyde fumes, provide for a free circulation of air through the granary and barn when the work is in progress. The irritation of the eyes and throat by the strong formalin fumes is the chief objection to this method but it can be overcome by holding the sprayer down close to the grain and providing plenty of ventilation. After the oats are all sprayed they should be piled in a heap and covered with blankets or sacks to confine the formalin vapor. After five hours the seed should be uncovered, bagged, and may be sown immediately. There will be no delay waiting for the seed to dry and no wet and swollen seeds to choke the drill. It is advisable to sow the treated seed as soon after treatment as possible.

Precautions to be Taken

1. Use the formalin solution of the exact strength and in the proportions recommended.

2. Be sure and cover the treated seed as instructed.

3. Take precautions to see that the teared oats are not reinfected with smut spores. Sacks, bins, implements, etc., used in handling smutted grain must also be disinfected. The sacks should be dipped in or sprayed with the formalin solution and the seed drill should be cleaned and a little strong formalin run through it.

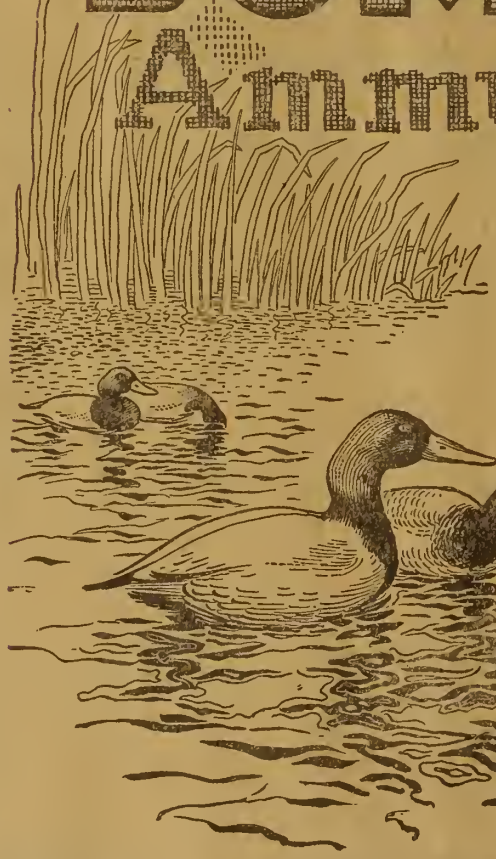
The Game of the Epicure

ITS popularity as a table bird has long given the Canvas-Back Duck foremost recognition among the feathered game of Canada. Although epicures made it famous, the Canvas-Back is in the first ranks of game birds—wary, speedy, when well on the wing—possessing every quality the sportsman admires.

A string of Canvas-Backs driving across the wind, their long bills and heavy necks straight out—the white plumage of the drakes flashing in the sun—is a picture that lives in the memory of the duck shooter.

The Canvas-Back's wariness and flying qualities demand a true aim and a hard-hitting load. Seek good feeding grounds for the best bag and use

DOMINION Ammunition



in Canuck, Sovereign or Regal Shells, preferably with No. 4 or 6 shot. All Dominion Smokeless Shot Shells are individually water-proofed, steel reinforced and loaded with double-chilled shot, Canadian-made shells adapted to Canadian use, and guaranteed by the big "D" trade-mark.

Our new game book, "The Call of Canada," with illustrations of Canadian game birds and animals, reproduced in full colors, contains valuable information that will interest you. Every sportsman should have this beautiful book in his library.

Send 50c. for your copy to-day.
Advertising Department, P.O. Box 1200,
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Halifax Toronto Sudbury
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5

COMMON PRINCIPLES OF PRUNING TREES.

A few common principles of pruning trees are: First, do not cut the back entirely out of the tree. The old idea of pruning was to cut the middle out of the tree, retaining the lower limbs with their laterals as bearing surfaces. This let the sunlight in but it made a tree that developed weakness especially in its ability to withstand storms. These lateral limbs would grow and when they were weighed down with fruit it would not take very much of a wind to break down a limb. In the later day pruning the central part of the tree is retained. Second limbs that cross should be cut away, since it is necessary to get as much sunlight into the tree as possible. Some tree pruners think that the measure of their prunings is the size of the brush pile they leave at the foot of the tree. It may be suggested, however, in passing, that there is a great deal of difference betweeen a tree butcher and a tree pruner. A good rule to follow is not to cut off a limb without a good reason for it. Third, tall trees should be headed back some. It costs some more to pick the apples from an excessively tall tree as compared to one that is low down. Some make the mistake of cutting off lower branches, thinking thereby to make it possible for the horses to work closer to the tree. This is a very serious mistake since the soil in the orchard is of little use as a crop producer and it does not take very much barking of limbs or trunks with hames and whiffletrees to spoil a tree. It is much better to keep too far from a tree than too close to it. Fourth, the most important principle of all in pruning is to make the cuts on the limbs as close to the trunk as possible. A long protruding stub is an eyesore to man, and a body sore to the tree. It dries out, water enters the cracks, decay sets in and in a few years a good wind comes along and over goes the tree.

IT'S DIFFERENT NOW.

In the spring, a young man's fancy
Oft my spotlight will reveal.
Is—one arm about the Nancy
And the other on the wheel.

Times agone, of equine sporting—
Times that modern youth disdains—
Youth used two arms for his courting,
Trusting Dobbin with the reins.

—Rex Stackhouse, in Motor Life.

PREPARING GRAINS FOR FALL FAIRS.

(Experimental Farms Note.)

It pays to advertise. There is no better advertisement than to be a prize winner at the fall fairs and no crop on the farm can be exhibited to better advantage than the cereal crop. To attain the best resutls, a special plot should be maintained and kept thoroughly clean, free from weeds and all impurities. Harvesting should be done by hand, keeping the sheaves as neat and straight as possible.

First and foremost the grain in the sheaf must not be weathered, it must be perfectly dry and of good colour. The best results are obtained by the use of slightly immature straw, as it will be found to be less brittle and easier to handle. The straw should be spread in thin layers in the sun to dry; the sun will bleach the straw as well as dry it. Use only straight, uniform straws to make the sheaf; two or three sheaves should be collected in the field to allow for waste.

The majority of persons have the idea that all the straws should be the same elngth and the heads all placed on the same level. This should give us the square head in which, when tied, the majority of the straws would break off below the head. The ideal sheaf has a rounded head with a gradual curve. This rounded head is produced by allowing the central straws to stand a little higher than the surrounding straws and each layer of heads that are alided, to gradually slope away from the centre. The lasge sheaf may be conveniently formed by fisst making a number of small sheaves and then placing them together as though they were individual neads, gradually sloping them off in the same manner. To finish the sheaf a layer of individual heads should be placed around the whole producing a finished exhibition sheaf. All the loose leaves should be plucked off the outside of the sheaf with a jack-knife leaving only the white shining straws, and all heads that do not conform to the symmetry of the head may be cut off, elaving a perfeit sheaf. Coloured ribbon about ½ or ¾ inches wide may be used with good effect to cover the binding strings.

The remainder of the plot should be threshed by hand. This will form the bulk sample for the fair. If the plot was kept pure in the field ther will be very little that will need to be done to the threshed sample. A good fanning mill will remove all shrunken and small kernels, all chaff and dirt. The fanning mill must be clean, many an excellent sample has been ruined by a dirty fanning mill. Thoroughness is the secret of a good sample, the fanning should not be spared even if it means fannig away 50 per cent. of the original sample.

The bulk sample may be double bagegd for shipping to the fair. The sheaf should be shipped in a box, ¾ inch longer and ½ inch broader than he sheaf. The sheaf should be wrapped in paer and tied, fitted into the box and kept in position by supports.

With our present day standards always improving, great care must be taken in preparing the exhibits for our fall fairs. No prize will be won by the farmer who puts up a rough sheaf or a poor sample. The secret of success is thoroughness.

SCALY LEGS.

Would you please let me know through your columns what to do for chickens with scales on their legs?

Ans.—Uuse one of the scaly leg ointments advertised, or if you prefer, carry out the following: Soak the legs well in fairly warm water, and anoint with a mixture of lard or other grease and coal oil, or if preferred use carbolized vaseline, which may be had from any druggist. The latter is best if you desire to retain or to restore the leg color.

The Cost is so small
for the protection you get

THERE are millions of dollars invested in farm buildings and machinery. Both property and implements can be indefinitely conserved by paint and varnish at a cost amounting to only a fraction of the loss which otherwise occurs.

Yet hundreds of thousands of dollars are lost every year to our farmers through rust, rot and wear.

Rust is the deadly enemy of implement or machine. The best steel cannot withstand the inroads of the elements without surface protection.

The same elements that make rust, just as surely spell rot and ruination for your frame house and farm buildings.

And what rust and rot do in one direction, wear will do in others—to floors and furniture for instance.

The surface is the danger spot. All decay, rust and wear start there. Surface protection—paint and varnish—will save your property.

The property owner who tries to save a few paint dollars, loses many dollars in repairs and replacement.

Save the surface and you save all.

THIS ANNOUNCEMENT *is issued by the Canadian Save the Surface Campaign Committee, for the purpose of educating the public in the Preservative and Protective value of Paint, Varnish and Allied Products for the Conservation of Property, and has received the approval of the Canadian Trade Commission in the following words:*

"The realization of the above objects will lead to employment during the Reconstruction Period and bears our entire approval.

THE CANADIAN TRADE COMMISSION

Commissioner.

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"SAVE THE SURFACE AND YOU SAVE ALL" Paint & Varnish

WOOD | PLASTER | CONCRETE | MANUFACTURED PRODUCTS | METAL | BRICK

RHUBARB.

To have really good rhubarb it is necessary to have two plantations, and pull from them in alternate years.

The function of the rhubarb stalk is to collect the organisable matter necessary for the growth and welfare of the plant and, at the autumnal season to decay, pass it on to the root system, which stores it for further and enlarged efforts.

Therefore, if the stalks are taken away, the whole system of the plant suffers, and the produce dwindles both in size and puality.

Hence the necessity of two plantations, so that each, in turn, may have a full season to recuperate.

No pulling should be allowed after July, if you wish to have and keep a thrifty growth.

Rhubarb may be raised from seed, but should not be plucked until the third year, and then only light toll should be taken. Good and deep preparation is necessary, and the ground cannot be made too rich, yet is must be firm.

Cut out all seed stalks as they form, and do not allow them to develop; the seeding process is a most exhausting strain on the energies of the plant.

Cover for winter with dry manure, and in the spring let the new crowns push their own way through.

By following this system of growing you will have lots of good rhubarb, every year, but don't forget which plantation is resting.

HOW HE DOCKS LAMBS

In docking lambs I take the lamb on my knee, with its rump to the fence and its tail over, and with my left hand pull the loose hide up on the rump as I crowd the lamb to the fence, at the same time using a shingling hatchet to make the cut. The drawn hide then falls back and covers well the bone of the tail. I perform the operation in the morning, and let the lamb go on grass. No trouble follows. R. F. Brady, Roger Mills Co., Okla.

SALT FOR THE COW.

The dairy cow requires an ounce of salt a day, and while she should be given all she needs, she should not be forced to take more than she wants. It is best, therefore, to give only a small quantity on the feed, and to place rock salt in boxes in the yard.

The first farmer was the first man, and all historic nobility rests on possession and use of land.—Emerson in "Society and Solitude."

THE ST. STEPHEN EXHIBITION

(Continued from page 931)

Leghorn, Brown S. Comb, hen—1, Jas. Collins; 2, 3, Moffatt Bros.

Leghorns, Black S. Comb, hen—1, W. S. Stevens, St. Stephen.

Leghorns, Buff, hen—1, Irvin Hastey, St. Stephen.

Buff Orpington cock—1, F. M. McCready, St. Stephen; 2, W. H. Sennett, St. Andrews.

Buff Orpington, hen—1 and 3, F. M. McCready; 2, C. H. Maxwell, St. Stephen.

White Orpington hen—1, Frank McGarrity.

Plymouth Rock Barred, cock—1, John W. Goode, Calais, Me.

Plymouth Rock Barred, hen—1, 2 and 4, John W. Goode; 3, C. L. McLaughlin, Calais, Me.

Plymouth Rock White, cock—1. Albert Boswell, French Fort, P.E.I.

Plymouth Rock White, hen—1, Albert Boswall; 2 and 3, W. S. Stevens.

Partridge Plymouth Rock, hen—2, Moffatt Bros.

S. Comb Rhode Island Red, cock—1, Howard Dinsmore.

S. C. Rhode Island Red, hen—1, Howard Dinsmore.

Rose Comb R. I. Red, hen—2, Lloyd F. Hill.

White Wyandotte, cock—1, C. H. Maxwell, St. Stephen.

White Wyandotte, hen—1 and 2, C. H. Maxwell.

Wyandotte, Partridge, hen—1 and 2, R. P. Allen.

Chickens.

Light Brahmas, cockerel—1, Frank McGarrity.

Light Brahmas, pullet—1, Frank McGarrity.

Buttercup pullet—1 and 2, Miss Alice Wright, Calais, Me.

Leghorn, White S. Comb, cockerel—1, 3, 4 and 5, Mrs. A. R. Livingston, Moore's Mills; 2, John Hickey, Calais, Maine; 6, Arthur Claxton.

Leghorn, White S. Comb, pullet—1, Mrs. Andrew Peterson, Milltown; 2 and 3, John Hickey.

Brown Leghorn, S. C., cockerel—1, W. H. Sennett; 2 and 3, Moffatt Bros.

Brown Leghorn S. C., pullet—1, W. H. Sennett; 2 and 3, Moffatt Bros.

Buff Orpington, cockerel—1, C. H. Maxwell.

Buff Orpington, pullet—1 and 2, C. H. Maxwell.

White Orpington, cockerel—1, Mrs. A. R. Livingston.

White Orpington, pullet—Mrs. A. R. Livingston.

Barred Plymouth Rock, cockerel—1, John W. Goode; 2 and 3, Michael Higgins, Calais, Me.; 4, Jack Thomas, Calais, Me.

Barred Plymouth Rock, pullet—1 and 3, Michael Higgins; 2, Jackson Thomas; 4, Moffatt Bros.

White Plymouth Rock, cockerel—1, W. S. Stevens.

S. C. Rhode Island, cockerel—1, Howard Dinsmore; 2, F. M. McCready.

S. C. Rhode Island, pullet—1, 2 and 3, Howard Dinsmore.

White Wyandotte, cockerel—1 and 2, Milton Maxwell, St. Stephen.

White Wyandotte, pullet—1, Milton Maxwell; 2, John W. Goode.

Wyandotte, Partridge, cockerel—1. R. P. Allen, Fredericton.

Wyandotte, Partridge, pullet—1, R. P. Allen.

Breeding Pens, Adult Birds.

Pen Light Brahmas, adults—1, Frank McGarrity.

Brown Leghorns, adult birds—1, Moffatt Bros; 2, Alston Johnston.

Breeding Pen Buff Orpington—1, F. M. McCready; 1and 2, John W. Goode; 3, W. S. Stevens.

Pen, White Plymouth Rock—1, Albert Boswall.

Save Money

by using

Economy

Ready Mixed House Paint

On Your Farm

Paint isn't merely a matter of appearance. It is first of all for protection against atmosphere and weather.

"Save the Surface and You Save All"

If you coat the surface with good paint, the destructive elements cannot get at the wood to rot and wear it. So it saves you money. Economy Ready Mixed House Paint is scientifically compounded of pure materials, well ground and mixed. It gives durable protection and looks rich. Use it for inside and outside painting. The price is moderate.

Sterling Shingle Stain
A waterproof, non-fading roof stain in attractive shades. A real protection.

Longwear Barn Paint
Does for barns, bridges, fences, farm machinery, etc., what "Economy" Paint does for dwellings. For wood and metal alike.

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Please send me FREE of charge your Color Card and Price List for Economy Ready Mixed House Paint, Sterling Shingle Stain, and Longwear Barn Paint.

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FARMERS

A LARGE part of the business of this Bank is transacted with farmers, and it is our desire to assist you in every way possible—whether it be the granting of credit to enable you to operate your farm more efficiently or providing a secure place for your savings. Do not hesitate to discuss your financial problems, however small, with your banker.

THE CANADIAN BANK OF COMMERCE

HEAD OFFICE -- TORONTO

Capital Paid Up $15,000,000 Reserve Fund $15,000,000

27A

Breeding Pen S. C. Rhode Island Reds—1, Howard Dinsmore; 2, F. M. McCready.

Breeding Pens, Utility

White Wyandottes, adult birds—1, W. S. Stevens.

Rhode Island Red (adult)—1, Lloyd F. Hill.

Utility Plymouth Rock (chicks)—1, R. P. Allen.

White Wyandotte (chicks)—1, Mrs. F. H. Carr, Lawrence, N. B.

Rhode Island Reds (chicks)—1 and 2, Lloyd F. Hill.

Pen Light Brahmas (young)—1, Frank McGarrity.

Pen White Leghorn (chicks)—1, Mrs. A. R. Livingston; 2, Mrs. Andrew Peterson.

Breeding Pen Brown Leghorn—1, W. H. Sennett; 2, Jas. Collins; 3, Moffatt Bros.

Breeding Pen Buff Orpington (chicks)—1, C. H. Maxwell.

Pen Barred Plymouth Rocks (chicks)—1, Michael Higgins; 2, Jack Thomas.

Breeding Pen Rhode Island Red (chicks)—1, Howard Dinsmore.

White Wyandotte Breeding Pen (chicks)—1, C. H. Maxwell.

Live Utility Poultry.

Wyandotte, White, cock—1, Milton Maxwell.

Wyandotte, hen, white—1, Mrs. F. H. Carr; 2, Milton Maxwell.

Utility Chicks.

Barred Rock cockerel—1, Henry Irving, St. Stephen; 2, Harold Emms, Fredericton.

Barred Rock pullet—1, Harold Emms.

Wyandotte, White, cockerel—1, Milton Maxwell.

Live Utility Poultry Special.

(Open only to Boys and Girls Poultry Club members.)

Charlotte County—1, Ethel B. Hanson, Rollingdam; 2, Alice L. Lever, Rollingdam; 3, Marjorie Davidson; Oak Bay.

Barred Plymouth Rock, hen—1, Alice L. Lever; 2, Florence Trundle, Rollingdam; 3, George Tourtillotte, St. Stephen; 4, Agnes Maguire, Oak Bay; 5, Marjorie Davidson; 6, Geo. Tourtillotte.

Chicks.

Barred Plymouth Rock, cockerel—1, Hazen Reed, Rollingdam; 2, Alice L. Lever; 3, Florence Trundle; 4, Ethel B. Hanson; 5, Lillian L. Hall, Rollingdam; 6, Ethel B. Hanson.

Barred Plymouth Rock, pullet—1, Florence Trundle; 2, Alice L. Lever; 3, Hazen Reed; 4, Ethel B. Hanson; 5 and 6, Lillian L. Hall.

Adult Birds.

York County.

Barred Rock, cock—1, Harold Emms.

Barred Rock, hen—1, Harold Emms.

Chicks.

Barred Rock cockerel—1, Harold Emms.

Barred Rock, pullet—1 and 2, Harold Emms.

Geese of 1920.

White Embden Gander—1, Albert Boswall.

White Embden Goose—1 and 2, Albert Boswall.

White Embden Gander—1, Albert Boswall.

Ducks.

Rouen Drake—1, Donald Kirk, St. Stephen.

Rouen Duck—1, Donald Kirk.

SAMSON

Close Coupled Seat

One-third More Loading Space

Look at this picture of the SAMSON Truck. Note how the seat is placed forward alongside of the hood—instead of back of the hood. This gives one-third more loading space for SAMSON Truck users than is possible in other trucks of same rated size and capacity

Extension Bases

Demountable Cleat Bands Cannot Sink in Soft Ground

This is one of the newest truck inventions and exclusively on the SAMSON The wheels carry extension bases, and the rear wheels are equipped with demountable cleat bands and grouters This provides sure traction in any weather on any road, or in any field Mud, snow, slush or soft ground hold no terrors for SAMSON Truck users

Built for Farm Work

The Samson Truck is not just an ordinary truck for average hauling on good roads. It is a practical, proven mechanical unit and is built especially for farm hauling in the hard-going fields, as well as on the worst roads. You can use it in soft, slushy fields. You can use it on heavy, muddy roads. The Samson makes its own road. This is important to farmers in this community because it means in bad weather, when the roads are muddy and the fields are soft, the owners of Samson Trucks will not have their trucks idle at busy times. They can go right along with all their hauling. The special and exclusive Samson Truck features, explained opposite, make this possible.

SAMSON TRACTOR COMPANY
OF CANADA, LIMITED
SUBSIDIARY OF GENERAL MOTORS OF CANADA, LIMITED
OSHAWA, ONTARIO

Pekin Drake—1, Albert Boswall; 2, Wellington Thompson, St. Stephen.

Pekin Duck—1, Wellington Thompson; 2, Jas. Bonrod, St. David.

Indian Runner Duck—1, Miss Dorothy Conrod, St. David.

Muscovy Drake—1, Jas. Conrod.

Muscovy Duck—1, Jas Conrod.

Aylesbury Drake—1, Albert Boswall.

Aylesbury Duck—1, Albert Boswall.

Rouen Drake of 1920—1, Albert Boswall; 2, Harry Russell. St. Andrews; 3, Horton Jones, St. Stephen.

Rouen Duck of 1920—1, Albert Boswall; 2, Harry Russell; 3, Horton Jones.

Pekin Drake of 1920—1, Wellington Thompson; 2, Albert Boswall.

Pekin Duck—1, Albert Boswall; 2, Wellington Thompson.

Aylesbury Duck 1920—1, Albert Boswall.

Bantams.

Leabright, Golden, cock—1 and 2, Bernard Halstead, St. Stephen.

Leabright. Golden, hen—1 and 2, Bernard Halstead.

Common Hen—1, Irvine Moffatt.

Special Prizes.

Royal Bank of Canada prizes—Best male bird in the show—C. H. Maxwell, St. Stephen. Best female bird in the show, C. H. Maxwell.

Cliff W. Hanley's Prize for Best Female Bird in show—C. H. Maxwell.

United Farmer's Co-Operative Prize for best Male Bird in show, any breed—C. H. Maxwell.

Major David Johnson's prize for Best and Largest Display of Poultry—Albert Boswall, French Fort.

W. S. Steven prize for Best Barred Rock Male—John W. Goode.

Best Barred Rock Female—John W. Goods.

Poultry Club Show—Hazen Reed.

Pen Chicks—1, Hazen Reed; 2, Florence Rollingdam.

Eggs.

Eggs, Brown—1, Mrs. Robert Bell, Waweig; 2, Mrs. Ed. Hanson, St. Stephen; 3, C. H. Maxwell; 4, Howard Dinsmore.

Eggs, White—1, Arthur Claxton.

Geo. Wilson, Judge.

(Continued in next issue)

"More general use of pure bred sires in all classes of domestic animals will greatly increase our resources in valuable grade stock as well as pure breds," says Dr. Mohler, of the U. S. Department of Agriculture, "both qualities of breeding now being and promising to continue in demand.

MILK FROM SHORTHORNS.

English breeders of Milking Shorthorns are paying considerable attention at the moment to improving the milk yielding power of their herds. The points which indicate milk power are readily distinguished, and the most important of these are the organs which co-operate in the formation of the milk. These consist of the vessels which bring the blood, the glands which separate the milk, and the veins which carry away the blood when thus acted on. Of the former we may name the veins observable immediately above the udder, and although these are often buried so that they cannot be seen, yet a gentle pressure immediately above the udder generally brings them into sight. If the skin is mellow, and not much fat present, these veins show themselves readily. While it is desirable that these veins should be prominent, the fact of their being hidden need not necessarily condemn an animal as a bad milker. Tae milk glands are situated in the upper portion of the udder, and are generally four in number, each gland having a connection with its own quarter of the udder. The udder should be capacious, the coat should be thin, with a soft skin, and show considerable decrease in size after the animal is milked. The animal being supplied with suitable feed, which after its digestion enriches the blood brought to the milk glands, the production of milk is then dependent upon the activity of the milk or mammary glands. As a matter of fact, these glands are a common cause of difficulty. The enriching of the blood and its access to the milk glands are in general easily secured, but the activity of the milk glands largely determines whether the materials in the blood shall be separated as milk or sent on for use by some other organism.

With a view to encourage this milking character rather early breeding is desirable, and when the flow of milk has been established much may be done to encourage the yield and favor its increase in quality. A liberal supply of soft juicy feed and water and a careful avoidance of any feed likely to cause an inflammatory condition of the blood will be found to favor the production of milk. Regularity in the removal of the milk and its complete removal are important conditions for encouraging the flow of milk.

The offspring judiciously bred from a cow in which the milking power has been so encouraged would commence life better prepared for its future duty, and, with similar care and attention to its production of milk, it would not only be a better milker, but better able to impart a strong milking character to its descendants. The male animals so bred would also favor the hereditary convenience of this improved milking character. Thus the exercise of careful and judicious management in relation to the breeding of stock intended for the production of milk cannot fail to be productive of a considerable improvement in the yield of milk, and in the duration of the flow itself.

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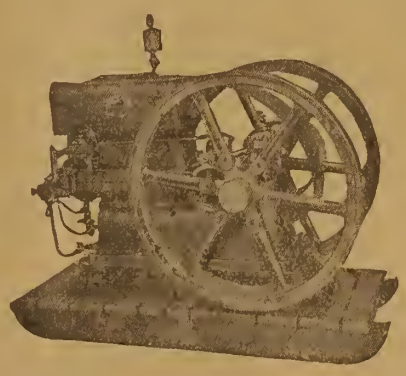

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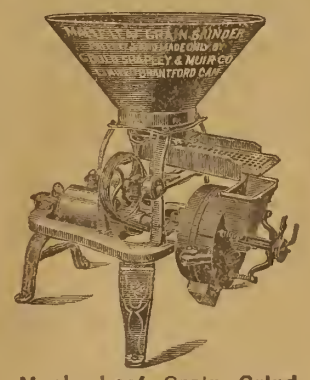

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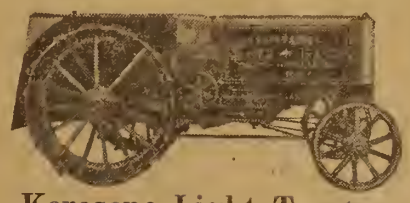

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Lv St. John	7.10 a.m.	"	"	"	"	"	"	"	..
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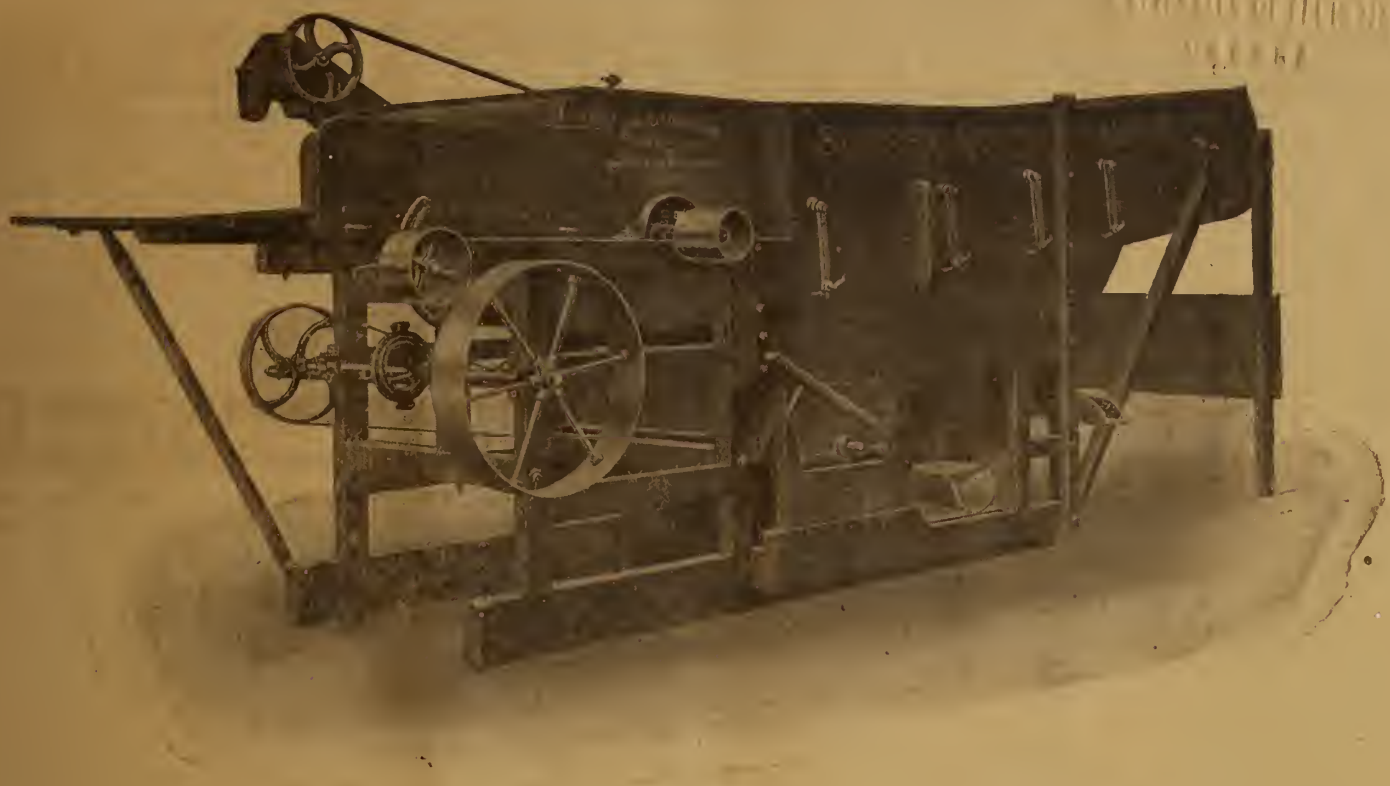

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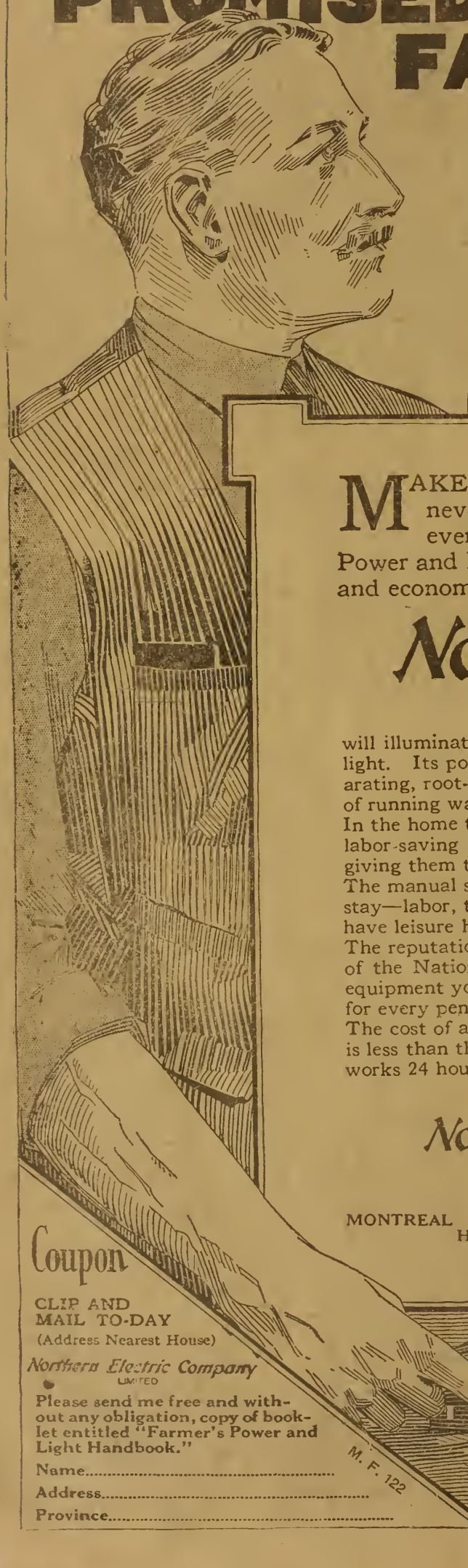

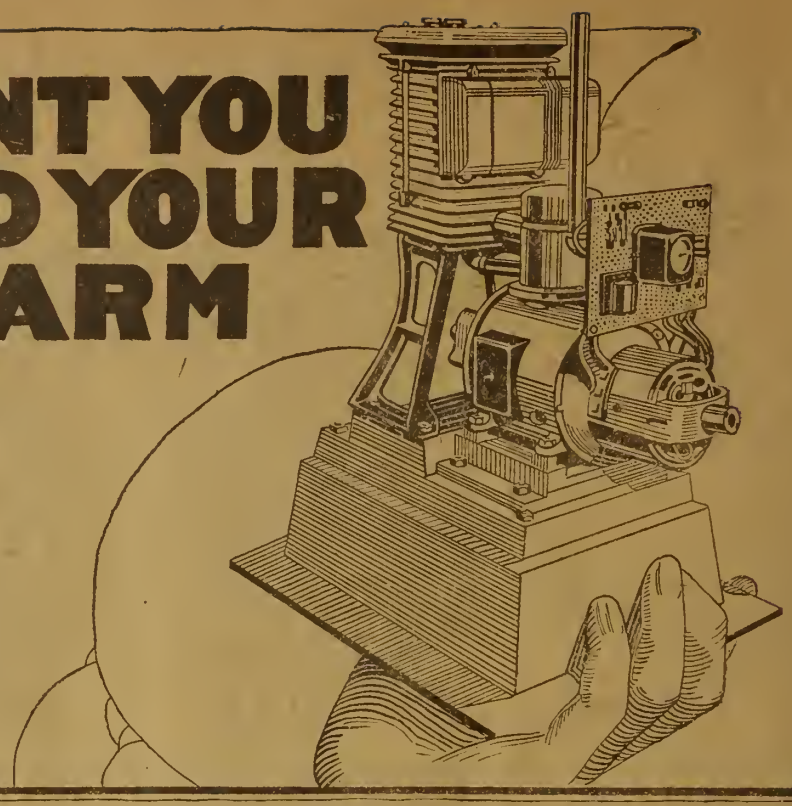

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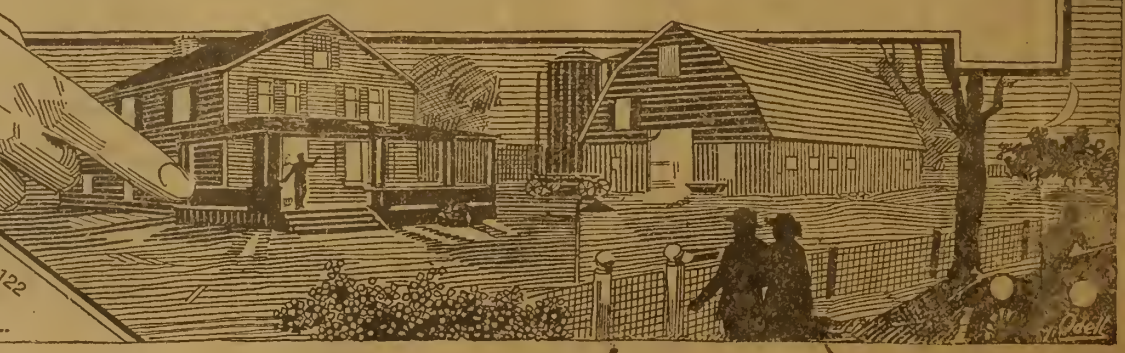

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